

#### The Corporation of the City of Sault Ste. Marie Regular Meeting of City Council Agenda

Monday, April 7, 2025 5:00 pm

#### Council Chambers and Video Conference

As a courtesy, meetings are available for viewing on the City's YouTube channel https://www.youtube.com/user/SaultSteMarieOntario

#### 1. Land Acknowledgement

I acknowledge, with respect, that we are in Robinson-Huron Treaty territory, that the land on which we are gathered is the traditional territory of the Anishinaabe and known as Bawating. Bawating is the home of Garden River First Nation, Batchewana First Nation, the Historic Sault Ste. Marie Metis Council.

#### 2. Adoption of Minutes

Mover Councillor C. Gardi

Seconder Councillor L. Vezeau-Allen Resolved that the Minutes of the Regular Council Meeting of March 17, 2025 be approved.

- 3. Questions and Information Arising Out of the Minutes and not Otherwise on the Agenda
- 4. Declaration of Pecuniary Interest
- 5. Approve Agenda as Presented

Mover Councillor M. Scott

Seconder Councillor L. Dufour Resolved that the Agenda for April 7, 2025 City Council Meeting as presented be approved.

15 - 28

Pages

April 7, 2025 Council Agenda

| 6.1 | Sault Ste. Marie Public Library  | 29 - 33 |
|-----|--|---------|
|     | Wayne Greco, Chair and Matthew MacDonald, Chief Executive Officer  |         |
| 7.  | Communications and Routine Reports of City Departments, Boards and Committees – Consent Agenda   |         |
|     | Mover Councillor C. Gardi<br>Seconder Councillor L. Vezeau-Allen<br>Resolved that all the items listed under date April 7, 2025 – Agenda item 7 –<br>Consent Agenda be approved as recommended.  |         |
| 7.1 | Preliminary Report of the Integrity Commissioner   | 34 - 36 |
|     | A report of the Integrity Commissioner is attached for the information of Council.   |         |
|     | Mover Councillor C. Gardi  |         |
|     | Seconder Councillor L. Dufour<br>Resolved that the preliminary report of the Integrity Commissioner dated<br>February 13, 2025 be received as information.   |         |
| 7.2 | Outstanding Council Resolutions  | 37 - 40 |
| 7.3 | Corporate Strategic Plan 2024-2027 Metrics   | 41 - 69 |
|     | A report of the CAO is attached for the consideration of Council.  |         |
|     | Mover Councillor C. Gardi  |         |
|     | Seconder Councillor L. Dufour<br>Resolved that the report of the CAO dated March 17, 2025 concerning<br>Corporate Strategic Plan 2024-2027 metrics be received and that Council<br>approve the metrics as presented.   |         |
| 7.4 | City Solicitor Hiring Process Authorization  | 70 - 71 |
|     | A report of the CAO is attached for the consideration of Council.  |         |
|     | Mover Councillor C. Gardi  |         |
|     | Seconder Councillor L. Dufour<br>Resolved that the report of the CAO dated April 7, 2025 concerning the<br>authorization of the hiring process for the City Solicitor position be received<br>and that Council authorize staff to commence the hiring process as outlined. |         |
| 7.5 | Hiring of Senior Staff Policy Amendment  | 72 - 83 |

A report of the CAO is attached for the consideration of Council.

The relevant By-law 2025-58 is listed under item 12 of the Agenda and will be read with all the by-laws under that item.

#### 7.6 Physician Recruitment Budget Update

A report of the CAO is attached for the consideration of Council.

Mover Councillor M. Scott

Seconder Councillor L. Dufour

Resolved that the report of the CAO dated April 7, 2025 concerning physician recruitment budget be received and that Council approve utilizing \$15,000 from the City reserve fund for Physician Recruitment (Hospital Reserve Fund) to support the 2025-26 physician recruitment budget.

#### 7.7 Health Equity Centre

A report of the CAO is attached for is attached for the information of Council.

Mover Councillor C. Gardi

Seconder Councillor L. Vezeau-Allen Resolved that the report of the CAO dated April 7, 2025 concerning the establishment of a harm reduction and health equity centre be received as information.

#### 7.8 Rescheduling April 28, 2025 Council Meeting

A report of the City Clerk is attached for the consideration of Council.

Mover Councillor C. Gardi

Seconder Councillor L. Dufour Resolved that the report of the City Clerk dated April 7, 2025 concerning Rescheduling April 28, 2025 Council Meeting be received and that the April 28, 2025 Council meeting be rescheduled to Tuesday, April 29, 2025.

#### 7.9 2024 Tax Sale Results

A report of the Manager of Taxation is attached for the information of Council.

Mover Councillor C. Gardi

Seconder Councillor L. Dufour Resolved that the report of the Manager of Taxation dated April 7, 2025 concerning 2024 Tax Sale Results be received as information.

#### 7.10 Tax Appeal Budget Increase

A report of the Manager of Taxation is attached for the consideration of Council.

94 - 95

88 - 90

84 - 87

91 - 91

92 - 93

#### Mover Councillor C. Gardi

Seconder Councillor L. Dufour

Resolved that the report of the Manager of Taxation dated April 7, 2025 concerning Tax Appeal Budget increase be received and that the upper limit for Aird & Berlis LLP be increased by \$200,000 with funding from the Contingency Reserve.

#### 7.11 ClearRisk Subscription Agreement Renewal

A report of the Manager of Purchasing is attached for the consideration of Council.

96 - 97

98 - 99

102 - 104

The relevant By-law 2025-59 is listed under item 12 of the Agenda and will be read with all by-laws under that item.

#### 7.12 Leasing and Operation of Space – Northern Community Centre

A report of the Manager of Purchasing is attached for the consideration of Council.

The relevant By-law 2025-54 is listed under item 12 of the Agenda and will be read with all by-laws under that item.

#### 7.13 Event Ticketing Service Provider – GFL Event Centre 100 - 101

A report of the Manager of Purchasing is attached for the consideration of Council.

Mover Councillor C. Gardi

Seconder Councillor L. Vezeau-Allen Resolved that the report of the Manager of Purchasing dated April 7, 2025 concerning Event Ticketing Service Provider as required by the Arenas Division, Community Development and Enterprise Services be received and that the proposal of Paciolan LLC for a term of five years with option to extend up to three additional terms of two years be approved.

#### 7.14 Tender for Ready Mix Concrete

A report of the Manager of Purchasing is attached for the consideration of Council.

Mover Councillor M. Scott

Seconder Councillor L. Dufour

Resolved that the report of the Manager of Purchasing dated April 7, 2025 concerning the supply of Ready Mix Concrete for the 2025 construction season commencing May 1, 2025 as required by Public Works be received and the supply be awarded to Fisher Wavy Inc. at the tendered pricing, HST extra.

#### 7.15 Tender for Asphalt

A report of the Manager of Purchasing is attached for the consideration of Council.

Mover Councillor M. Scott

Seconder Councillor L. Vezeau-Allen Resolved that the report of the Manager of Purchasing dated April 7, 2025 concerning the supply of Asphalt for the 2025 construction season commencing May 1, 2025 as required by Public Works be received and the supply be awarded to Trimount Construction Group Inc. at the tendered pricing, HST extra.

#### 7.16 DeepSeek Removal and Future Cyber Threats

A report of the Manager of Information Technology is attached for the consideration of Council.

Mover Councillor M. Scott

Seconder Councillor L. Vezeau-Allen

Resolved that the report of the Manager of Information Technology dated April 7, 2025 concerning the banning of DeepSeek be received and that the City proceed, by way of a corporate policy, to ban DeepSeek on City-issued electronic devices.

Information Technology, the CAO, and Senior Management will also address future cybersecurity concerns, updating the Mayor and City Council accordingly.

#### 7.17 Elbows Up Rally

A report of the Deputy CAO, Community Development and Enterprise Services is attached for the consideration of Council.

#### Mover Councillor M. Scott

Seconder Councillor L. Vezeau-Allen

Resolved that the report of the Deputy CAO, Community Development and Enterprise Services dated April 7, 2025 concerning an 'Elbows Up' rally in Sault Ste. Marie be received and that Council approve a contribution of up to \$1,300 towards the event.

#### 7.18 Lease Contract Extension – Superior Osteo Postural Clinic Inc.

A report of the Director of Community Services is attached for the consideration of Council.

The relevant By-Law 2025-56 is listed under item 12 of the Agenda and will be read with all by-laws under that item.

110 - 111

112 - 113

108 - 109

#### 7.19 Community Development Fund Application – Rural Community Immigration 114 - 116 Program

A report of the Director of Tourism and Community Development is attached for the consideration of Council.

Mover Councillor M. Scott

Seconder Councillor L. Vezeau-Allen Resolved that the report of the Director of Tourism and Community Development dated April 7, 2025 be received and that Council approve \$102,500 from the Community Development Fund towards administration of the RCIP program.

#### 7.20 FedNor Contribution Agreement – Rural Community Immigration Pilot 117 - 118

A report of the Director of Tourism and Community Development is attached for the information of Council.

Mover Councillor M. Scott

Seconder Councillor L. Vezeau-Allen Resolved that the report of the Director of Tourism and Community Development dated April 7, 2025 concerning FedNor Contribution Agreement – Rural Community Immigration Pilot be received as information.

#### 7.21 Tourism Development Fund Applications – March 2025

119 - 125

126 - 127

A report of the Director of Tourism and Community Development is attached for the consideration of Council.

Mover Councillor C. Gardi

Seconder Councillor L. Vezeau-Allen Resolved that the report of the Director of Tourism and Community Development dated April 7, 2025 be received and that the recommendation of the Tourism Sault Ste. Marie Board of Directors to allocate \$23,000 as detailed below be approved:

- Community Strong Race Weekend (\$4,000);
- Northern Ontario Service Deliverers Association AGM (\$2,000);
- Sault Cycling Club Ontario Cup Mountain Bike Race (\$10,000);
- Queen Street Cruise (\$5,000); and
- Warhammer Battle at the Bridge 40K (\$2,000).

#### 7.22 Police Services Contract Extension – Prince Township

A report of the City Solicitor is attached for the consideration of Council.

The relevant By-Law 2025-49 is listed under item 12 of the Agenda and will be

read with all by-laws under that item.

| 7.23 | Property Declared Surplus – 0 Nixon Road (1644291 Ontario Limited – Ozzie<br>Grandinetti)   | 128 - 130 |  |  |
|------|---|-----------|--|--|
|      | A report of the Assistant City Solicitor/Senior Litigation Counsel is attached for the consideration of Council.  |           |  |  |
|      | The relevant By-Law 2025-53 is listed under item 12 of the Agenda and will be read with all the by-laws under that item.  |           |  |  |
| 7.24 | Property Declared Surplus – 657 Fourth Line East (Ryan Rocchetta)   | 131 - 134 |  |  |
|      | A report of the Assistant City Solicitor/Senior Litigation Counsel is attached for the consideration of Council.  |           |  |  |
|      | The relevant By-Law 2025-50 is listed under item 12 of the Agenda and will be read with all by-laws under that item.  |           |  |  |
| 7.25 | POA – Fourth Inter-Municipal Agreement  | 135 - 136 |  |  |
|      | A report of the Assistant City Solicitor/Senior Litigation Counsel is attached for the consideration of Council.  |           |  |  |
|      | The relevant By-Law 2025-52 is listed under item 12 of the Agenda and will be read with all by-laws under that item.  |           |  |  |
| 7.26 | Insurance Claim Handling Agreement – Policy Period 2025-2026  | 137 - 138 |  |  |
|      | A report of the Risk Manager is attached for the consideration of Council.  |           |  |  |
|      | The relevant By-Law 2025-57 is listed under item 12 of the Agenda and will be read with all by-laws under that item.  |           |  |  |
| 7.27 | Housing Community Improvement Plan (CIP) Updates  | 139 - 170 |  |  |
|      | A report of the Junior Planner is attached for the consideration of Council.  |           |  |  |
|      | Mover Councillor C. Gardi   |           |  |  |
|      | Seconder Councillor L. Vezeau-Allen<br>Resolved that the report of the Junior Planner dated April 7, 2025 concerning<br>Housing Community Improvement Plan (CIP) Updates be received and that<br>Council: |           |  |  |
|      | <ul> <li>Approve the draft amended Housing CIP in principle;</li> </ul>   |           |  |  |
|      | • Direct staff to proceed with the public review process, including the scheduling of a prescribed public meeting in accordance with Section 28 of the <i>Planning Act</i> , and                          |           |  |  |

• Direct staff to forward the revised CIP documents to the Ontario Ministry of Municipal Affairs and Housing for review prior to bringing it back to Council.

| 8.    | Reports of City Departments, Boards and Committees   |           |
|-------|--|-----------|
| 8.1   | Administration   |           |
| 8.2   | Corporate Services   |           |
| 8.3   | Community Development and Enterprise Services  |           |
| 8.3.1 | Renaming of Rosedale Park to Kiwanis Park  | 171 - 181 |
|       | A report of the Manager of Recreation and Culture is attached for the consideration of Council.  |           |
|       | Mover Councillor M. Scott  |           |
|       | Seconder Councillor L. Vezeau-Allen<br>Resolved that the report of the Manager of Recreation and Culture dated April<br>7, 2025 concerning the Renaming of Rosedale Park to Kiwanis Park be<br>approved. |           |
| 8.3.2 | Downtown Business Improvement Area   | 182 - 191 |
|       | A report of the Deputy CAO, Community Development and Enterprise Services is attached for the consideration of Council.  |           |
|       | Mover Councillor C. Gardi  |           |

#### 8.3.2.1 Alternate Motion

Mover Councillor C. Gardi

Seconder Councillor A. Caputo

Resolved that the report of the Deputy CAO, Community Development and Enterprise Services dated April 7, 2025 concerning Downtown Business Improvement Area Review be received and that implementation of Option 3 be approved (dissolve the current DTA and reallocate activities under the City umbrella with a supporting business advisory committee and incremental staffing);

Further Be It Resolved that the funding currently allocated to the Downtown Security Pilot Program of \$150,000 be allocated to a municipal downtown development budget line item in the 2026 preliminary budget, with staff to report back on whether further funding might be required to properly fund

#### April 7, 2025 Council Agenda

downtown development and marketing on a go-forward basis, and that such report be brought to Council for consideration during the 2026 budget deliberations.

#### 8.3.3 2025 Queenstown Board of Management Budget and 2024 Audit Report 192 - 227

A report of the Chief Financial Officer & Treasurer is attached for the consideration of Council.

Mover Councillor M. Scott

Seconder Councillor L. Vezeau-Allen

Resolved that the report of the Chief Financial Officer and Treasurer dated April 7, 2025 concerning the Queenstown Board of Management (O/A The Downtown Association) 2024 audited financial statements and annual report be received as information and that the Downtown Association budget for the year 2025 be approved.

- 8.4 Public Works and Engineering Services
- 8.5 Fire Services
- 8.6 Legal
- 8.7 Planning

#### 8.7.1 0 Chippewa Street A-02-2025-Z.OP 57T-25-501, 502, 503

228 - 766

A report of the Junior Planner is attached for the consideration of Council.

Mover Councillor M. Scott

Seconder Councillor L. Dufour

Resolved that the report of the Planner dated April 7, 2025 concerning application A-2-25-Z-Z.OP 57T-25-501/502/503 be received and that Council approve this application in the following manner:

- Amend the Official Plan by way of a textual amendment as outlined in OPA 258 T-170;
- Amend Zoning By-law 2005-150 as outlined in Schedule A;
- Approve Draft Plan of Subdivision 57T-25-501 subject to the conditions of draft approval outlined in Schedule B;
- Approve Draft Plan of Common Elements Condominium 57T-25-502 subject to the conditions of draft approval outlined in Schedule C;
- Approve Draft Plan of Condominium 57T-25-503 subject to the conditions of draft approval outlined in Schedule D;
- That Blocks B, D, F, and G be deemed subject to site plan control;
- That the Legal Department be directed to apply to the Ontario Land

Tribunal to extend the Urban Service Area 156 metres north on the subject property to encompass the lands between the edge of the service area and the creek.

And that the Legal Department be requested to prepare the necessary bylaw(s) to effect the same.

#### 8.7.2 A-3-25-Z Housekeeping Amendments to Zoning By-law 2005-150

767 - 774

Mover Councillor M. Scott

Seconder Councillor L. Vezeau-Allen

Resolved that the report of the Planner dated April 7, 2025 concerning Application A-3-25-Z Technical Amendments to Zoning By-law 2005-150 be received and that Council approve the application to amend Zoning By-law 2005-150 as outlined in Schedule A;

And that the Legal Department be requested to prepare the necessary bylaw(s) to effect the same.

#### 8.8 Boards and Committees

- 9. Unfinished Business, Notice of Motions and Resolutions Placed on Agenda by Members of Council
- 10. Committee of the Whole for the Purpose of Such Matters as are Referred to it by the Council by Resolution
- 11. Adoption of Report of the Committee of the Whole
- 12. Consideration and Passing of By-laws

Mover Councillor C. Gardi

Seconder Councillor L. Dufour Resolved that all By-laws under item 12 of the Agenda under date April 7, 2025 be approved.

12.1 By-laws before Council to be passed which do not require more than a simple majority

#### 12.1.1 By-law 2025-49 (Agreement) Prince Township Police Services Agreement 775 - 784

A report from the City Solicitor is on the Agenda.

Mover Councillor C. Gardi

Seconder Councillor L. Dufour

Resolved that By-Law 2025-49 being a by-law to authorize the execution of the Extension Agreement between the City and The Corporation of the Township of Prince for the provision of policing services to the Township be

passed in open Council this 7th day of April, 2025.

## 12.1.2 By-law 2025-50 (Property Surplus and Sale) 657 Fourth Line East (Ryan 785 - 786 Rocchetta)

A report from the Assistant City Solicitor/Senior Litigation Counsel is on the Agenda.

Mover Councillor C. Gardi

Seconder Councillor L. Dufour

Resolved that By-law 2025-50 being a by-law to declare the City owned property legally described as PIN 31510-0131 (LT) LT 8 RCP H737 TARENTORUS; SAULT STE. MARIE being part civic 657 Fourth Line East, as surplus to the City's needs and to authorize the disposition of the said property be passed in open Council this 7th day of April, 2025.

#### 12.1.3 By-law 2025-52 (Agreement) POA Fourth Inter-Municipal Agreement Renewal Provincial Offences (POA)

787 - 792

A report from the Assistant City Solicitor/Senior Litigation Counsel is on the Agenda.

Mover Councillor C. Gardi

Seconder Councillor L. Dufour

Resolved that By-Law 2025-52 being a by-law to authorize the execution of the Fourth Inter-Municipal Agreement Renewal between the City and the Municipal Partners for the provision of Provincial Offences administration, revenue sharing and prosecutorial services be passed in open Council this 7th day of April, 2025.

## 12.1.4 By-law 2025-53 (Property Surplus and Sale) 0 Nixon Road (1644291 Ontario 793 - 794 Limited Ozzie Grandinetti)

A report from the Assistant City Solicitor/Senior Litigation Counsel is on the Agenda.

Mover Councillor C. Gardi

Seconder Councillor L. Dufour

Resolved that By-law 2025-53 being a by-law to declare the City owned property legally described as PIN 31610-0183 (LT) PT LT 9 PL H536 KORAH PT 1 1R6198; SAULT STE. MARIE, being civic 0 Nixon Road, as surplus to the City's needs and to authorize the disposition of the said property be passed in open Council this 7th day of April, 2025.

#### 12.1.5 By-law 2025-54 (Agreement) Northern Community Centre (NCC) Pro Shop 795 - 804 Lease (FCD SPORTS GROUP LTD.)

A report from the Manager of Purchasing is on the Agenda.

Mover Councillor C. Gardi

Seconder Councillor L. Dufour

Resolved that By-law 2025-54 being a by-law to authorize the execution of the Agreement between the City and FCD SPORTS GROUP LTD. for the lease and operation of space for a Pro Shop at the Northern Community Centre (NCC) be passed in open Council this 7th day of April, 2025.

#### 805 - 807 12.1.6 By-law 2025-56 (Agreement) Fourth Extension Agreement Superior Osteo Postural Clinic Inc.

A report from the Director of Community Services is on the Agenda.

Mover Councillor C. Gardi

Seconder Councillor L. Dufour

Resolved that By-law 2025-56 being a by-law to authorize the execution of the Fourth Extension Agreement between the City and Superior Osteo Postural Clinic Inc. to extend the current lease at the John Rhodes Community Centre for one year to May 5, 2026 with the option to extend be passed in open Council this 7th day of April, 2025.

#### 808 - 812 12.1.7 By-law 2025-57 (Agreement) Intact Public Entities Claims Handling

A report from the Risk Manager is on the Agenda.

Mover Councillor C. Gardi

Seconder Councillor L. Dufour Resolved that By-law 2025-57 being a by-law to authorize the execution of the Agreement between the City and Intact Public Entities for claims handling be passed in open Council this 7th day of April, 2025.

#### 813 - 821 12.1.8 By-law 2025-58 (Employees) Amend Hiring Policies By-law 2004-234

A report from the CAO is on the Agenda.

Mover Councillor C. Gardi

Seconder Councillor L. Dufour Resolved that By-Law 2025-58 being a by-law to amend By-law 2004-234 (being a by-law to adopt hiring policies) be passed in open Council this 7th day of April, 2025.

#### 822 - 827 12.1.9 By-law 2025-59 (Agreement) ClearRisk Inc. Renewal Addendum

A report from the Manager of Purchasing is on the Agenda.

Mover Councillor C Gardi

Seconder Councillor L. Dufour Resolved that By-law 2025-59 being a by-law to authorize the execution of the Agreement between the City and ClearRisk Inc. for Risk Management

#### April 7, 2025 Council Agenda

Information System Software for a three (3) year period to April 14, 2028 as required by the City's Legal Department be passed in open Council this 7th day of April, 2025.

#### 12.1.10 By-law 2025-60 (Agreement) Sault Ste. Marie Professional Firefighters 828 - 867 Association Local 529

Council report was passed by Council resolution on October 21, 2024.

Mover Councillor C. Gardi

Seconder Councillor L. Dufour Resolved that By-Law 2025-60 being a by-law to authorize the execution of the Agreement between the City and Sault Ste. Marie Professional Firefighters Association (Local 529) for the term commencing January 1, 2024 to December 31, 2026 be passed in open Council this 7th day of April, 2025.

#### 12.1.11 By-law 2025-100 (Procedure By-law)

Council report was passed by Council resolution on March 17, 2025.

Mover Councillor C. Gardi

Seconder Councillor L. Dufour

Resolved that By-law 2025-100 being a by-law to regulate the proceedings of the Council of the City of Sault Ste. Marie be passed in open Council this 7th day of April, 2025.

- 12.2 By-laws before Council for FIRST and SECOND reading which do not require more than a simple majority
- 12.3 By-laws before Council for THIRD reading which do not require more than a simple majority
- 13. Questions By, New Business From, or Addresses by Members of Council Concerning Matters Not Otherwise on the Agenda
- 14. Closed Session

Mover Councillor C. Gardi Seconder Councillor L. Vezeau-Allen Resolved that this Council move into closed session to discuss:

- six items concerning acquisition of land by the municipality or local board;
- one item concerning the disposition of land by the municipality or local board;
- one item concerning matters before an administrative tribunal; and

868 - 904

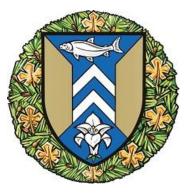
 one item concerning negotiations carried on or to be carried on by or on behalf of the municipality or local board

Further Be It Resolved that should the said closed session be adjourned, the Council may reconvene in closed session to continue to discuss the same without the need for a further authorizing resolution.

Municipal Act R.S.O.2001 – section 239 (2)(c) a proposed or pending acquisition or disposition of land by the municipality or local board; section 239 (2)(e) litigation or potential litigation, including matters before administrative tribunals, affecting the municipality or local board; section239 (2)(k) a position, plan, procedure, criteria or instruction to be applied to any negotiations carried on or to be carried on by or on behalf of the municipality or local board.

#### 15. Adjournment

Mover Councillor M. Scott Seconder Councillor L. Dufour Resolved that this Council now adjourn.



### **REGULAR MEETING OF CITY COUNCIL**

#### **MINUTES**

#### Monday, March 17, 2025 5:00 pm Council Chambers and Video Conference

- Present: Mayor M. Shoemaker, Councillor S. Hollingsworth, Councillor S. Spina, Councillor L. Dufour, Councillor L. Vezeau-Allen, Councillor A. Caputo (via video), Councillor R. Zagordo, Councillor M. Bruni, Councillor S. Kinach, Councillor C. Gardi, Councillor M. Scott
- Officials: T. Vair, R. Tyczinski, K. Fields, S. Schell, P. Johnson, S. Hamilton Beach, T. Anderson, F. Coccimiglio, T. Vecchio, M. Zuppa, M. Borowicz-Sibenik, P. Tonazzo, C. Rumiel, N. Ottolino, S. Facey, K. Marlow, D. Perri, N. Maione, M. McAuley, R. Van Staveren, M. Depatie

#### 1. Land Acknowledgement

#### 2. Adoption of Minutes

Moved by: Councillor R. Zagordo Seconded by: Councillor S. Spina

Resolved that the Minutes of the Regular Council Meeting of February 24, 2025 be approved.

Carried

#### 3. Questions and Information Arising Out of the Minutes and not Otherwise on the Agenda

4. Declaration of Pecuniary Interest

#### March 17, 2025 Council Minutes

#### 5. Approve Agenda as Presented

Moved by: Councillor R. Zagordo Seconded by: Councillor S. Hollingsworth

Resolved that the Agenda for March 17, 2025 City Council Meeting as presented be approved.

#### Carried

#### 6. Presentations

#### 6.1 Audit Planning

Oscar Poloni, Partner, KPMG was in attendance.

#### 7. Communications and Routine Reports of City Departments, Boards and Committees – Consent Agenda

Moved by: Councillor R. Zagordo Seconded by: Councillor S. Hollingsworth

Resolved that all the items listed under date March 17, 2025 – Agenda item 7 – Consent Agenda save and except Agenda items 7.1 and 7.16 be approved as recommended.

#### Carried

#### 7.2 2024 Council Remuneration and Expenses

The report of the Chief Financial Officer and Treasurer was received by Council.

Moved by: Councillor R. Zagordo Seconded by: Councillor S. Spina

Resolved that the report of the Chief Financial Officer and Treasurer dated March 17, 2025 regarding 2024 Council remuneration and expenses and employee travel expenses be received as information.

#### Carried

#### 7.3 2024 Investment Report

The report of the Chief Financial Officer and Treasurer was received by Council.

Moved by: Councillor R. Zagordo Seconded by: Councillor S. Spina

Resolved that the report of the Chief Financial Officer and Treasurer dated March 17, 2025 regarding the 2024 Investment Report be received as information.

#### Carried

#### 7.4 Tender for Equipment Purchase – Backhoe

The report of the Manager of Purchasing was received by Council.

Moved by: Councillor R. Zagordo Seconded by: Councillor S. Hollingsworth

Resolved that the report of the Manager of Purchasing dated March 17, 2025 concerning equipment purchase as required by Cemetery be received and that the purchase be awarded to J.R. Brisson Equipment Ltee. in the amount of \$159,724 plus HST, with remaining funding allocated from the Cemetery Operations Account.

#### Carried

#### 7.5 Tenders for Equipment Purchase – Public Works and Landfill

The report of the Manager of Purchasing was received by Council.

Moved by: Councillor R. Zagordo Seconded by: Councillor S. Spina

Resolved that the report of the Manager of Purchasing dated March 17, 2025 concerning equipment purchases as required by Public Works and Landfill be received and that the tenders for the supply and delivery of various pieces of equipment, awarded at the low bid price meeting specifications, be awarded as follows:

#### Public Works Units:

Two 66,000 GVW tandem plow –TMS Truck Centre \$737,360

One three wheeled broom sweeper – FST Canada Inc. \$413,574

with conveyor belt

One articulating wheeled loader – Brandt Tractor Ltd. \$630,866.94

Landfill Unit:

One waste handler crawler - Brandt Tractor Ltd \$781,160.81

for a total amount of \$2,562,961.75 plus HST.

#### Carried

#### 7.6 eScribe Subscription Agreement

The report of the Manager of Purchasing was received by Council.

The relevant By-law 2025-48 is listed under item 12 of the Minutes.

#### 7.7 Equipment Purchase – Three Pumper Trucks – Fire Services

The report of the Manager of Purchasing was received by Council.

Moved by: Councillor R. Zagordo Seconded by: Councillor S. Hollingsworth

Resolved that the report of the Manager of Purchasing dated March 17, 2025 concerning equipment purchase of three pumper trucks as required by Fire Services be received and that the purchase from Safetek Emergency Vehicles Ltd. be approved at the total quoted amount of \$5,191,722 plus HST, with shortfall allocated from Fire Capital Equipment Reserves.

#### Carried

#### 7.8 Extension of Agreement – Unified Communication System (Telephony)

The report of the Manager of Information Technology was received by Council.

The relevant By-law 2025-44 is listed under item 12 of the Minutes.

#### 7.9 Procedure By-law Review 2025

The report of the City Clerk and supplementary report were received by Council.

#### 7.9.1 Supplementary Report

Moved by: Councillor R. Zagordo Seconded by: Councillor S. Spina

Resolved that the supplementary report of the City Clerk dated March 17, 2025 concerning Procedure By-law Review 2025 be received and that the proposed by-law as revised be presented at the April 7, 2025 meeting of Council.

#### Carried

#### 7.10 Buy Canadian

The report of the Deputy CAO Community Development and Enterprise Services was received by Council.

Moved by: Councillor R. Zagordo Seconded by: Councillor S. Hollingsworth

Resolved that the report of the Deputy CAO Community Development and Enterprise Services dated March 17, 2025 concerning Buy Canadian be received as information.

#### Carried

#### 7.11 Tourism Development Fund Applications – February 2025

The report of the Director of Tourism and Development was received by Council.

Moved by: Councillor R. Zagordo Seconded by: Councillor S. Spina

Resolved that the report of the Director of Tourism and Community Development dated March 17, 2025 be received and that the recommendation of the Tourism Sault Ste. Marie Board of Directors to allocate \$12,000 as detailed below be approved.

- 1. Sault Surge Aquatic Team Myrtha Backstroke System \$8,000
- 2. Sault Ste. Marie Kennel Club \$4,000

#### Carried

#### 7.12 2025 Arts and Culture Assistance Grants – Early Intake

The report of the Manager of Recreation and Culture was received by Council.

Moved by: Councillor R. Zagordo Seconded by: Councillor S. Spina

Resolved that the report of the Manager of Recreation and Culture dated March 17, 2025, concerning the 2025 Arts and Culture Assistance Program Grants – Early Intake allocation of funds be approved as follows:

- 1. Rebeka Herron \$2,526.82
- 2. DJ Seith \$2,510.16
- 3. Sarah Skagen \$2,494.50
- 4. Joseph Schlapsi \$2,376.87
- 5. Michael Naphan \$2,369.21
- 6. Algoma Writer's Collective \$2,293.57
- 7. Tania Daigle \$2,279.24
- 8. Haus of Gore \$6,397.71
- 9. Sault Blues Society \$1,677.29
- 10. Sault Symphony Orchestra \$5,848.00
- 11. Algoma Conservatory of Music \$12,771.00
- 12. Piecing It Together Shows \$9,829.12
- 13. Thinking Rock Community Arts \$8,320.50
- 14. Black Fly Jam \$11,266.00
- 15. Bawating Babes 2Spirit Organising Committee \$12,040.00

Carried

#### 7.13 2025 Firearms and Noise By-law Exemptions – Ermatinger Clergue National Historic Site

The report of the Curator of the Ermatinger Clergue National Historic Site was received by Council.

The relevant By-law 2025-43 is listed under item 12 of the Minutes.

#### 7.14 NOHFC Conditional Contribution Agreement – Wishart Park Project

The report of the Director of Tourism and Community Development was received by Council.

The relevant By-law 2025-41 is listed under item 12 of the Minutes.

#### 7.15 Millennium Court Oil and Grit Separator

The report of the Manager of Design and Transportation was received by Council.

The relevant By-law 2025-47 is listed under item 12 of the Minutes.

#### 7.17 Fire Services By-Law Update 2025

The report of the Fire Chief was received by Council.

The relevant By-law 2025-42 is listed under item 12 of the Minutes.

#### 7.18 Annual Accessibility Status Report – Year End 2024

The report of the Accessibility Coordinator was received by Council.

Moved by: Councillor R. Zagordo Seconded by: Councillor S. Spina

Resolved that the report of the Accessibility Coordinator dated March 17, 2025 concerning the annual Accessibility Status Report 2024 be received as information.

#### Carried

## 7.19 Property Declared Surplus – 184-188 James Street (Isnize Living Development Ltd. Topline Electric Limited Tony Stirpe)

The report of the Assistant City Solicitor/Senior Litigation Counsel was received by Council.

The relevant By-law 2025-46 is listed under item 12 of the Minutes.

## 7.20 0 Sackville Road and Part 128 Sackville Road – Declare Surplus (Griffin Group Real Estate Ltd. Dennis Tatasciore)

The report of the Assistant City Solicitor/Senior Litigation Counsel was received by Council.

The relevant By-law 2025-45 is listed under item 12 of the Minutes.

#### 7.1 Preliminary Report of the Integrity Commissioner

The preliminary report of the Integrity Commissioner was received by Council.

Moved by: Councillor R. Zagordo Seconded by: Councillor S. Hollingsworth

Resolved that the preliminary report of the Integrity Commissioner dated February 13, 2025 be received as information.

#### Postponed

#### 7.16 Base Line and Carpin Beach Road Intersection

The report of the Manager of Design and Transportation was received by Council.

Moved by: Councillor R. Zagordo Seconded by: Councillor S. Spina

Resolved that the report of the Manager of Design and Transportation Engineering dated March 17, 2025 concerning the request for a four-way stop sign at Carpin Beach Road and Base Line be received as information.

|                             | For | Against | Conflict | Absent |
|-----------------------------|-----|---------|----------|--------|
| Mayor M. Shoemaker          | Х   |         |          |        |
| Councillor S. Hollingsworth | Х   |         |          |        |
| Councillor S. Spina         | Х   |         |          |        |
| Councillor L. Dufour        | Х   |         |          |        |
| Councillor L. Vezeau-Allen  | Х   |         |          |        |
| Councillor A. Caputo        | Х   |         |          |        |
| Councillor R. Zagordo       | Х   |         |          |        |
| Councillor M. Bruni         | Х   |         |          |        |
| Councillor S. Kinach        | Х   |         |          |        |
| Councillor C. Gardi         | Х   |         |          |        |
| Councillor M. Scott         | Х   |         |          |        |
| Results                     | 11  | 0       | 0        | 0      |

Carried

- 8. Reports of City Departments, Boards and Committees
- 8.1 Administration
- 8.2 Corporate Services

- 8.3 Community Development and Enterprise Services
- 8.4 Public Works and Engineering Services
- 8.5 Fire Services
- 8.6 Legal
- 8.7 Planning
- 8.8 Boards and Committees
- 9. Unfinished Business, Notice of Motions and Resolutions Placed on Agenda by Members of Council

#### 9.1 Product of Algoma District Labelling

Moved by: Councillor S. Hollingsworth Seconded by: Councillor C. Gardi

Whereas the threat of tariffs has an overwhelming majority of individuals choosing Canadian products instead of American-made alternatives; and

Whereas grocery stores nationwide have put out helpful maple leaf labels to identify products that are sourced from, or otherwise made in, Canada; and

Whereas Sault Ste. Marie has many great growers and suppliers that provide items from milk to bakery products, to coffee to beer;

Now Therefore Be It Resolved that the Economic Development department be requested to review the cost of producing stickers or other labels that identify a product as being from the Algoma District, and report to Council at the April 7, 2025 Council meeting on the cost of providing such labels to local grocers or vendors free of charge.

|                                | For | Against | Conflict | Absent |
|--------------------------------|-----|---------|----------|--------|
| Mayor M.<br>Shoemaker          | Х   |         |          |        |
| Councillor S.<br>Hollingsworth | Х   |         |          |        |
| Councillor S. Spina            | Х   |         |          |        |
| Councillor L.<br>Dufour        | Х   |         |          |        |
| Councillor L.<br>Vezeau-Allen  | Х   |         |          |        |

| Councillor A.<br>Caputo  | Х  |   |   |   |
|--------------------------|----|---|---|---|
| Councillor R.<br>Zagordo | Х  |   |   |   |
| Councillor M. Bruni      | Х  |   |   |   |
| Councillor S.<br>Kinach  | Х  |   |   |   |
| Councillor C. Gardi      | Х  |   |   |   |
| Councillor M. Scott      | Х  |   |   |   |
| Results                  | 11 | 0 | 0 | 0 |

#### 9.2 Tariffs

Moved by: Councillor S. Hollingsworth Seconded by: Councillor M. Bruni

Whereas tariffs on Canadian goods can have far-reaching consequences for both Canadian and American economies; and

Carried

Whereas they can disrupt trade relationships, increase costs, and alter the competitive landscape; and

Whereas the implications of such tariffs is crucial for small, mid-size, and large businesses to navigate, especially Algoma Steel Inc., and

Whereas Algoma Steel Inc. continues to be one of the largest industries in the community, and directly impacts the local economy in Sault Ste. Marie; and

Whereas Algoma Steel Inc. for over 115 years has fostered economic growth, leading to creation of "off-shoot" businesses and jobs for Sault Ste. Marie; and

Whereas according to "Seeking Alpha" (a financial publication) "tariffs have pushed prices below production costs for much of the steel industry"; and

Whereas Algoma Steel Inc. has laid off some salaried employees primarily due to uncertainty surrounding these tariffs; and

Whereas Algoma Steel Inc. has been a positive community partner by donating to many causes such as giving \$250,000 to the YMCA, \$1 million to the Sault Area Hospital Foundation for the residential withdrawal management facility, \$10,000 to Superior Adult Learning Program, to name a few; and

Whereas all community leaders need to unite to stand behind Algoma Steel Inc. to ensure that their voice is heard loud and clear that the tariffs are directly impacting the company and hence each person in this community

Now Therefore Be It Resolved that the Mayor be requested to work with MP Terry Sheehan, MPP Chris Scott, and Jason Naccarato, President of Sault Ste. Marie Chamber of Commerce to write a unified letter addressed to Prime Minister Mark Carney, Ontario Premier Doug Ford, Michigan Governor Gretchen Whitmer, and US Secretary of Commerce Howard Lutnick to outline the importance of steel as it relates to both economies, highlighting that steel is crucial to the US military and auto industry supply chain, not to mention the negative economic consequences to Sault Ste. Marie, but many communities; and in addition to discuss with Algoma Steel the possibility of creating a community team task force with key stakeholders that includes local politicians to facilitate trade discussions with other markets or any other actions required to support the community's oldest industry.

|                             | For | Against | Conflict | Absent |
|-----------------------------|-----|---------|----------|--------|
| Mayor M. Shoemaker          | Х   |         |          |        |
| Councillor S. Hollingsworth | Х   |         |          |        |
| Councillor S. Spina         | Х   |         |          |        |
| Councillor L. Dufour        | Х   |         |          |        |
| Councillor L. Vezeau-Allen  | Х   |         |          |        |
| Councillor A. Caputo        | Х   |         |          |        |
| Councillor R. Zagordo       | Х   |         |          |        |
| Councillor M. Bruni         | Х   |         |          |        |
| Councillor S. Kinach        | Х   |         |          |        |
| Councillor C. Gardi         | Х   |         |          |        |
| Councillor M. Scott         | Х   |         |          |        |
| Results                     | 11  | 0       | 0        | 0      |

Carried

- 10. Committee of the Whole for the Purpose of Such Matters as are Referred to it by the Council by Resolution
- 11. Adoption of Report of the Committee of the Whole
- 12. Consideration and Passing of By-laws

Moved by: Councillor R. Zagordo Seconded by: Councillor S. Spina

Resolved that all By-laws under item 12 of the Agenda under date March 17, 2025 save and except By-law 2025-100 be approved.

#### Carried

#### 12.1 By-laws before Council to be passed which do not require more than a simple majority

#### 12.1.1 By-law 2025-40 (Heritage Designation) 99 Huron Street Yard Locker

Moved by: Councillor R. Zagordo Seconded by: Councillor S. Hollingsworth

Resolved that By-law 2025-40 being a by-law to designate civic 99 Huron Street as being of architectural or historic value or interest be passed in open Council this 17th day of March, 2025.

#### Carried

#### 12.1.2 By-law 2025-41 (Agreement) Northern Ontario Heritage Fund Corporation NOHFC Tourism Wishart Park Funding

Moved by: Councillor R. Zagordo Seconded by: Councillor S. Hollingsworth

Resolved that By-law 2025-41 being a by-law to authorize the execution of the Agreement between the City, Tourism Sault Ste. Marie and Northern Ontario Heritage Fund Corporation for funding to enhance Wishart Park by adding outdoor recreation play equipment, interpretative signage, boardwalks for wildlife viewing, and a recreation bridge and multi-use path be passed in open Council this 17th day of March, 2025.

#### Carried

#### 12.1.3 By-law 2025-42 (Appointments) Deputy Chief Fire Operations

Moved by: Councillor R. Zagordo Seconded by: Councillor S. Hollingsworth

Resolved that By-Law 2025-42 being a by-law to appoint Mark Morgenstern as Deputy Chief Fire Operations be passed in open Council this 17th day of March, 2025.

#### Carried

#### 12.1.4 By-law 2025-43 (Regulations Noise and Firearms) Ermatinger Clergue Exemption

Moved by: Councillor R. Zagordo Seconded by: Councillor S. Hollingsworth Resolved that By-Law 2025-43 being a by-law to exempt the Ermatinger Clergue National Historic Site from By-Law 2008-168 being a firearms by-law to prohibit the discharge of firearms in the municipality and from By-law 80-200 being a by-law respecting noises in the City of Sault Ste. Marie from May 2025 to December 2025 be passed in open Council this 17th day of March, 2025.

Carried

#### 12.1.5 By-law 2025-44 (Agreement) Shaw Rogers Unified Communication System Extension

Moved by: Councillor R. Zagordo Seconded by: Councillor S. Hollingsworth

Resolved that By-law 2025-44 being a by-law to authorize the execution of the Extension Agreement between the City and SHAW BUSINESS, a division of Rogers Communications Canada Inc., and/or Shaw Business U.S. Inc. for the provision of a Unified Communication System (Telephony) for use by the City be passed in open Council this 17th day of March, 2025.

#### Carried

## 12.1.6 By-law 2025-45 (Surplus Property) Surplus 0 and 128 Sackville Road (Griffin Group Real Estate Ltd. Dennis Tatasciore)

Moved by: Councillor R. Zagordo Seconded by: Councillor S. Hollingsworth

Resolved that By-law 2025-45 being a by-law to declare the City owned property legally described as PIN 31561-0158 (LT) PT LT 20 RCP H744 TARENTORUS PTS 4, 5, 6 & 7 1R12231; S/T B2789; T15757; SAULT STE. MARIE, being civic 0 Sackville Road and Part PIN 31561-0118 (LT) LT 22 RCP H744 TARENTORUS EXCEPT PT 1 1R2139 AND T113728; S/T B2783, T15768; SUBJECT TO AN EASEMENT IN GROSS OVER PARTS 1 TO 4 PLAN 1R13895 AS IN AL258199; CITY OF SAULT STE. MARIE, being a portion of civic 128 Sackville Road, as surplus to the City's needs and to authorize the disposition of the said property be passed in open Council this 17th day of March, 2025.

#### Carried

## 12.1.7 By-law 2025-46 (Property) Declared Surplus – 184-188 James Street (Isnize Living Development Ltd. Topline Electric Limited Tony Stirpe)

Moved by: Councillor R. Zagordo Seconded by: Councillor S. Hollingsworth

Resolved that By-law 2025-46 being a by-law to declare the City owned property legally described as PT PIN 31578-0007 SAULT STE. MARIE, being civics 184-188 James Street as

described on Schedule "A" and Schedule "B" attached hereto, as surplus to the City's needs and to authorize the disposition of the said property be passed in open Council this 17th day of March, 2025.

Carried

#### 12.1.8 By-law 2025-47 (Engineering) Trimount Construction Installation of Oil- Grit Separators Fort Creek Millennium Court (Contract 2024-10E)

Moved by: Councillor R. Zagordo Seconded by: Councillor S. Hollingsworth

Resolved that By-law 2025-47 being a by-law to authorize the execution of the Contract between the City and Trimount Construction Group Inc. for the installation of Oil-Grit Separators (OGS) in two locations in the Fort Creek neighbourhood (Contract 2024-10E) be passed in open Council this 17th day of March, 2025.

#### Carried

#### 12.1.9 By-law 2025-48 (Agreement) eScribe Subscription Agreement Renewal

Moved by: Councillor R. Zagordo Seconded by: Councillor S. Hollingsworth

Resolved that By-law 2025-48 being a by-law to authorize the execution of the Agreement between the City and eScribe Software Ltd. (eScribe) for software for a term of three years commencing April 1, 2025, with an automatic extension for an additional three years (*unless notice of termination is provided*), as required by Clerks Department be passed in open Council this 17th day of March, 2025.

#### Carried

#### 12.1.10 By-law 2025-100 (Council Procedure)

Moved by: Councillor R. Zagordo Seconded by: Councillor S. Hollingsworth

Resolved that By-law 2025-100 being a by-law to regulate the proceedings of the Council of the City of Sault Ste. Marie be passed in open Council this 17th day of March, 2025.

#### Officially Read and Not Dealt With

- 12.2 By-laws before Council for FIRST and SECOND reading which do not require more than a simple majority
- 12.3 By-laws before Council for THIRD reading which do not require more than a simple majority

#### 13. Questions By, New Business From, or Addresses by Members of Council Concerning Matters Not Otherwise on the Agenda

#### 14. Closed Session

Moved by: Councillor R. Zagordo Seconded by: Councillor S. Spina

Resolved that this Council move into closed session to discuss:

- six items concerning the potential acquisition of land by the municipality; and
- four items concerning the potential disposition of land by the municipality

Further Be It Resolved that should the said closed session be adjourned, the Council may reconvene in closed session to continue to discuss the same without the need for a further authorizing resolution.

Municipal Act R.S.O.2001 – section 239 (2)(c) a proposed or pending acquisition or disposition of land by the municipality or local board

Carried

#### 15. Adjournment

Moved by: Councillor R. Zagordo Seconded by: Councillor S. Spina

Resolved that this Council now adjourn.

Carried

Mayor

City Clerk





City Council Presentation April 7, 2025

## **Our Mission**

The Sault Ste. Marie Public Library provides opportunities to discover, learn, and grow. We serve as a community partner offering spaces, resources, and connections which contribute to quality of life.

# **Our Vision**

A diverse and welcoming community hub, the Sault Ste. Marie Public Library fuels innovation, demonstrates leadership, and promotes literacy aligned with our growing community. We strive to deliver library service for all, driven by knowledge sharing, partnerships, and new opportunities.



# 2024 STATISTICS

### Average of 683 Items Checked Out Daily

A total of 231,676 physical items were checked out in 2024 during the days the Library was open

### +21,00 More eResources Downloaded

Compared to 2023 downloads for eBooks, downloadable audiobooks, eMagazines and other downloadable media content

### 3.5 % Increase in Program Attendance

A total attendance of 31,552 in 2024, with an average of more than 2 programs offered daily.

### Membership has Increased by 48%

In 2019, the Library had 18,159 members. This number has increased to 26,974 over 5 years

# **Strategic Plan**

In 2024 the Library launched its new 5-year Strategic Plan, the first since the previous one expired in 2018. It includes 5 Strategic Priorities each with its own set of goals and objectives. In total, there are 268 action items which staff have been working on. Here is how we did after the first year:



# **Ongoing Challenges**

- Safety and Security
- Aging James L. McIntyre Centennial Building
- Meeting Technology Needs
- Value of CAD (affects costs of Books and Software)







#### Integrity Commissioner's Preliminary Report Regarding Request for Investigation

#### To Mayor and Council – The City of Sault Ste. Marie

**Date of Report:** Thursday February 13, 2025

**Complaint #:** 2025-1

Request for Investigation – Appendix" B," to the Code of Conduct for Members of Council and Local Boards

#### Date Request for Investigation Received:

Wednesday February 5, 2025, at 3:36 pm by email.

Name of Requester: Councillor Stephen Kinach

#### Request for Investigation Details and Process:

The Integrity Commissioner confirmed receipt of the Request for Investigation with Councillor Kinach on Wednesday February 5, 2025, at 5:28 pm by email. The Integrity Commissioner called Councillor Lisa Vezeau-Allen by phone on Thursday February 6, 2025, to advise her of the Request for Investigation and then emailed her the documents submitted by Councillor Kinach on Thursday February 6, 2025, at 12:14 pm. The Integrity Commissioner met with Councillor Kinach in a Teams Meeting on Thursday February 13, 2025, at 0900 hours and reviewed his Request for Investigation, and questioned him regarding the matter.

The Integrity Commissioner reviewed the Request for Investigation and concluded that according to Appendix 1 of the Code of Conduct, under "Formal Complaints", point 1. was adhered to. In point 2. It states, "All complaints or requests for inquiries must clearly state," The member to whom the complaint relates." Councillor Kinach has identified "Councillor Lisa Vezeau-Allen."

Councillor Kinach alleged Councillor Vezeau-Allen has contravened sections "Key principles of the Code of Conduct B&C." It is noted that under the "Purpose" section of the Code of Conduct its states as follows in "b", 'Members should be committed to performing their functions with integrity and to avoiding the improper use of influence of their office, and conflicts of interest, both real and apparent", and in c." Members are expected to perform their duties in office in a manner that promotes public confidence and will bear close public scrutiny."

Councillor Kinach stated the particulars of his complaint were that Councillor Vezeau-Allen had requested a leave of absence on January 31, 2025, to be effective from that date until February 28, 2025, as she was running in the provincial election. Councillor Kinach provided a copy of that request. Councillor Kinach stated that at the Council Meeting of February 3, 2025, Councillor Vezeau-Allen was in attendance and that she was in the gallery and before the Council Meeting started, Councillor Vezeau-Allen entered the staff and council portion of the chamber. Councillor Kinach stated the meeting was delayed and that Councillor Vezeau-Allen was conversing with staff members and councillors. Councillor Kinach took two photos on his camera and provided these as evidence. Councillor Kinach stated in his Request for Investigation that he believes this act by Councillor Vezeau-Allen was a "conflict of interest, this erodes public confidence in our municipal government & this is undue influence on staff & her colleagues when she is on her leave of absence of her own request." Councillor Kinach also stated in his Request for Investigation that "There is a clearly defined line between the gallery where she had every right to be and crossing that line onto the council chamber floor unprovoked & of her own free will to inappropriately engage staff & colleagues during her leave of absence at the time normally the Council Meeting would be ongoing." Councillor Kinach named the witnesses as being all Councillors and Staff members present at the February 3, 2025, Council meeting.

#### Code of Conduct

In the Code of Conduct, specifically the Formal Complaints, section 6, it states "If the Integrity Commissioner is of the opinion that the referral of the matter to him or her is frivolous, vexatious or not made in good faith or that there are no grounds or insufficient grounds for an inquiry, the Integrity Commissioner shall not conduct an inquiry and shall state the reasons for not doing so in the preliminary report".

#### **Conclusions:**

The Integrity Commissioner based the conclusions on the following:

- a. That the mayor had announced the start of the Council meeting was delayed as Councillor Kinach confirmed.
- b. That Councillor Vezeau-Allen was in the "staff and council portion of the chamber" prior to the commencement of the Council meeting and not after the commencement of the Council meeting as Councillor Kinach confirmed.
- c. That the individuals Councillor Kinach specifically observed Councillor Vezeau-Allen speaking to were Councillors Spina and Caputo and that he also confirmed that he could not hear any of the conversation between Councillor Vezeau-Allen and Councillors Spina and Caputo and that he has no knowledge of what they discussed.

- d. That Councillor Kinach stated that the photos he provided were taken by him on his cell phone at 5:03 pm and 5:05 pm and were of Councillor Vezeau-Allen conversing with staff members and councillors prior to the commencement of the Council meeting.
- e. That Councillor Kinach stated that it was his opinion and his view that given Councillor Vezeau-Allen had requested and was on a leave of absence she should not have been in the "staff and council portion of the chamber" prior to the commencement of the Council meeting.

#### Findings:

The Integrity Commissioner finds there are no grounds for an inquiry.

Regards,

Atoinette Blunt

Antoinette Blunt MPA, CHRL, CHRE, FHRPA Integrity Commissioner City of Sault Ste. Marie

| Meeting Date | Department      | Agenda Item                                  | Assigned To               | Due Date |  | Description  | Sponsored By                    |
|--------------|-----------------|--|---------------------------|----------|--|--|---------------------------------|
| 28-May-18    | CAO<br>CD&ES    | Jamestown Health<br>Equity Centre            | T. Vair<br>B. Lamming     | Q2 2025  | Council received Planning report October 7,<br>2019 for Jamestown revitalization that<br>included this in scope of work; and the James<br>Street Neighbourhood Strategy October 26,<br>2020 – Agenda item 7.7.1                                  | Work with Algoma Leadership Table and other community<br>partners to assess need for harm reduction and health<br>equity services specifically in Jamestown, including cost<br>estimates.  | M. Shoemaker<br>R. Niro         |
| 4-Mar-19     | CD&ES           | Active Transportation                        | P. Tonazzo                | Q2 2025  | Report December 13, 2021 – Agenda item<br>6.3 – Active Transportation Master Plan<br>project approved and RFP awarded. Report<br>August 29, 2022 – Agenda item 7.11 – fall<br>public consultation planned  | Report as part of the preliminary capital budget identifying<br>how Transportation Master Plan, Cycling Master Plan,<br>Active Transportation Implementation Strategy and Transit<br>Route Optimization Study recommendations will be<br>implemented and for all new municipal facilities, new<br>streets, and road reconstruction projects report on how<br>principles of complete streets will be used to ensure that<br>municipal facilities and roadways incorporate all modes of<br>transportation. | D. Hilsinger<br>M. Shoemaker    |
| 12-Apr-21    | CAO             | Sustainable<br>Development                   | T. Vair                   | Q2 2025  |  | Outline options available to the municipality to ensure that<br>the cost of new development accurately reflects the cost to<br>the general levy.   | L. Dufour<br>M. Scott           |
| 13-Dec-21    | Legal           | AIM Recycling                                | K. Fields                 | Q3 2025  | Report August 8, 2022 – Agenda item 7.20 –<br>by-law to return at a future Council meeting,<br>and enforcement requirements to be referred<br>to 2023 Budget; Report August 28, 2023 –<br>Agenda item 7.13 – additional consultation<br>required | Staff to review whether a business licensing approach can<br>be used to address some of the concerns noted by<br>residents in the area of AIM Recycling and, by extension,<br>the community at large concerning existing or future<br>salvage/metal processing operations.   | C. Gardi<br>M. Scott            |
| 13-Dec-21    | Legal<br>Clerks | Taxi Licensing                               | K. Fields<br>R. Tyczinski | Q3 2025  | Report August 8, 2022 – Agenda item 7.2 –<br>by-law to return at a future Council meeting,<br>and enforcement requirements to be referred<br>to Budget   | City and Police Service to assess how the administration<br>and enforcement of the by-law is operating and report back<br>with any recommendations.  | L. Vezeau-Allen<br>D. Hilsinger |
| 31-Jan-22    | CAO             | Administrative Support<br>to Police Services | T. Vair                   | Q2 2025  | Report April 8, 2024 – Agenda item 7.2 –<br>return to Council with updates on<br>recommendations and potential financial<br>information  | CAO to work with the Police Chief and respective senior<br>staff to assess the City providing further administrative<br>services to Sault Ste. Marie Police Services in an effort to<br>decrease the cost to ratepayers.   | L. Vezeau-Allen<br>M. Shoemaker |
| 22-Feb-22    | CD&ES           | Community<br>Improvement Plan                | B. Lamming<br>P. Tonazzo  | Q2 2025  |  | of existing buildings in the community, and the option of<br>demolishing and redeveloping unsalvageable buildings in<br>the community within six months.   | M. Shoemaker<br>L. Dufour       |
| 21-Mar-22    | CAO<br>CD&ES    | Undeveloped Property<br>in "Gateway" Site    | T. Vair<br>B. Lamming     | Q3 2025  |  | The CAO and Deputy CAO, CD&ES work with the SSM<br>Housing Corporation to consider and assess a high density<br>residential development for the Gateway Site and report<br>back.   | L. Dufour<br>D. Hilsinger       |

| 9-Jan-23  | Corporate<br>Services | Elections Signs              | R. Tyczinski                    | Q2 2025 |   | Review other municipal by-laws, specifically to limiting the<br>number of signs used and the imposition of election sign<br>permits, and report back with a recommendation regarding<br>a new election sign by-law for municipal, provincial and<br>federal elections (including school board and/or other type<br>of elections).   | S. Hollingsworth<br>S. Spina |
|-----------|-----------------------|------------------------------|---------------------------------|---------|---|---|------------------------------|
| 11-Apr-23 | CD&ES<br>Finance      | Property Demolition<br>Fund  | B. Lamming<br>S. Schell         | Q2 2025 |   | Affordable Housing Taskforce to determine a target amount<br>for Property Demolition Fund Reserve, what criteria would<br>be used to access said reserve, and options for<br>replenishment of the reserve as it depletes.   | A. Caputo<br>R. Zagordo      |
| 29-May-23 | CD&ES                 | Food Truck Park<br>Proposal  | B. Lamming                      | Q2 2025 |   | Report on the feasibility of a Food Truck Park with the construction of a covered structure within the downtown area, and an equitable vendor application process.  | A. Caputo<br>R. Zagordo      |
| 29-May-23 | Human<br>Resources    | Living Wage                  | N. Ottolino                     | Q2 2025 | Report January 8, 2024 – Agenda item 7.1 –<br>Bring back revised wage grid for Council's<br>consideration | Report to Council regarding instituting a living wage policy for the Corporation.   | A. Caputo<br>L. Vezeau-Allen |
| 10-Jul-23 | CD&ES<br>PW&ES        | Bellevue Park Urban<br>Beach | B. Lamming<br>S. Hamilton Beach | Q2 2025 |   | Explore the feasibility, steps required, location, and<br>potential costs to develop an urban beach at Bellevue Park,<br>including locking kayak infrastructure.  | M. Scott<br>S. Spina         |
| 10-Oct-23 | Fire                  | Hope's Cradle                | P. Johnson                      | Q2 2025 |   | in a central location in Sault Ste. Marie.  | A. Caputo<br>L. Vezeau-Allen |
| 30-Oct-23 | CD&ES                 | Bike Lane Link               | P. Tonazzo                      | Q3 2025 |   | Report back by April 2024 with recommendations on the possibility of constructing a welcome sign with existing city biking lanes and on the cost and design of a link for cyclists from the end of the bike trail at Highway 17B to the City's existing cycling route on Queen Street, and whether there are funding opportunities available from other levels of government. | S. Hollingsworth<br>S. Spina |
| 29-Jan-24 | Human<br>Resources    | Living Wage<br>Comparators   | N. Ottolino                     | Q2 2025 |   | Staff investigate City positions and external comparators<br>with a view to creating a liveable wage target and review all<br>of the City's non-union salary grids including part time<br>employees and students.   | A. Caputo<br>L. Vezeau-Allen |
| 15-Jul-24 | PW&ES                 | Goose Management<br>Proposal | D. Perri                        | Q2 2025 |   | Investigate the feasibility of a goose management plan<br>including the current amount being spent to manage geese<br>and any current tactics being used to curb goose and<br>human interaction.  | A. Caputo<br>R. Zagordo      |
| 12-Aug-24 | CD&ES<br>PW&ES        | Sensory Playground           | B. Lamming<br>S. Hamilton Beach | Q3 2025 |   | Explore options for the establishment of a sensory<br>playground at Manzo Park or at any other City park in the<br>west end of Sault Ste. Marie.  | C. Gardi<br>M. Scott         |

| 1 Oct 04  |                    | Mallaga Tarraga and  | C. Dumial   | 00.0005 | Implement expression measures such as signed at  | M. Coott                     |
|-----------|--------------------|--|-------------|---------|--|------------------------------|
| 1-Oct-24  | PW&ES              | Wallace Terrace and Goulais Avenue                             | C. Rumiel   | Q2 2025 | Implement appropriate measures, such as signage or<br>temporary stop signs, during the trial period to ensure the<br>safety of all road users.   | M. Scott<br>C. Cardi         |
| 1-Oct-24  | PW&ES              | Community Safety<br>Zones                                      | C. Rumiel   | Q2 2025 | Explore designating Northern Avenue (Sackville Road to<br>Pine Street) and Pine Street (Northern Avenue to McNabb<br>Street) as Community Safety Zones.  | A. Caputo<br>R. Zagordo      |
| 21-Oct-24 | CD&ES              | Downtown Business<br>Improvement Area                          | B. Lamming  | Q1 2025 | Investigate how comparable communities are activating,<br>promoting and marketing their Downtowns, and report to<br>Council on options available to it, either with a<br>recommendation or with options from which Council could<br>choose to best activate, promote and market Sault Ste.<br>Marie's downtown.                | S. Hollingsworth<br>C. Gardi |
| 2-Dec-24  | PW&ES              | School Safety Zone<br>Review                                   | M. McAuley  | Q3 2025 | Review all School Safety Zones in Sault Ste Marie to create<br>a plan to standardize these zones; Further it be resolved<br>that a driver education campaign be brought forward to<br>highlight this plan once it is implemented to increase<br>awareness for motorists and pedestrians of safety<br>standards in these zones. | A. Caputo<br>R. Zagordo      |
| 13-Jan-25 | Human<br>Resources | Residency<br>Requirement Policy for<br>New Department<br>Heads | N. Ottolino | Q2 2025 | Report back regarding a policy on having a residency<br>requirement within the City of Sault Ste. Marie to be<br>negotiated into all future contracts for department heads,<br>including provision for enforcement and, where necessary,<br>if exceptions should be made.  | S. Kinach<br>M. Bruni        |
| 3-Feb-25  | PW&ES              | Traffic Lights   | C. Rumiel   | Q2 2025 | Report back regarding a trial period for some traffic lights to switch over to flashing red and yellow lights between the hours of 11 p.m. and 5 a.m.  | S. Kinach<br>M. Bruni        |

| 3-Feb-25  | Clerks | AMO Healthy<br>Democracy Partnership                  |                | Q3 2025 | <ul> <li>Work with AMO's Healthy Democracy Project team to help identify local challenges and potential solutions.</li> <li>Support its participation in the Local Democracy Accelerator through its own research into barriers to democracy, including, but not limited to: <ul> <li>Contacting current elected officials and staff to identify barriers to those working within these positions;</li> <li>Contacting former Councillors, Mayors and staff to identify barriers they may have faced;</li> <li>Contacting candidates who were not successful in their respective municipal elections to find their barriers, and whether or not they would consider running again; and</li> <li>Contacting diverse communities within Sault Ste Marie to identify if folks in those communities would consider engaging in local politics and to what degree. Should they choose not to, pursue reasons why they would not.</li> </ul> </li> </ul> |                       |
|-----------|--------|---|----------------|---------|--|-----------------------|
| 24-Feb-25 | IT     | DeepSeek on City-<br>Owned and City-Issued<br>Devices | F. Coccimiglio | Q1 2025 | Report back with a plan to implement the blocking of the DeepSeek from all City devices and networks.  | S. Kinach<br>M. Bruni |
| 24-Feb-25 | PW&ES  | Snow Removal Service<br>Delivery Assessment           | D. Perri       | Q3 2025 | Report back on current snow removal service delivery<br>models, including possible improvements to service and<br>equipment, communication with Council and residents,<br>costs of upgrading service and equipment, and labour force<br>impacts on adding additional equipment.  | A. Caputo<br>S. Spina |
| 17-Mar-24 |        |   |                |         |  |                       |



The Corporation of the City of Sault Ste. Marie

### COUNCIL REPORT

| March 17, 2025 |   |
|----------------|---|
| TO:            | Mayor Matthew Shoemaker and Members of City Council |
| AUTHOR:        | Tom Vair, CAO                                       |
| DEPARTMENT:    | Chief Administrative Officer                        |
| RE:            | Corporate Strategic Plan 2024-2027 Metrics          |
|                |   |

#### Purpose

The purpose of this report is to seek Council approval for the annual metrics that will address the first year of the Corporate Strategic Plan 2024-2027.

#### Background

On October 1, 2024, City Council approved the Corporate Strategic Plan 2024-2027. The Corporate Strategic Plan is a key document that guides City Council and staff in making operational and capital decisions. It covers the remainder of the current Council's term and the first year of the next term of Council.

When the plan was approved, staff committed to provide an ongoing monitoring and reporting program to track progress, assess outcomes, and identify any necessary adjustments.

#### Analysis

Numerous strategic documents were utilized to develop the Corporate Strategic Plan 2024-2027 and inform the actions and metrics. These strategic documents include the FutureSSM Community Development Strategy, Official Plan, Housing Action Plan, Parks and Recreation Master Plan, Asset Management Plan, Community Greenhouse Gas Reduction Plan, Community Culture Plan, Tourism Strategy, and Economic Development Strategy.

The Corporate Strategic Plan 2024-2027 includes four Focus Areas:

- 1. Community Development
- 2. Quality of Life
- 3. Infrastructure
- 4. Service Delivery

For each of the focus areas and their associated sub-groups and high-level goals, staff has identified actions, metrics, and timelines to advance the priorities over the

Corporate Strategic Plan 2024-2027 Metrics March 17, 2025 Page 2.

next year (Attachment A – Corporate Strategic Plan 2024-2027 Actions and Metrics).

As this is the first version of this new reporting framework for the Corporate Strategic Plan, these actions and metrics will be further refined based on Council feedback and staff experience in future annual reports.

#### Financial Implications

There are no financial implications to the actions and metrics document that have not been already approved as part of the 2025 municipal budget.

#### Strategic Plan / Policy Impact / Climate Impact

This report provides the actions and metrics associated with the Corporate Strategic Plan 2024-2027 over the next year.

#### Recommendation

It is therefore recommended that Council take the following action:

Resolved that the report of the CAO dated March 17, 2025 concerning the Corporate Strategic Plan 2024-2027 metrics be received and that Council approve the metrics as presented.

Respectfully submitted,

Tom Vair CAO 705.759.5347 <u>cao.vair@cityssm.on.ca</u>

# CORPORATE STRATEGIC PLAN

# **Actions and Metrics**



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### Land Acknowledgement

We acknowledge, with respect, that we are in Robinson-Huron Treaty territory, that the land on which we are gathered is the traditional territory of the Anishinaabe and known as Bawating. Bawating is the home of Garden River First Nation, Batchewana First Nation, and the Historic Sault Ste. Marie Metis Council.





Our Strategic Pan outlines the organization's direction and goals through 2027 and the strategies and actions that will guide the direction and allocation of resources for years to come.

#### Vision

Sault Ste. Marie is a thriving, safe and inclusive community where you belong.

### **Mission**

To provide municipal services that support development, enhance quality of life, and promote cultural vitality.



### **Our Narrative**

### Values

We want people to say the following things about Sault Ste. Marie:

- I receive exceptional service from the City of Sault Ste. Marie.
- I trust that my local government has my best interest in mind.
- My voice is heard.
- I am proud to work for the City of Sault Ste. Marie.
- I feel safe living here.
- Sault Ste. Marie has everything a community can offer and is like nowhere else.
- It's easy to do business in Sault Ste. Marie.

#### **Service Driven**

We will provide high quality and responsive service

#### **Employee Centred**

We commit to providing a dynamic work experience where staff feel valued and appreciated

#### **Responsible Growth**

We will grow responsibly to ensure a healthy, sustainable, and prosperous community for future generations

#### **Diversity and Inclusion**

We are committed to inclusion, diversity, equity, and access, including the pursuit of collaborative relationships

### Integrity

We will be accountable, transparent, and fiscally responsible to meet the needs of our community

### Support the growth of a diversified economy.



| Goal  | Actions   | Metrics                                 | Timeline |
|---|---|---|----------|
| Develop shovel-ready projects to access available funding | ldentify parcels for new industrial land<br>development | Acres acquired/serviced - 40 acres      | Q4 2025  |
| Attract new business and                                  | Business development                                    | Investment Funnel Pending - \$840M      | Q4 2025  |
| ensure sufficient supply of industrial land               | Funding acquired  | \$500,000                               | Q4 2025  |
|   | Planning applications                                   | Target 70 applications                  | Q4 2025  |
|   | Planning applications processing time                   | Planning applications processed on time | Q4 2025  |
| Support entrepreneurs                                     | Support entrepreneurs through<br>Millworks Centre       | 4,400 Client engagements and outreach   | Q4 2025  |
|   | Business attraction                                     | 50 jobs created and/or pending          | Q4 2025  |
| Increase tourism visitor spending and occupancy rates     | Occupancy average                                       | Target greater than 64% occupancy       | Q4 2025  |
| spending and occupancy fates                              | Municipal Accommodation Tax                             | Target \$1.7M revenue                   | Q4 2025  |

Well-being

### Take a collaborative approach toward a healthy and safe community.

| Goal  | Actions   | Metrics   | Timeline |
|---|---|---|----------|
| Advocate for addiction and mental health services                                   | Support Canadian Mental Health Association<br>where required in implementation of a<br>Homelessness Addiction Recovery Treatment<br>(HART) Hub in the community | Homelessness Addiction Recovery<br>Treatment (HART) Hub operational | TBD      |
| Advocate for improved<br>healthcare facilities and<br>personnel                     | Finalize the Northern Ontario School of Medicine<br>University (NOSM) Regional Campus feasibility<br>study and advocate for implementation                      | Obtain \$15.9M in start-up funds                                    | Q2 2026  |
| Foster collaboration and coordination of health and social services                 | Support Social Services in development of homelessness strategy   | Finalize the homelessness strategy                                  | Q3 2025  |
|   | Finalize the Community Safety and Wellbeing Plan  | Finalize the Community Safety and<br>Wellbeing Plan                 | Q1 2026  |
| Invest in allied healthcare<br>recruitment and innovative<br>labour force solutions | Physician recruitment committee   | 8 doctors recruited   | Q4 2025  |

#### Support equitable access and opportunities for everyone.

#### **Actions Metrics** Timeline Goal Implement a housing Housing Accelerator Fund Round 2 funding Implementation of the Housing Action 04 2025 Plan According to timelines action plan to deliver programs roll-out affordable housing 150 annual housing starts per year Monitor annual housing starts 04 2025 Support the full 3 significant barriers removed or 02 2026 Accessibility activities participation of user accessibility enhancements installed groups of all abilities Support programs that Local Immigration Partnership community 300 activities (supported events, 04 2025 foster a safe, welcoming outreach, stakeholder meetings) engagement and inclusive community



### **Social Equity**

### Establish respectful and meaningful relationships with First Nations and Métis communities.

# Truth and Reconciliation

| Goal  | Actions  | Metrics  | Timeline |
|---|--|--|----------|
| Implement Municipal Calls<br>to Action from the Truth<br>and Reconciliation<br>Commission | Develop Truth and Reconciliation<br>Commission Strategy document   | Completed plan with Baawaating<br>Advisory Committee endorsement | Q4 2025  |
| Expand Cultural<br>Competency Training<br>throughout the Corporation                      | Expand the Cultural Competency Training<br>Program to the next level of staff within<br>the organization | 100 additional staff trained in Cultural<br>Competency           | Q1 2026  |
| Take a proactive approach<br>to 'reconcili-action'  | Engage meaningfully with each First<br>Nation partner  | Identify and prioritize projects and initiatives of importance   | Q2 2026  |
|   | Hire an Indigenous Policy and Process<br>Advisor   | New staff role established                                       | Q1 2025  |

Maintain an affordable community with exceptional four-season recreational opportunities.



| Goal   | Actions  | Metrics   | Timeline           |
|--|--|---|--------------------|
| Promote Sault Ste. Marie<br>as a municipality of choice  | Continue with the Sault Ste. Marie<br>promotional campaign                   | 1M visits to Tourism Sault Ste. Marie<br>website, 160K views on Welcome to Sault<br>Ste. Marie website  | Q4 2025            |
| Exceed Provincial housing targets annually               | Launch the Housing Action Plan and the<br>Housing Community Improvement Plan | 150 housing starts  | Q4 2025            |
| Encourage and support sustainable transportation options | Continue with the expansion of the Hub<br>Trail                              | Mark Street trail expansion<br>People's Road - Second Line to<br>Rossmore Road  | Q4 2025<br>Q4 2026 |
|  | Expand the multi-use trail system  | <ul> <li>Peoples Road Reconstruction</li> <li>Off-road multi-use trail 800m<br/>expansion</li> <li>Off-road multi-use trail with<br/>additional 800m expansion</li> </ul> | Q4 2025<br>Q4 2026 |
|  |  | Sackville Road extension with 800m trail  | Q4 2026            |
|  | Expand cycling lanes within the City   | East Street (Bay to Wellington) cycle<br>track (curb-separated bicycle facility)  | Q4 2025            |

Maintain an affordable community with exceptional four-season recreational opportunities.



| Goal                                     | Actions                                   | Metrics                                    | Timeline |
|--|---|--|----------|
| Invest in recreational<br>infrastructure | Expansion of bike trails                  | 5 km of new biking trails                  | Q4 2025  |
|  | Upgrade of park equipment                 | One park improved                          | Q4 2025  |
|  | John Rhodes roof replacement              | A new roof installed, extending asset life | Q4 2025  |
|  | Upgrades to Rocky DiPietro field          | New scoreboard and football upgrades       | Q4 2025  |
|  | Strathclair dog park upgrades             | Install new solar lighting                 | Q4 2025  |
|  | Develop a new dog park                    | New leash free dog park                    | Q4 2025  |
|  | John Rhodes Lighting Upgrade              | Install new LED lighting                   | Q4 2025  |
|  | John Rhodes Pool                          | Upgrade starting blocks                    | Q4 2025  |
|  | Upgrade outdoor rink facilities           | Esposito rink shack                        | Q4 2025  |
|  | Wishart Park                              | Bridge installation and park upgrades      | Q4 2025  |
|  | Accessible Washrooms/Change Area<br>study | Manzo Park and Greco Pool                  | Q4 2025  |
|  | North Street field                        | Lighting upgrade                           | Q4 2025  |

#### Instill a strong sense of community that embraces and celebrates diversity and culture.

Goal Actions **Metrics** Timeline Attract 300 newcomers to Sault Ste. 04 2025 Maximize our Rural Community Attract newcomers Marie Immigration Pilot allocation annually 04 2025 22 standalone events Promote multi-cultural Organize arts and culture events events Establish diverse, Engage seniors in community 52,000 program visits in Bay Street and 04 2025 Northern Community Centre Active equitable, inclusive and programming accessible community Living Centres 55+ spaces Manzo Park Playground Updates Accessible features upgrades 04 2026

Welcoming

Create a hub of activity and excitement through shops, events, promotion and amenities.



| Goal   | Actions   | Metrics   | Timeline |
|--|---|---|----------|
| Increase participation and grow the number of events in the Downtown year over | Roberta Bondar Pavilion event<br>programming              | 80 events and bookings  | Q4 2025  |
| year   | Downtown Plaza programming                                | 30,000 participants   | Q4 2025  |
|  | GFL Memorial Gardens programming                          | 9 events with over 1,200 participants (not including Greyhound games) | Q4 2025  |
|  | GFL number of visitors (including Soo<br>Greyhound games) | 195,000 annual visitors   | Q4 2025  |
|  | Ermatinger Clergue National Historic<br>Site programming  | 25,000 annual visitors  | Q4 2025  |

destinations

Create a hub of activity and excitement through shops, events, promotion and amenities.



| Goal  | Actions   | Metrics  | Timeline |
|---|---|--|----------|
| Increase assessment value<br>and growth rate in the | Investment in the Downtown Core                           | Increased Assessment Value on par with other areas of the community                                    | Q4 2025  |
| Downtown  |   | Housing Community Improvement Plan<br>Launch   | Q4 2025  |
|   |   | Queen Street Reconstruction Phase 1 completion   | Q3 2025  |
|   |   | Implement new Queen Street design to<br>the extent of the Downtown, Phase 2<br>tender and construction | Q2 2027  |
|   |   | Façade Grants  | Q1 2026  |
|   |   | Downtown Ambassador Program  | Annual   |
| Continue to develop world-<br>class waterfront      | Finalize the City's Waterfront<br>Development Master Plan | Receive Council approval and advance<br>Phase 1 funding  | Q4 2025  |

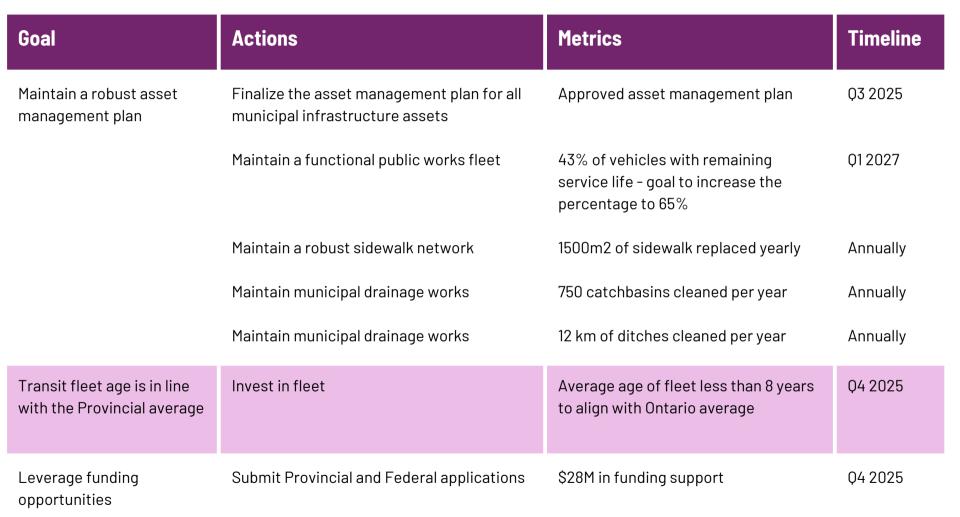
### Support and grow the creative economy and celebrate arts and culture.

| Goal   | Actions   | Metrics   | Timeline |
|--|---|---|----------|
| Celebrate diversity in public<br>art             | Commission new murals and public art as part of the Vivid Arts Festival             | 3 new murals  | Q3 2025  |
|  | Commission an Indigenous artwork installation                                       | 1 new installation                                    | Q4 2025  |
| Promote and conserve                             | Utilize existing heritage conservation program                                      | \$98,000 in heritage tax rebates                      | Q1 2026  |
| heritage assets                                  | Number of heritage properties registered  | 15  | Q4 2025  |
|  | Install new windows in the Sault Ste. Marie<br>Museum building                      | \$200,000 window upgrade<br>project                   | Q2 2026  |
|  | Implementation of the Ermatinger Clergue<br>National Historic Site digital strategy | Implement FedNor grant                                | Q4 2025  |
|  | Memorial Tower  | Critical repairs complete                             | Q4 2025  |
|  | Host heritage walks and Doors Open event  | 5 events and walks                                    | Q4 2025  |
| Enhance funding support for cultural initiatives | Deploy increased budget through the Cultural<br>Vitality Committee                  | \$170,000 distributed to community arts organizations | Q1 2026  |



**Arts and Culture** 

#### Monitor, maintain, and redevelop existing infrastructure.



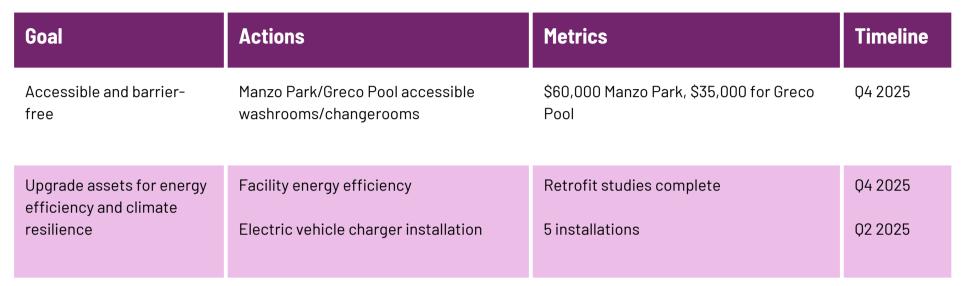


#### Monitor, maintain, and redevelop existing infrastructure.



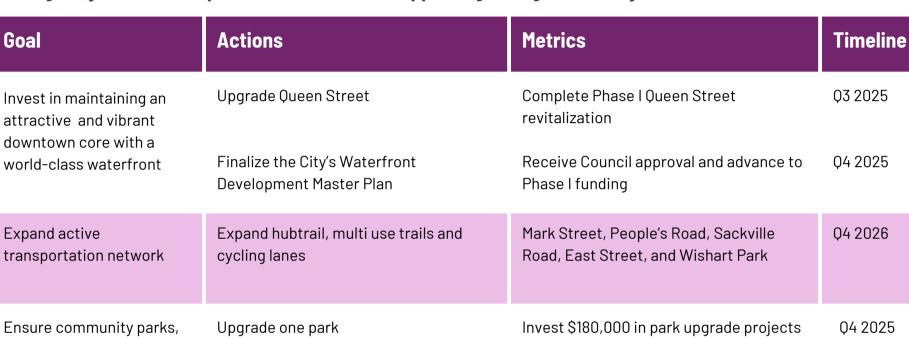


#### Monitor, maintain, and redevelop existing infrastructure.





#### Strategically build and acquire infrastructure to support a growing community.



with funding sought for second park

Ensure community parks, green spaces, and recreation infrastructure needs are met

Goal



### Be a leader in environmental sustainability and climate action.

| Goal  | Actions  | Metrics   | Timeline                      |
|---|--|---|-------------------------------|
| Net zero emissions by<br>2050   | Greenhouse Gas (GHG) Community<br>Reduction Plan                                   | Completion of Plan  | Q1 2025                       |
| Enhance and protect our public green spaces                           | Greenhouse Gas Community<br>Reduction Plan   | Prioritization of Greenhouse Gas Action Items<br>and Budget Process   | Q3 2025                       |
| Seek opportunities to<br>implement sustainable<br>solutions           | Fleet transition to electric vehicles  | <ul> <li>2 electric ice resurfacers, 1 transit bus</li> <li>1 electric transit bus</li> <li>1 electric half ton pick-up for Public Works</li> </ul> | Q1 2025<br>Q4 2026<br>Q3 2025 |
|   | Biosolid Management Facility   | Complete design of new biosolids and household organics processing facility   | Q3 2025                       |
|   | Landfill waste diversion   | 2,500 tonnes of material diverted through recycling and composting programs   | Q2 2026                       |
| Implement practices and technologies to improve air/water quality and | West End Wastewater Treatment<br>Plant Phase 2 Upgrades                            | Design and prepare tender and contracts for 2026/27   | Q1 2026                       |
| enhance biodiversity  | East End Wastewater Treatment<br>Plant Ultra Violet (UV System<br>Upgrades Page 60 | Construction of new Ultra Violet system of 904  | Q2 2026<br><b>17</b>          |



#### Be a leader in environmental sustainability and climate action.





Provide accessible communications, timely resolution of concerns, and fair treatment for all.



| Goal  | Actions   | Metrics   | Timeline   |
|---|---|---|--|
| Standardize customer<br>service practices and<br>policies                       | Undertake review of current practices and policies  | Finalize and implement recommendations of review  | Q4 2025  |
| Regularly collect and review<br>customer feedback for<br>continuous improvement | <ul> <li>Monitor participation in programs and identify opportunities for customer feedback:</li> <li>Transit ridership</li> <li>John Rhodes Pool</li> <li>Active Living 55+ (Bay Street and NCC locations)</li> <li>GFL Memorial Gardens visitors, including Greyhound games</li> <li>Maintain Fire Service average response time to calls</li> <li>Conduct proactive Fire Service training throughout the community</li> <li>Educate youth on fire prevention and safety</li> </ul> | <ul> <li>1.9M rides<br/>5,000 total participants in programs<br/>600 programs</li> <li>195,000</li> <li>First arriving engine company on<br/>the scene in 4:00 minutes or less 90%<br/>of the time</li> <li>Over 240 fire safety demonstrations<br/>and speaking events</li> <li>Reach 3,500 students with elementary<br/>and secondary school program</li> </ul> | 04 2025<br>04 2025<br>04 2025<br>04 2025<br>04 2025<br>04 2025<br>04 2025<br>04 2025 |
|   | Page 62 of 904  |   | 19   |

Provide accessible communications, timely resolution of concerns,

#### and fair treatment for all.



| Goal  | Actions  | Metrics            | Timeline |
|---|--|--------------------|----------|
| Develop new methods of<br>collecting and analyzing<br>customer feedback | Implement customer surveys to obtain<br>feedback | 5 surveys per year | Q4 2025  |

### Create a supportive workplace that invests in employees.

| Goal  | Actions   | Metrics  | Timeline   |
|---|---|--|------------|
| Explore technologies that support innovation and efficiency | Finalize needs assessment and roadmap<br>for Human Resources Information<br>System (HRIS) and Enterprise Resource<br>Planning (ERP) | Strategy paper and recommendation complete   | Q4 2025    |
|   | Artificial Intelligence (AI) technology<br>adoption   | Strategy paper, policy and recommendation complete                                 | Q4 2025    |
|   | Corporate Office 365 Applications<br>Adoption   | Office 365, Teams, One Drive and<br>Collaboration Apps                             | Q3/Q4 2025 |
| Maximize investment in training                             | Use of in-house subject matter experts to deliver management skills training  | Offer 3 workshop-style topics targeting new supervisors                            | Q2 2026    |
|   | Provide targeted training based on emerging trends and issues   | Substance Abuse and Addictions<br>Identification Training for Supervisory<br>staff | Q1 2025    |
|   |   | Two additional de-escalation training sessions for front-line staff                | Q4 2025    |
|   |   | Mental health & resilience training for all front-line staff                       | Q3 2026    |



#### Create a supportive workplace that invests in employees.

#### Actions Timeline Goal **Metrics** Implement strategies to Increase visibility as an employer of Participate in 3 job fairs 04 2025 attract and retain talent choice in the area Partner with local post-secondary career 04 2025 offices for enhanced advertising Feature employee testimonials with the 04 2025 community Create new post-secondary co-op 04 2025 opportunities in areas of high turnover Advance diversity, equity, Internal awareness campaign of the 5% increase in the utilization of the 02 2026 and inclusion in the "Financial Assistance for Training and existing benefit Development Courses" benefit workplace Development of a Diversity, Equity and Draft to be submitted to Senior 03 2025 Inclusion (DEI) guiding policy for the Management Team (SMT) for Corporation feedback/approval 02 2026 Training to roll out Diversity Equity and In-person training for all existing Inclusion (DEI) policy to all staff employees on Respectful Workplace Policy - Human Rights / Harassment & Page 65 of 904 Discrimination



#### Create a supportive workplace that invests in employees.

#### Timeline Actions **Metrics** Goal Advance diversity, equity, Training to roll out DEI policy to all staff Introduce training modules on 04 2026 and inclusion in the unconscious bias, micro-aggressions, workplace allyship Full implementation of French language Continue to monitor and enhance the Annually service directive ability for Francophone residents to navigate municipal services in French Foster civic pride and team Continue team-building events and Hold >12 staff team building and 04 2025 recognition events throughout the year building activities throughout the corporation



### Identify obstacles that hinder growth and development and streamline processes.

| Goal   | Actions  | Metrics  | Timeline   |
|--|--|--|------------|
| Implement and enhance<br>online tools for<br>applications and permits      | Phase one: Roll out of Sault Ste. Marie<br>Innovation Centre's Cerolink Online<br>application platform | Live Online planning application   | Q2/Q3 2025 |
|  | Ensure adherence to legislated<br>timelines for Planning Act applications                              | Tracking and monitoring response times   | Annual     |
| Review processes,<br>policies, and procedures to<br>identify efficiencies  | Review and prioritization of policy document revision  | Complete review and update >2 policies   | Q4 2025    |
| Reduce red tape and<br>accelerate timelines for<br>responses and approvals | Implement online application portal for planning applications  | Training and launch of new portal solution   | Q1 2026    |
| Remove physical and<br>digital barriers to enhance<br>accessibility        | Adopting Accessability friendly<br>technology  | Accessibility for Ontarians with<br>Disabilities Act (AODA-W3C) Website,<br>Video Remote Interpreting, Accessible<br>PDF | Q3/Q4 2025 |



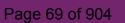
### Build collaborative relationships to enhance service delivery options.



| Goal   | Actions  | Metrics  | Timeline |
|--|--|--|----------|
| Facilitate collaboration<br>with neighbouring<br>communities and<br>community groups to<br>achieve shared goals                    | Maintain municipal and industry partnerships   | Active participation in industry<br>associations including<br>AMO/OMAA/ROMA/ICSC/NOLUM/FCM/ED<br>CO/TIAC/TIAO  | Q4 2025  |
|  | Meet with Michigan & Chippewa County<br>Economic Development Corporation<br>colleagues | 6 meetings annually: Eastern Upper<br>Peninsula Planning Group, Chippewa<br>County Economic Development<br>Corporation and Sault Ste. Marie<br>Michigan Economic Development<br>Corporation. | Q4 2025  |
| Liaise with community<br>groups to improve<br>communications   | Local Not for Profits and Community<br>Service Organizations                           | Hold meetings at least annually with key community stakeholder groups  | Q4 2025  |
| Foster strategic<br>partnerships with post-<br>secondary education<br>institutions for labour<br>force and economic<br>development | Implement a Bi-Annual Meeting with<br>Post Secondary Institutions                      | Minimum 4 meetings/year  | Q3 2025  |

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The Corporation of the City of Sault Ste. Marie

### COUNCIL REPORT

| April 7, 2025 |   |
|---------------|---|
| TO:           | Mayor Matthew Shoemaker and Members of City Council |
| AUTHOR:       | Tom Vair, CAO                                       |
| DEPARTMENT:   | Chief Administrative Officer                        |
| RE:           | City Solicitor Hiring Process Authorization         |
|               |   |

#### Purpose

The purpose of this report is to seek Council approval to commence the hiring process for the City Solicitor position.

#### Background

Karen Fields has provided the City with her intent to withdraw from the practice of law and conclude her employment with the City as of June 27, 2025.

As per policy, staff are seeking Council approval to commence the recruitment and hiring process for this position. A report appears elsewhere on the Council Agenda with an update to the policy for the hiring of senior staff within the Corporation.

#### Analysis

Ms. Fields will be greatly missed by the organization, and staff are grateful for her valuable counsel and contributions to the City during her tenure with the City.

Staff proposes to undertake an open recruitment process (internal and external posting) that will be led by staff (no external recruitment consultants involved). Advertising and promotion of the vacancy will be undertaken in appropriate media publications.

#### **Financial Implications**

There are no financial implications to this report.

#### Strategic Plan / Policy Impact / Climate Impact

This is an operational matter not articulated in the corporate Strategic Plan.

#### Recommendation

It is therefore recommended that Council take the following action:

Resolved that the report of the CAO dated April 7, 2025 concerning the authorization of the hiring process for the City Solicitor position be received and that Council authorize staff to commence the hiring process as outlined.

City Solicitor Hiring Process Authorization April 7, 2025 Page 2.

Respectfully submitted,

Tom Vair CAO 705.759.5347 <u>cao.vair@cityssm.on.ca</u>



The Corporation of the City of Sault Ste. Marie

### COUNCIL REPORT

| April 7, 2025 |   |
|---------------|---|
| TO:           | Mayor Matthew Shoemaker and Members of City Council |
| AUTHOR:       | Tom Vair, CAO                                       |
| DEPARTMENT:   | Chief Administrative Officer                        |
| RE:           | Hiring of Senior Staff Policy Amendment             |
|               |   |

#### Purpose

The purpose of this report is to seek Council approval to approve amendments to the current, "Guidelines for the Recruitment and Selection of Senior Staff" policy, contained in By-law 2004-234.

#### Background

The City of Sault Ste. Marie has a Council-approved policy, "Guidelines for the Recruitment and Selection of Senior Staff" which was last revised and approved in August, 2005 (Attachment A – 1-9 Guidelines for the Recruitment and Selection of Senior Staff).

This policy covers both the hiring process for the CAO position as well as a number of named senior staff positions. A number of the named senior staff positions no longer exist in the organization and staff recommend an update to this policy to reflect governance and management best practices.

Given a pending vacancy for the City Solicitor position (a report appears elsewhere on the Council Agenda on this matter), staff are recommending the following:

- Amend the current policy on senior staff hiring to leave its application to the CAO position only;
- Approve a revised "Guidelines for the Recruitment and Selection of Senior Staff" (Attachment B to this report – Guidelines for the Recruitment and Selection of Senior Staff 2025) to become Schedule "E" to by-law 2004-234;
- Approve the revised Schedule "D" which is the Guideline on the Summer Student Hiring Policy, which was updated in 2018, but for which the by-law was not amended (Attachment C – 2025-58 Schedule D Summer Student Hiring Policy);
- Staff will return at a future Council meeting with an updated, new policy outlining the process for "CAO Recruitment and Selection".

Hiring of Senior Staff Policy Amendment April 7, 2025 Page 2.

Following this process will enable staff to recruit the City Solicitor position under the new hiring policy and establish the revised policy for future senior staff positions.

#### Analysis

Reviewing best practices among municipalities, a common practice is that Council is involved with selecting the CAO position but the hiring of senior staff remains with the CAO and staff. Of the other cities in Northern Ontario, senior staff hires are managed by the CAO and do not involve Council members in the hiring process (note, Sudbury indicated it did have a practice of two councillors sitting in on a round of interviews for General Manager positions).

The *Municipal Act* outlines the role of the Chief Administrative Officer. Section 229 states that a municipality, "may appoint a chief administrative officer who shall be responsible for,

(a) exercising general control and management of the affairs of the municipality for the purpose of ensuring the efficient and effective operation of the municipality; and

(b) performing such other duties as are assigned by the municipality. 2001, c. 25, s. 229."

The City CAO by-law 2007-48, (amended by by-law 2021-209), details the following regarding personnel administration:

Section 2 (o) recommend to the Council the appointment, employment, suspension or dismissal of any department head;

(p) subject to any overriding directive by Council and in accordance with the City's Hiring and Selection policies, to appoint or employ any civic employee who is not covered by a collective bargaining agreement; further to suspend or dismiss any such employee subject to the right of such employee to appeal to the Council any such suspension of dismissal;

The process proposed by staff would still see Council authorization to fill a Department Head position and other positions required by legislation. Council would also approve the final appointment of Department Head positions and those positions required by legislation (first discussed in Closed Session and then confirmed in a Regular Council meeting). This will provide Council with an opportunity to confirm that the proper hiring process was undertaken as per policy and ask any questions of staff.

The update to the hiring policy aligns with best practices in municipal governance and recruiting processes and is recommended by staff for approval. Hiring of Senior Staff Policy Amendment April 7, 2025 Page 3.

### **Financial Implications**

There are no financial implications to this change in the hiring policy.

### Strategic Plan / Policy Impact / Climate Impact

The hiring policy for senior staff is an operational matter not articulated in the corporate Strategic Plan.

### Recommendation

It is therefore recommended that Council take the following action:

The relevant By-law 2025-58 is listed under item 12 of the Agenda and will be read with all by-laws under that item.

Respectfully submitted,

Tom Vair CAO 705.759.5347 <u>cao.vair@cityssm.on.ca</u>



Subject: Guidelines for the Recruitment and Selection of Senior Staff
Service Area: Human Resources
File in Section: Employment Practices
Effective Date: November 16, 1998
Revision Date: August, 2011
Approved by: City Council

### **Purpose:**

Provide guidelines to be used in the recruitment of the Chief Administrative Officer and the Senior Staff positions identified in the Scope section.

### Scope:

These guidelines apply to the Chief Administrative Officer and Senior Staff positions. Senior Staff positions consist of Department Heads (Commissioners, City Solicitor, City Clerk, Fire Chief), Assistant Department Heads and Division Heads.

Note: Division Heads are defined as the following: Manager of Ontario Works, Manager of Community Childcare, Manager of Housing Operations, Transit Manager, Manager Recreation & Culture, Manager Community Centres & Marine Facilities, Manager of Cemeteries, Manager Day Care Services, Manager of Parks, Planning Director, Tax Collector.

Assistant Department Heads are Assistant City Clerk, Assistant City Solicitor, Deputy Commissioner of Public Works, Assistant Fire Chief, Director of Engineering Services.

### **Procedures:**

## I Chief Administrative Officer (C.A.O.)

- 1. City Council shall authorize the filling of a C.A.O. vacancy in an open Council meeting.
- 2. Upon approval of the filling of the vacancy City Council shall appoint a Selection Committee consisting of the Mayor and two (2) Councillors.

Note: The Commissioner of Human Resources or his designate shall act as a resource to the Selection Committee as may be required throughout the recruitment and selection process.

3. The Selection Committee shall carry out the recruitment and selection process and keep City Council advised throughout the process.



The recruitment and selection process may consist of some or all of the following:

- A) Use of Consultants in the Recruitment Process
  - R. F. P.
  - Selection of the Consultant
  - Contract and costs
- B) Establish Criteria for the Positions
  - Review the job descriptions
  - Update as necessary
  - Establish qualifications and criteria for position
- C) Advertising of the Position
  - Internal posting only
  - Internal posting and external advertising
  - Local, Provincial or National advertising
  - Prepare posting/advertisement
- D) Receipt and Processing of Resumes
  - Resumes received by whom
  - Acknowledgment of receipt
  - Establish time frame for further contact
- E) Long Listing of Resumes
  - Establish criteria for "long list" of resumes
  - Establish a long list of applicants
  - Respond to all applicants regarding status of application
- F) The Interview Process
  - Determine the participants in the interview process.
  - Establish interview questions and interview process
- G) Recommend "Short List" of Candidates to City Council
- H) City Council interview of "Short List Candidates"
  - Determine the participants in the interview process
  - Establish the interview process and conduct interviews.

2 of 4



- I) Selection of successful candidate by City Council
  - Offer of Employment and Acceptance
  - Prepare Announcement
- J) Appointment by By-Law

The Selection Committee may amend this recruitment process as necessary with the approval of Council.

### II Senior Staff

1. Council shall authorize the filling of a Senior Staff vacancy. City Council may approve filling such vacancy through appointment or through a selection process.

#### Note:

For Department Head positions, inclusive of the City Solicitor, City Clerk and Fire Chief, the approval to fill such vacancy shall be in an open City Council meeting.

- 2. a) If filled by appointment, the appointment is confirmed through passage of a By-law and by confirming to the employee such appointment in writing.
  - b) If approved to be filled by a Selection Process, a selection committee will be formed consisting of:
    - A member of Council appointed by Council, in the case of filling a Department Head position.
    - Chief Administrative Officer or his designate
    - Commissioner of Human Resources or his designate
    - Respective Department Head in Division Head selections
    - Others as determined appropriate by the Chief Administrative Officer.
- 3. The Selection Committee shall carry out the recruitment and selection process which may consist of the following:
  - A) Use of Consultants in the Recruitment Process
    - R. F. P.
    - Selection of the Consultant
    - Contract and costs
  - B) Establish Criteria for the Positions
    - Review the job descriptions
    - Update as necessary
    - Establish qualifications and criteria for position

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- C) Advertising of the Position
  - Internal posting only
  - Internal posting and external advertising
  - Local, Provincial or National advertising
  - Prepare posting/advertisement
- D) Receipt and Processing of Resumes
  - Resumes received by whom
  - Acknowledgment of receipt
  - Establish time frame for further contact
- E) Short Listing of Resumes
  - Establish criteria for "short list" of resumes
  - Establish a short list of applicants
  - Respond to all applicants regarding status of application
- F) The Interview Process
  - Determine the participants in the interview process
  - Establish interview questions and interview process
  - G) 1. Department Head Recommendation to Council
    - a) CAO recommends successful candidate to Council
    - b) Offer of Employment and selection
    - c) Prepare Announcement
    - 2. Division Head Advise Council
      - a) Advise Council of candidate selected
      - b) Prepare Announcement
  - H) Approve appointment by By-law.

The Selection Committee may amend this recruitment process as necessary with the approval of Council.



Subject: Guidelines for the Recruitment and Selection of Senior Staff Service Area: Human Resources File in Section: Employment Practices Effective Date: April 7, 2025 Revision Date: April 7, 2025 Approved by: City Council

### Purpose:

To provide guidelines for recruiting Senior Staff positions identified in the Scope section.

#### Scope:

These guidelines apply to Senior Staff positions, which consist of Department Heads and certain positions required by other legislation including Deputy Chief Administrative Officers (DCAOs), City Solicitor, City Clerk or Deputy Clerk, Chief Financial Officer and the Treasurer or Deputy Treasurer, Fire Chief or Deputy Fire Chief, Chief Building Official.

#### **Procedures:**

#### I Senior Staff

1. a) Council shall authorize the filling of a Senior Staff vacancy. City Council may approve filling such vacancy through appointment or through a selection process.

b) For Department Head positions, inclusive of (Deputy Chief Administrative Officers (DCAOs), City Solicitor, City Clerk or Deputy Clerk, Chief Financial Officer and the Treasurer or Deputy Treasurer, Fire Chief or Deputy Fire Chief, Chief Building Official), the approval to fill such vacancy shall be in an open City Council meeting.

2. a) If filled by appointment, the appointment is confirmed through passage of a By-law and by confirming to the employee such appointment in writing.

b) If approved to be filled by a Selection Process, a selection committee will be formed consisting of:

- Chief Administrative Officer or their designate
- Director of Human Resources or their designate
- DCAOs (as appropriate, if DCAO recruitment)
- Others as determined appropriate by the Chief Administrative Officer.

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3. The Selection Committee shall carry out the recruitment and selection process. The process may consist of all or some of the following:

A) Decide if the Use of Consultants in the Recruitment Process is required. If a Consultant,

- Prepare R. F. P.
- Selection of the Consultant
- Contract and costs
- B) Establish Criteria for the Position
  - Review the job description
  - Update as necessary
  - Establish qualifications and criteria for position
- C) Advertising of the Position (options include):
  - Internal posting only
  - Internal posting and external advertising
  - Local, Provincial or National advertising
  - Prepare posting/advertisement

D) Receipt and Processing of Resumes

- Resumes received by Human Resources
- Acknowledgment of receipt
- Establish time frame for further contact
- E) Short Listing of Resumes
  - Establish criteria for "short list" of resumes
  - Establish a short list of applicants
  - Respond to all applicants regarding status of application
- F) The Interview Process
  - Determine the participants in the interview process
  - Establish interview questions and interview process

G) Recommendation to Council

- CAO recommends successful candidate to Council
- If approved, offer of Employment and selection
- Prepare Announcement

H) Approve appointment by By-law.

Page 2 of 3



The Selection Committee may amend this recruitment process as necessary with the approval of Council.



The City of Sault Ste. Marie Information Manual

Subject: Summer Student Hiring Policy Service Area: Employment Practices Source: Human Resources Original Date: March 2004 Date: August 2011, June 2018

#### Purpose:

This policy will provide guidelines for the recruitment and selection of Summer Student employees that is fair, open and transparent and will comply with all relevant legislation.

#### Definition of a "Summer Student"

To be eligible for Summer Student employment with the City of Sault Ste. Marie, applicants must have completed their first year of post-secondary education and be returning to a full-time accredited institution for the following school term. Proof of attendance and/or proof of returning may be required.

Summer Student employment is defined as the time period commencing the last week of April through to the Friday following Labour Day.

Where student employment is not governed by a collective agreement, students may be employed at any time of the year at the student rate of pay. Where governed by a collective agreement, students who work during the summer months (May to September) may work from the third Monday in December to the first Friday in January and on special projects with the Union's concurrence where and as required.

Applicants are no longer eligible for Summer Student employment if they have been employed five consecutive years in the Summer Student program.

#### **Change in Student Status**

If proof of continuing education is not received prior to July 15<sup>th,</sup> employment may be terminated.

When a student advises a Supervisor or if the Supervisor becomes aware that a student no longer meets the definition of "Summer Student", such student's employment may be terminated, based on not meeting the criteria for 'Summer Student'.

#### Partiality

The Corporation of the City of Sault Ste. Marie recognizes the benefits of providing summer employment and training opportunities for students enrolled in post-secondary education. To be fair-minded to all applicants and residents of the City, the Corporation will not hire more than one student per family for the same employment period.

#### Procedure

- The deadline for Summer Student Applications will be posted each year.
- Late applications are only considered after all current applications have been exhausted.
- Department vacancies are determined by the annual budget.

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- The Human Resources Department shall receive and retain applications for summer employment from all qualified students.
- HR will determine current vacancies, taking into account returning students.
- Department / Division Managers will work with HR to coordinate screening of applications.
- A ratio of 2:1 is recommended when determining the number of candidates to be interviewed in relation to the number of available positions.
- Department/Division is responsible for conducting interviews. Human Resources will assist as required.
- Interview questions will be consistent, structured, and previously approved by Human Resources.
- Job offers are made to those candidates, based on interview results; taking into consideration knowledge, skills, abilities, capability, and behavior.
- All Summer Students must attend mandatory legislative training as scheduled.
- No applications will be processed where an applicant has been offered tentative employment by a department and then advised to report to HR to formally apply for a position.
- Transfers are only granted under exceptional circumstances and must be reviewed and approved by the Director of Human Resources.
- With regard to relatives working together, refer to the "Hiring of Relatives Policy" (#1-3) for details. Further, related students will not be assigned to work in the same division.

#### Relative is defined as:

- Spouse: Person to whom the employee is legally married or in a common-law relationship.
- Child: Natural, adopted and includes in-law and stepchildren
- Parent: Includes father, mother, stepfather, stepmother
- Sibling: Brother or Sister, half brother and half sister
- In-Law: Father/Mother In-law, Brother/Sister In-law
- Department / Division must administer performance evaluations with all students.
- Performance evaluations must be received by Human Resources prior to September 15<sup>th</sup>.
- Results of performance evaluations will determine if a student is eligible for subsequent employment opportunities.
- Regardless of the preceding, any concerns regarding employee conduct must be addressed real time.
- This policy shall not apply to students given unpaid job placement experience for course credits through recognized co-operative education programs.
- > The C.A.O. must specifically approve any exceptions to this policy.



# COUNCIL REPORT

| April 7, 2025 |   |
|---------------|---|
| TO:           | Mayor Matthew Shoemaker and Members of City Council |
| AUTHOR:       | Tom Vair, CAO                                       |
| DEPARTMENT:   | Chief Administrative Officer                        |
| RE:           | Physician Recruitment Budget Update                 |
|               |   |

#### Purpose

The purpose of this report is to provide Council with information related to the budget of the Physician Recruitment and Retention Committee and seek approval to utilize funds from the Physician Recruitment reserve fund.

#### Background

At the February 27, 2025 Physician Recruitment and Retention Committee meeting, the Group Health Centre (GHC) confirmed they would not be making their regular contribution to physician recruitment and retention efforts (Attachment A – GHC ADMG Letter to Physician Recruitment and Retention Committee March 2025). In 2024, GHC contributed \$65,000 towards the committee's efforts.

City Council approved an increase of \$50,000 in 2025 budget deliberations to bring the City's total contribution to \$190,000. The marketplace for physician recruitment is extremely competitive and it was hoped these additional funds would enable the City to better compete and market itself.

| Contributors             | 2025    | 2024    | 2023    |
|--------------------------|---------|---------|---------|
|                          | \$      | \$      | \$      |
| City of Sault Ste. Marie | 190,000 | 140,000 | 140,000 |
|                          | \$      | \$      | \$      |
| Sault Area Hospital      | 95,000  | 80,000  | 80,000  |
|                          |         | \$      | \$      |
| Group Health Centre      | \$-     | 65,000  | 80,000  |
| Algoma West Academy      |         |         |         |
| of Medicine (In-Kind)    |         |         |         |
| Utilize GHC 2016         |         | \$      |         |
| Overpayment in Reserve   |         | 10,000  |         |
|                          |         | \$      |         |
| Donations line item      |         | 5,000   |         |

The contributions and budget from 2023-2025 are provided below:

Physician Recruitment Budget Update April 7, 2025 Page 2.

|                  | \$          | \$      | \$      |
|------------------|-------------|---------|---------|
| Total            | 285,000     | 300,000 | 300,000 |
| Budget Shortfall | \$ (15,000) |         |         |

GHC's withdrawal of financial support for physician recruitment and retention efforts leaves the previous annual budget of \$300,000 short by \$30,000. Sault Area Hospital (SAH) has agreed to increase its contribution by \$15,000 (a total of \$95,000) to decrease the shortfall in half.

SAH is committed to the work of physician recruitment and has taken the position that any success in physician recruitment benefits the community and hospital operations.

City staff propose utilizing the physician recruitment reserve to make up the \$15,000 deficit.

#### Analysis

Physician availability is vitally important to the health of the community and also plays a role in the community's ability to attract and retain skilled professionals. Cities across Ontario are investing increasing amounts in physician recruitment and offering significant incentives to secure doctors. According to media reports, several communities in Ontario are offering incentives, up to \$150,000, to recruit physicians.

An overall budget of \$300,000 for physician recruitment is modest given it covers wages for 1.5 FTE's, advertising, travel and event fees.

Staff have discussed opportunities to raise additional funds for this work and will work with the Manager of Physician Recruitment and Retention to seek additional funding, donations and support for physician recruitment efforts. The City of Sault Ste. Marie can provide tax receipts for donations in support of physician recruitment.

Other important items of note related to physician recruitment include:

- The feasibility study to establish a regional campus of NOSM University in Sault Ste. Marie is being finalized. It provides a solid rationale for advancing a regional campus to help provide long-term solutions to physician recruitment challenges.
- The Provincial government included a number of significant proposed investments in healthcare in their 2025 election platform including:
  - Investing \$1.8 billion to connect two million more people to a publicly funded family doctor or primary care team within four years. This aims to achieve the government's goal of connecting everyone in the province to a family doctor or primary care team. Through the action

Physician Recruitment Budget Update April 7, 2025 Page 3.

plan, the government committed to connecting two million more people to primary care by 2029.

- Expanding residency spots by 50 percent by 2028 and increasing undergraduate medical spots by nearly 40 percent over the same period. This will result in more than 500 new undergraduate spots and 742 new residency positions.
- Investing an additional \$88 million to expand the 'Learn and Stay Grant' to provide free tuition for medical students who practice family medicine in an Ontario community for at least five years after graduation.

Maintaining the current budget of \$300,000 for physician recruitment is important to ensure that Sault Ste. Marie remains proactive in attraction efforts and promotes its need for physicians. Staff recommends utilizing \$15,000 from the physician recruitment reserve in 2025 to continue the current level of effort.

Staff and the Manager of Physician Recruitment and Retention will report back to Council in the future with other options and opportunities to increase the physician recruitment budget and provide further details on attraction efforts.

#### **Financial Implications**

The current uncommitted balance of the City reserve fund for Physician Recruitment (Hospital Reserve Fund) is \$66,289 and is sufficient to fund the \$15,000 requested.

#### Strategic Plan / Policy Impact / Climate Impact

This item aligns directly with the Corporate Strategic Plan 2024-2027 Community Development Focus Area, specifically the goal to "Invest in allied healthcare recruitment and innovative labour force solutions."

#### Recommendation

It is therefore recommended that Council take the following action:

Resolved that the report of the CAO dated April 7, 2025 concerning the physician recruitment budget be received and Council approve utilizing \$15,000 from the City reserve fund for Physician Recruitment (Hospital Reserve Fund) to support the 2025-26 physician recruitment budget.

Respectfully submitted,

Tom Vair CAO 705.759.5347 <u>cao.vair@cityssm.on.ca</u>



#### Respect | Kindness | Compassion | Accountability

Sault Ste. Marie Physician Recruitment C Retention Committee City of Sault Ste. Marie

March 26, 2024

Dear Committee Members,

Subject: Update on GHC Contributions to Physician Recruitment

Group Health Centre (GHC) deeply values the outstanding accomplishments of the Physician Recruitment and Retention Committee. Since its formation in 2002, our collaborative efforts have successfully recruited over 205 physicians to Sault Ste. Marie – a testament to the strength and impact of working together toward a common goal.

As discussed during the March 24, 2024, Physician Recruitment and Retention Committee meeting, GHC's Ministry of Health funding agreement prohibits the use of ministry funds for physician recruitment activities. To prevent a last-minute funding shortfall for the 2024 fiscal year, GHC agreed to continue its contribution for Fiscal 2024/25 by utilizing funds it receives from the Algoma District Medical Group (ADMG). These funds are meant to provide administrative support to our primary care providers.

Relying on physician-generated revenue from ADMG to fund community physician recruitment efforts is neither sustainable nor appropriate. Asking physicians to bear the financial burden of recruiting their future colleagues may negatively impact recruitment and retention efforts. Moreover, physician support funds are vital to projects aimed at reducing administrative burden and thereby addressing burnout amongst our existing group of family physicians who we desperately want to retain.

Given these considerations, and as discussed during our Physician Recruitment and Retention meetings, GHC is no longer able to provide direct financial contributions moving forward. However, we remain committed to supporting recruitment efforts through in-kind contributions or as a non-voting member, like the arrangement with the Algoma West Academy of Medicine.

Addressing the primary care crisis requires ongoing collaboration from all stakeholders. We look forward to continuing to work together to develop sustainable solutions and ensure that Sault Ste. Marie remains an attractive destination for healthcare professionals.

Thank you for your understanding and continued partnership.

Sincerely,

Lil Silvano, CEO Group Health Centre

Dr. Jodie Stewart, CEO Algoma District Medical Group



<u>65 Willow Avenue, Sault Ste. Marie, Ontario, P6B 5B1</u>



# COUNCIL REPORT

| April 7, 2025 |   |
|---------------|---|
| TO:           | Mayor Matthew Shoemaker and Members of City Council |
| AUTHOR:       | Tom Vair, CAO                                       |
| DEPARTMENT:   | Chief Administrative Officer                        |
| RE:           | Health Equity Centre                                |
|               |   |

#### Purpose

The purpose of this report is to respond to a Council resolution regarding the establishment of a harm reduction and health equity centre.

#### Background

On May 28, 2018 City Council passed the following resolution:

Whereas opioid and other illicit drug use is a significant public health issue in communities across Canada, including the City of Sault Ste. Marie; and

Whereas the health harms of illicit drug use include not only addiction and overdose, but also an increased risk of blood-borne infections; and

Whereas Algoma has a high burden of hepatitis C, a blood-borne infection which is strongly linked to injection drug use, based on information presented by the Sault Ste. Marie and Area Drug Strategy; and

Whereas per provincial data visualized by the Sault Ste. Marie Innovation Centre, the level of overdoses in this area suggests it may benefit from accessible harm reduction services such as needle exchange; and

Whereas on April 23, 2018 the Council of the City of Sault Ste. Marie committed to "continuing to work with and support the collective efforts of Algoma Leadership Table, Sault Area Hospitals, Group Health Centre, Algoma Public Health, Sault Ste. Marie Police Services and the Drug Strategy Committee to collectively address the opioid crisis and its consequences"; and

Whereas the Algoma Leadership Table is currently conducting an assessment of the needs and programing available in the community to determine where resources should be focused; and

Health Equity Centre April 7, 2025 Page 2.

Whereas the assessment by the Algoma Leadership Table will review the needs and programming not just in the City of Sault Ste. Marie, but across the District of Algoma;

Now Therefore Be It Resolved that the City of Sault Ste. Marie request that City staff work with the Algoma Leadership Table and engage other community partners as necessary to assess the need for harm reduction and health equity services specifically in Jamestown, in addition to the current needs assessment being undertaken by the Algoma Leadership Table, and report back to Council, and

Further Be It Resolved that City staff work with the Algoma Leadership Table and other community partners as necessary, to provide Council with an estimate of the cost for the establishment of said harm reduction and health equity centre.

#### Analysis

Since the resolution was passed in 2018, several significant developments have occurred. The Covid-19 pandemic had an effect on the timing of the response to this Council resolution.

Further, community stakeholders were previously working together on the potential to establish a safe-consumption site (location not determined) when the Province announced pending legislation known as the *Community Care and Recovery Act* banning safe consumption sites within 200 metres of schools and daycares. The Province subsequently announced that it was closing ten, existing consumption sites by April 1, 2025 and transitioning to a new model featuring Homelessness and Addiction Recovery Treatment (HART) Hubs.

Community stakeholders pivoted to developing an application for a HART Hub and, as Council and the community are aware, Sault Ste. Marie was successful in obtaining funding for a HART Hub. Canadian Mental Health Association (CMHA) Sault Ste. Marie/Algoma branch will lead the implementation of the HART Hub in collaboration with other community stakeholders. The location for the HART Hub will be in the Community Resource Centre located at 721 Wellington St. E. (former Sacred Heart Catholic School).

On March 22, 2025, the Federal government announced that the City was successful in its application to the Emergency Treatment Fund (ETF). This funding will address the mental health, addictions, and overdose crisis in Sault Ste. Marie by creating a dedicated, 24/7 community outreach and wellness response team. The team will provide low-barrier access to medical, mental health, addiction, harm reduction, and housing support for vulnerable, high-needs populations both on the street, in supportive housing, and at key community locations.

Health Equity Centre April 7, 2025 Page 3.

The City had to be the lead applicant on the ETF funding application due the funding criteria and staff worked closely with the CMHA, Social Services and other community stakeholders to develop the application. The total funding is \$3,557,503 over the next two years, and the City will enter into an agreement with CMHA to deliver the program on the City's behalf. The mobile wellness services will be able to visit locations across the community, including the James Street area.

Given these significant investments in the community to address mental health and addictions challenges, staff suggest that work to advance a separate health equity centre be discontinued. Staff will work with community partners to monitor the outcomes and results of these new services in the community and work with Mayor and Council to continue to advocate for ongoing investments in community health services as required.

#### Financial Implications

There are no financial implications related to this report. An agreement with CMHA to allocate the \$3,557,503 received by the ETF will return to Council at a future meeting.

### Strategic Plan / Policy Impact / Climate Impact

This report aligns with the Corporate Strategic Plan 2024-2027, Focus Area 1 – Community Development, Well-being with the high-level goals to:

- Take a collaborative approach towards a healthy and safe community.
- Advocate for addiction and mental health services
- Advocate for improved healthcare facilities and personnel

#### Recommendation

It is therefore recommended that Council take the following action:

Resolved that the report of the CAO dated April 7, 2025 concerning the establishment of a harm reduction and health equity centre be received as information.

Respectfully submitted,

Tom Vair CAO 705.759.5374 <u>cao.vair@cityssm.on.ca</u>



# COUNCIL REPORT

| April 7, 2025 |   |
|---------------|---|
| TO:           | Mayor Matthew Shoemaker and Members of City Council |
| AUTHOR:       | Rachel Tyczinski, City Clerk                        |
| DEPARTMENT:   | Corporate Services                                  |
| RE:           | Rescheduling April 28, 2025 Council Meeting         |
|               |   |

#### Purpose

The purpose of this report is to amend the 2025 Council meeting schedule by rescheduling the April 28, 2025 Council meeting to Tuesday, April 29, 2025.

#### Background

The 2025 Council meeting schedule was approved by the City Council on October 21, 2024 with April 28, 2025 as a regular Council meeting. The 2025 federal election will also take place on April 28, 2025.

#### Analysis

In order to provide members of Council, staff, and the public every opportunity to vote on April 28, 2025, it is recommended that the April 28, 2025 Council meeting be rescheduled to Tuesday, April 29, 2025.

#### **Financial Implications**

There are no financial implications.

#### Strategic Plan / Policy Impact / Climate Impact

This is an operational matter not articulated in the corporate Strategic Plan.

#### Recommendation

It is therefore recommended that Council take the following action:

Resolved that the report of the City Clerk dated April 7, 2025 concerning Rescheduling April 28, 2025 Council Meeting be received and that the April 28, 2025 Council meeting be rescheduled to Tuesday, April 29, 2025.

Respectfully submitted,

Rachel Tyczinski City Clerk 705.759.5391 r.tyczinski@cityssm.on.ca



# COUNCIL REPORT

| April 7, 2025 |   |
|---------------|---|
| TO:           | Mayor Matthew Shoemaker and Members of City Council |
| AUTHOR:       | Lisa Petrocco, Manager of Taxation                  |
| DEPARTMENT:   | Corporate Services                                  |
| RE:           | 2024 Tax Sale Results                               |

#### Purpose

The purpose of this report is to present the results of the 2024 tax sale.

#### Background

In 2023, 30 properties were eligible for registration of tax arrears certificates with a total outstanding property tax revenue of \$440,867.04.

#### Analysis

Of the 30 properties that were approved to proceed with registration of tax arrears certificates, only 16 were registered as noted below.

|  | No. of Properties | Amount     |
|--|-------------------|------------|
| Properties paid prior to registration                | 13                | 161,260.62 |
| Properties with title errors could not be registered | 1                 | 19,971.03  |
| Properties registered                                | 16                | 259,635.39 |
|  | 30                | 440,867.04 |

Of the 16 properties that were registered, 11 proceeded to the tax sale that occurred on September 11, 2024. The final results are summarized below.

|                                  | No. of Properties | Amount     |
|----------------------------------|-------------------|------------|
| Properties redeemed by the owner | 5                 | 60,992.33  |
| Properties sold through tax sale | 5                 | 62,079.26  |
| Properties – forfeited deposit   | 1                 | 44,643.82  |
|                                  | 11                | 167,715.41 |

One property received a single bid with a 20% deposit as required. The tender was accepted, and notification was mailed to inform the interested party that their tender was accepted and provided the balance owing, which was to be paid within 14 days. We did not receive further payment or further correspondence from the tender applicant. When this occurs, the deposit is forfeited to the municipality.

2024 Tax Sale Results April 7, 2025 Page 2.

There are no deposit refunds if the highest tenderer fails to complete the transaction in the specified time period; O. Reg. 181/03 12(1). This property will be offered for a second time in the 2025 Tax Sale.

#### **Financial Implications**

No financial impact.

### Strategic Plan / Policy Impact / Climate Impact

Not applicable

#### Recommendation

It is therefore recommended that Council take the following action:

Resolved that the report of the Manager of Taxation dated April 7, 2025 concerning 2024 Tax Sale Results be received as information.

Respectfully submitted,

Lisa Petrocco, CPA, CGA Manager of Taxation 705.541.7065 I.petrocco@cityssm.on.ca



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The Corporation of the City of Sault Ste. Marie

# COUNCIL REPORT

| April 7, 2025 |                                                     |
|---------------|-----------------------------------------------------|
| TO:           | Mayor Matthew Shoemaker and Members of City Council |
| AUTHOR:       | Lisa Petrocco, Manager of Taxation                  |
| DEPARTMENT:   | Corporate Services                                  |
| RE:           | Tax Appeal Budget Increase                          |
|               |                                                     |

#### Purpose

The purpose of this report is to seek Council approval for an increase to the tax appeal budget to cover consultant costs due to large property tax appeals.

#### Background

Property owners have the ability to file an appeal of the assessment on their property if they believe the assessed value is incorrect. Appeals can be made to the Assessment Review Board (ARB). A hearing is required when the issues cannot be resolved with the parties, including MPAC, through mandatory meetings.

The City tax team utilizes an assessment base management process that is designed to ensure that assessment values are fair and accurate, and to prevent possible erosion of the assessment base. This process works in conjunction with the taxpayer's right to seek relief and helps ensure that reductions or increases to the assessment created through the appeal process are equitable.

The City engages MTAG (Municipal Tax Advisory Group) as a tax consultant to assist with various tax issues and provide guidance on significant appeals.

#### Analysis

The majority of assessment appeals are managed through the City tax team and MTAG. On occasion, there are significant appeals, whether related to a potential dollar impact or precedent setting, which require more specialized resources to manage.

Currently, there are two such appeals, and the City has engaged with Aird & Berlis to represent the City's interests. The procurement was approved at staff financial spending limits. The current estimate to manage these appeals over the next 12-24 months is \$200,000, which is in excess of staff financial approvals. The potential tax decrease of the appeal is significantly more than the specialized legal fees. The annual budget for assessment appeals cannot accommodate this requirement.

Tax Appeal Budget Increase April 7, 2025 Page 2.

The City's Contingency Reserve may be used for unforeseen expenditures that may occur within a year that were not included in the operating budget.

#### Financial Implications

There is an annual budget allocation for Tax Consultant fees of \$50,000. The increased costs for consultant expertise assistance of \$200,000 can be accommodated within the uncommitted Contingency Reserve.

#### Strategic Plan / Policy Impact / Climate Impact

This is an administrative matter not articulated in the Corporate Strategic Plan.

#### Recommendation

It is therefore recommended that Council take the following action:

Resolved that the report of the Manager of Taxation dated April 7, 2025 concerning Tax Appeal Budget increase be received and that the upper limit for Aird & Berlis by increased by \$200,000 with funding from the Contingency Reserve.

Respectfully submitted,

Lisa Petrocco, CPA, CGA Manager of Taxation 705.541.7065 I.petrocco@cityssm.on.ca



# COUNCIL REPORT

| April 7, 2025 |                                                     |
|---------------|-----------------------------------------------------|
| TO:           | Mayor Matthew Shoemaker and Members of City Council |
| AUTHOR:       | Karen Marlow, Manager of Purchasing                 |
| DEPARTMENT:   | Corporate Services                                  |
| RE:           | ClearRisk Subscription Agreement Renewal            |
|               |                                                     |

#### Purpose

The purpose of this report is to obtain Council approval of the subscription Agreement with ClearRisk Inc. for Risk Management Information System Software for a three-year period to April 14, 2028 as required by the City's Legal Department.

#### Background

Administration of risk management and insurance programs for the City can best be achieved using software designed for this purpose.

In April 2019 staff investigated available options finding that the software proposed by ClearRisk Inc. could best meet the City's requirement for effective management for this program. Staff approved single sourcing (within authorization levels) on this basis for a three-year period, with review to follow prior to further extension of the agreement.

The City's existing ClearRisk Risk Information Management Software Agreement By-Law 2019-90 with renewal addendum 8822 is due to expire April 14, 2025.

#### Analysis

ClearRisk Inc. continues to be a leading provider of this software and supports the City's needs for this program. ClearRisk has been integrated with other City IT infrastructure and customized to meet specific needs, which would entail additional costs and time to achieve with new software. This avoids the risk of data migration issues, integration challenges, and potential security vulnerabilities that may arise with the introduction of new technology

ClearRisk has a proven track record of reliability. Staff have been trained and are efficient with the current system, ensuring ongoing productivity without the disruption and learning curve of a new software application. The decision to continue utilizing the ClearRisk software application supports stability, cost efficiency, and operational continuity.

ClearRisk Subscription Agreement April 7, 2025 Page 2.

This single source request is in accordance with Purchasing By-law 22.3 a) where service is a proprietary software application and h) where continuity of services is in the best interest of the City.

#### Financial Implications

The three-year subscription fee total is \$179,098 plus HST, and can be accommodated within Information Technology Division's software support operating budget.

### Strategic Plan / Policy Impact / Climate Impact

This is an operational matter not articulated in the Corporate Strategic Plan.

#### Recommendation

It is therefore recommended that Council take the following action:

The relevant By-law 2025-59 is listed under item 12 of the Agenda and will be read with all by-laws under that item.

Respectfully submitted,

Karen Marlow Manager of Purchasing 705.759.5298 k.marlow@cityssm.on.ca



# COUNCIL REPORT

| April 7, 2025 |                                                     |
|---------------|-----------------------------------------------------|
| TO:           | Mayor Matthew Shoemaker and Members of City Council |
| AUTHOR:       | Karen Marlow, Manager of Purchasing                 |
| DEPARTMENT:   | Corporate Services                                  |
| RE:           | Leasing and Operation of Space – Northern Community |
|               | Centre                                              |
|               |                                                     |

#### Purpose

The purpose of this report is to obtain Council approval to award the lease and operation of space for a pro shop at the Northern Community Centre (NCC) for a term of five years commencing April 7, 2025, and expiring May 30, 2030, with the option to renew for an additional period of one year subject to successful negotiation, as required by Community Development and Enterprise Services (CDES).

#### Background

A Request for Proposal was released publicly August 2024, and notification provided to firms on the bidders list. After closing with no submission received, the opportunity to lease space was left open for potential interested tenants as requested.

#### Analysis

Proposal from one proponent has been submitted:

• FCD Sports Group Ltd., Sault Ste. Marie, ON

The proposal received has been reviewed and evaluated by a committee of CDES staff. It is the recommendation that the submission of FCD Sports Group Ltd. be accepted to operate the space as a pro shop. Staff recognizes the role the pro shop plays in providing a valuable service to patrons at the facility and fits well within the facility.

#### Financial Implications

FCD Sports Group Ltd. proposed variable rent payments for winter (September to April) and summer (May to August), setting the annual base rent as \$11,600 plus HST (averaging \$966.67/month). Payments are inclusive of property taxes and utilities.

This agreement will not impact the Operating Budget.

Leasing and Operation of Space - Northern Community Centre April 7, 2025 Page 2.

### Strategic Plan / Policy Impact / Climate Impact

This is an operational matter not articulated in the Corporate Strategic Plan.

#### Recommendation

It is therefore recommended that Council take the following action:

The relevant By-law 2025-54 is listed under item 12 of the Agenda and will be read with all by-laws under that item.

Respectfully submitted,

Karen Marlow Manager of Purchasing 705.759.5298 <u>k.marlow@cityssm.on.ca</u>



# COUNCIL REPORT

| April 7, 2025 |                                                     |
|---------------|-----------------------------------------------------|
| TO:           | Mayor Matthew Shoemaker and Members of City Council |
| AUTHOR:       | Karen Marlow, Manager of Purchasing                 |
| DEPARTMENT:   | Corporate Services                                  |
| RE:           | Event Ticketing Service Provider – GFL Event Centre |
|               |                                                     |

#### Purpose

The purpose of this report is to obtain Council approval to award for event ticketing service provider at GFL Event Centre for a term of five years commencing August 1, 2025 with the option to extend for up to three additional terms of two years by mutual agreement, as required by the Arenas Division of Community Development and Enterprise Services (CDES).

#### Background

The proposal was publicly advertised and notification provided to all firms on the bidders list. Proposals were required to be submitted for consideration no later than 4:00 p.m. on February 10, 2025.

#### Analysis

Proposals from seven proponents were received prior to closing deadline:

Kzemos Events Inc., Vancouver, BC Patron Solutions, LLC dba Paciolan LLC, CA, USA Ticketmaster Canada LP, Montreal, QC Ticketpro Inc., Montreal, QC Tickets.com LLC, CA, USA Tixr Incorporated, Vancouver, BC Vivenue, Inc., NY, USA

The proposals received have been reviewed and evaluated by a committee comprised of staff from CDES and IT Services. Following review of technical requirements, vendor demonstrations of proposed solutions were presented from shortlisted proponents Paciolan LLC, Ticketmaster Canada LP, and Tickets.com LLC.

It is the consensus of the evaluation committee that the proponent scoring the highest in the evaluation process is Paciolan, LLC. Paciolan is the incumbent provider of the event ticketing services and staff are extremely satisfied with the quality of product and service that has been maintained.

Event Ticketing Service Provider – GFL Event Centre April 7, 2025 Page 2.

#### **Financial Implications**

There is no financial impact on the City as event ticket fees cover all Paciolan ticketing costs. In addition, equipment and software are provided at no cost, and annual credit allowances are available for upgrades, training, and marketing solutions.

#### Strategic Plan / Policy Impact / Climate Impact

This program aligns with the Corporate Strategic Plan in the Service Delivery focus area as it continues to assist in delivering excellent customer service to citizens.

#### Recommendation

It is therefore recommended that Council take the following action:

Resolved that the report of the Manager of Purchasing dated April 7, 2025, concerning Event Ticketing Service Provider as required by the Arenas Division of CDES be received and that the proposal of Paciolan LLC for a term of five years with option to extend up to three additional terms of two years be approved.

A By-law authorizing signature of the contract for this project will appear on a future Council Agenda

Respectfully submitted,

Karen Marlow Manager of Purchasing 705.759.5298 <u>k.marlow@cityssm.on.ca</u>



# COUNCIL REPORT

| April 7, 2025 |                                                     |
|---------------|-----------------------------------------------------|
| TO:           | Mayor Matthew Shoemaker and Members of City Council |
| AUTHOR:       | Karen Marlow, Manager of Purchasing                 |
| DEPARTMENT:   | Corporate Services                                  |
| RE:           | Tender – Ready Mix Concrete                         |
|               |                                                     |

#### Purpose

The purpose of this report is to obtain Council approval for the supply of Ready Mix Concrete as required by Public Works and Engineering Services for the 2025 construction season.

#### Background

The tender was publicly advertised and notification provided to all firms on the bidders list. Opening of the tender took place after closing on March 19, 2025 within the e-bidding system.

#### Analysis

The tenders received have been thoroughly evaluated and reviewed by a committee comprised of staff from Public Works. It is determined two bidders are non-compliant in providing the specified supply requirements, noting the first having an inactive-expired business registration and the second not being an established ready-mix supplier by way of normal trade or an established commercial plant, the latter of which has since withdrawn its bid. The compliant submissions and low-tendered pricing meeting specifications have been indicated in the attached summary.

#### **Financial Implications**

A maximum limit of \$296,460 has been established for the purchase of Ready Mix Concrete under this tender. Funding for the purchase of material as required will be drawn from various Public Works street maintenance accounts as set out in the 2025 budget.

#### Strategic Plan / Policy Impact / Climate Impact

This is an operational matter not articulated in the Corporate Strategic Plan.

#### Recommendation

It is therefore recommended that Council take the following action:

Resolved that the report of the Manager of Purchasing dated April 7, 2025 concerning the supply of Ready Mix Concrete for the 2025 construction season

Tender – Ready Mix Concrete April 7, 2025 Page 2.

commencing May 1, 2025 as required by Public Works be received and the supply be awarded to Fisher Wavy Inc. at the tendered pricing, HST extra.

Respectfully submitted,

Karen Marlow Manager of Purchasing 705.759.5298 <u>k.marlow@cityssm.on.ca</u>

#### FINANCE DEPARTMENT PURCHASING DIVISION Operating Budget: \$296,460

RECEIVED: March 19, 2025 FILE: #2025PWE-PWT-16-T

#### SUMMARY OF TENDERS READY-MIX CONCRETE

#### Firm Prices for 12-Month Period (HST extra) - May 1, 2025 to April 30, 2026

| Description                                 | <u>5-Year Average</u> | <u>Caswell Concrete Products</u><br><u>Sault Ste. Marie, ON</u> | <u>Fisher Wavy Inc.</u><br><u>Sault Ste. Marie, ON</u> | <u>Lafarge Canada</u><br><u>Sault Ste. Marie, ON</u> |  |
|---------------------------------------------|-----------------------|-----------------------------------------------------------------|--------------------------------------------------------|------------------------------------------------------|--|
|                                             |                       | Unit Price Total Price                                          | Unit Price Total Price                                 | Unit Price Total Price                               |  |
| 32Mpa Ready-Mix Concrete (CSA 23.1) (w/Air) | 467.75                | \$601.00 \$ 281,117.75                                          | \$598.00 \$ 279,714.50                                 | \$622.00 \$ 290,940.50                               |  |
|                                             | Total:                | \$281,117.75                                                    | \$279,714.50                                           | \$290,940.50                                         |  |

Note: The low tendered prices, meeting specifications, are boxed above.

The above quantities represent average usage from 2020-2024

It is my recommendation that the low tendered prices submitted by Fisher Wavy Inc. be accepted.

Karen Marlow Manager of Purchasing



# COUNCIL REPORT

| April  | 7. | 2025 |
|--------|----|------|
| / ipin | •, | 2020 |

| TO:         | Mayor Matthew Shoemaker and Members of City Council |
|-------------|-----------------------------------------------------|
| AUTHOR:     | Karen Marlow, Manager of Purchasing                 |
| DEPARTMENT: | Corporate Services                                  |
| RE:         | Tender for Asphalt                                  |

### Purpose

The purpose of this report is to obtain Council approval for the supply of asphalt as required by Public Works and Engineering Services for the 2025 construction season.

#### Background

The tenders were publicly advertised and notification provided to all firms on the bidders list. Opening of the tenders took place after closing on March 19, 2025 within the e-bidding system.

#### Analysis

The tenders received have been thoroughly evaluated and reviewed by the Superintendent and the Director of Public Works, and the low tendered pricing, meeting specifications, has been indicated on the attached summary.

#### **Financial Implications**

A maximum limit of \$1,107,000 has been established for the purchase of asphalt under this tender. Funding for the purchase of material as required will be drawn from various Public Works street maintenance accounts as set out in the 2025 budget.

#### Strategic Plan / Policy Impact / Climate Impact

This is an operational matter not articulated in the Corporate Strategic Plan.

#### Recommendation

It is therefore recommended that Council take the following action:

Resolved that the report of the Manager of Purchasing dated April 7, 2025 concerning the supply of Asphalt for the 2025 construction season commencing May 1, 2025 as required by Public Works be received and the supply be awarded to Trimount Construction Group Inc. at the tendered pricing, HST extra.

Tender for Asphalt April 29, 2024 Page 2.

Respectfully submitted,

Karen Marlow Manager of Purchasing 705.759.5298 <u>k.marlow@cityssm.on.ca</u>

#### FINANCE DEPARTMENT PURCHASING DIVISION Operating Budget: \$1,107,000

#### RECEIVED: March 19, 2025 FILE: #2025PWE-PWT-17-T

#### SUMMARY OF TENDERS ASPHALT

#### Firm Prices for 12-Month Period (HST extra) - May 1, 2025 to April 30, 2026

| <u>Description</u> | <u>5-Year</u><br><u>Average</u> | <u>Avery Constru</u><br><u>Sault Ste. M</u> |              | <u>Pioneer Constr</u><br><u>Sault Ste. M</u> |              | <u>Trimount Construc</u><br><u>Sault Ste. N</u> |              |
|--------------------|---------------------------------|---------------------------------------------|--------------|----------------------------------------------|--------------|-------------------------------------------------|--------------|
|                    |                                 | Price per Tonne                             |              | Price per Tonne                              |              | Price per Tonne                                 |              |
| HL2 Asphalt        | 1133                            | 133.95                                      | \$151,810.09 | 143                                          | \$162,066.76 | \$126.35                                        | \$143,196.75 |
| HL3 Asphalt        | 2171                            | 130.95                                      | \$284,261.02 | 143.85                                       | \$312,263.83 | \$124.27                                        | \$269,760.35 |
| HL3A Asphalt       | 2287                            | 130.95                                      | \$299,479.25 | 146.6                                        | \$335,270.39 | \$130.64                                        | \$298,770.28 |
| HL4 Asphalt        | 441                             | 128.95                                      | \$56,829.55  | 143.85                                       | \$63,396.13  | \$124.16                                        | \$54,718.55  |
| HL8 Asphalt        | 361                             | 124.95                                      | \$45,168.43  | 140.4                                        | \$50,753.48  | \$115.89                                        | \$41,893.31  |
|                    |                                 |                                             | \$837,548.34 | _                                            | \$923,750.59 |                                                 | \$808,339.24 |

Note: The low tendered pricing, meeting specifications, is boxed above.

The above quantities represent average usage from 2020-2024

It is my recommendation that the low tendered prices submitted by Trimoount Construction Group Inc., be accepted.

Karen Marlow



# COUNCIL REPORT

| April 7, 2025 |                                                      |
|---------------|------------------------------------------------------|
| TO:           | Mayor Matthew Shoemaker and Members of City Council  |
| AUTHOR:       | Frank Coccimiglio, Manager of Information Technology |
| DEPARTMENT:   | Chief Administrative Officer                         |
| RE:           | DeepSeek Removal and Future Cyber Threats            |
|               |                                                      |

#### Purpose

The purpose of this report is to respond to the Council resolution of February 24, 2025, requesting a plan to implement the removal of DeepSeek from City devices and a policy for dealing with future applications that may pose a cybersecurity risk to the corporation.

#### Background

DeepSeek is a Chinese artificial intelligence company that has developed a Generative AI (Gen-AI) chatbot that produces content such as text, audio, code, videos, and images. This content is produced based on information the user inputs, called a "prompt," typically a short instructional text. AI systems can often access large datasets which can include sensitive or personal information. Unauthorized access to these datasets can lead to breaches of privacy.

#### Analysis

The City takes every measure possible to ensure the protection and privacy of municipal data.

Due to privacy concerns identified by Shared Services Canada and other federal agencies regarding the inappropriate collection and retention of sensitive private information and that Chinese national security laws compel DeepSeek to provide such data to the state, DeepSeek AI poses a security risk that the City needs to address.

A recent article from the Ontario Bar Association, titled "Real Intelligence on AI," discusses regulatory concerns with DeepSeek. It states that "Due to ethical and security concerns, some organizations have restricted access to tools that pose a potential geopolitical risk as a proactive measure to mitigate risks related to confidentiality and security. Organizations should carefully assess these risks before allowing use of such models."

The City will distribute and enforce an Artificial Intelligence Usage policy outlining the principles and guidelines for the ethical, responsible, and transparent use of

DeepSeek Removal April 7, 2025 Page 2.

AI. The policy will also ban the use of DeepSeek on all City-issued smartphones and tablets.

Information Technology will update the security strategy for corporate firewalls that block the use of this application on City workstations and laptops.

Information Technology will lead a one-year pilot project implementing GovAl technology. This technology provides a unique interface that wraps around the underlying Artificial Intelligence (AI) / Large Language Model (LLM) with a compliance and safety layer and provides deep government contextual knowledge to help City staff.

Further, IT will closely monitor Federal and Provincial bodies like Shared Services Canada and The Canadian Centre for Cyber Security to stay updated on looming cybersecurity threats, alerts, and advice. Any significant findings will be presented to the Chief Administrative Officer and Senior Management for necessary action. Updates on such actions will be provided to the Mayor and City Council.

#### **Financial Implications**

Funding for implementing GovAl is accommodated in the 2025 IT operating budget.

#### Strategic Plan / Policy Impact / Climate Impact

A Corporate Artificial Intelligence (AI) Usage Policy will be created, distributed to staff, and enforced by senior management and Information Technology.

#### Recommendation

It is therefore recommended that Council take the following action:

Resolved that the report of the Manager of Information Technology dated April 7, 2025 concerning the banning of DeepSeek be received and that the City proceed, by way of a corporate policy, to ban DeepSeek on City-issued electronic devices.

Information Technology, the CAO and Senior Management will also address future cybersecurity concerns, updating the Mayor and City Council accordingly.

Respectfully submitted,

Frank Coccimiglio Manager of Information Technology 705.759.5303 <u>f.coccimiglio@cityssm.on.ca</u>



# COUNCIL REPORT

| April 7, 2025 |                                                     |
|---------------|-----------------------------------------------------|
| TO:           | Mayor Matthew Shoemaker and Members of City Council |
| AUTHOR:       | Brent Lamming, Deputy CAO Community Development &   |
|               | Enterprise Services                                 |
| DEPARTMENT:   | Community Development and Enterprise Services       |
| RE:           | Elbows Up Rally                                     |
|               |                                                     |

# Purpose

The purpose of this report is to seek Council approval to cover fees in support of an 'Elbows Up' Rally to be held at a City facility and being led by a local organizing committee.

# Background

There is a grassroots movement in Sault Ste. Marie to bring an 'Elbows Up' event here to Sault Ste. Marie following on the lead of 'Elbows Up' Toronto and 'Elbows Up' Ottawa . Working collaboratively with the 'Elbows Up' National group, it is the aim of our local committee to host a similar kind of event here in Sault Ste. Marie on Saturday, April 26th, 2025. The goal of these events is to bring Canadians of all stripes together to stand united, strong, and resilient in these difficult times.

#### Analysis

This family-friendly, nonpartisan, and peaceful event is planned to be held in the Roberta Bondar Pavilion or the Downtown Plaza venue. The preference would be to host the event at the Plaza. The date lands on a SOO MRKT day, which has local businesses providing their goods and services and aligns well with the theme of the event.

The event will include a rally (approximately one and a half hours) featuring a welcome by local First Nations drummers and dancers, who will also proclaim the land acknowledgment, speeches from local dignitaries, some musical interludes, and concluding with a massive singing of Oh Canada.

The second part of the event, after the official rally, will have performances by local musicians, food trucks present, local artisans, and beverages from the Can-tina.

#### **Financial Implications**

The group is looking for in-kind services to cover equipment, insurance, additional staffing costs, and clean services, which amounts to \$1,300. This can be absorbed

Elbows Up Rally April 7, 2025 Page 2.

through the Plaza operating budget. Staff recommends the City operate the Cantina Bar to potentially offset some of the costs noted.

# Strategic Plan / Policy Impact / Climate Impact

The recommendation supports the focus area of the Community Strategic Plan for 2021-2024 in a number of ways.

- Within the Service Delivery focus area, it continues to assist in delivering excellent customer service to citizens.
- Developing Partnerships with our Key Stakeholders and collaboration with community partners, which is essential to our success.

#### Recommendation

It is therefore recommended that Council take the following action:

Resolved that the report of the Deputy CAO, Community Development and Enterprise Services dated April 7, 2025 concerning an 'Elbows Up' rally in Sault Ste. Marie be received and that Council approve a contribution of up to \$1,300 towards the event.

Respectfully submitted,

Brent Lamming, PFP, CPA, CMA Deputy CAO Community Development & Enterprise Services 705.759.5314 <u>b.lamming@cityssm.on.ca</u>



# COUNCIL REPORT

| TO:Mayor Matthew Shoemaker and Members of City CouncilAUTHOR:Nicole Maione, Director of Community ServicesDEPARTMENT:Community Development and Enterprise ServicesRE:Lease Contract Extension – Superior Osteo Postural ClinicInc. | April 7, 2025 |                                                           |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------------------------------------------------|
| DEPARTMENT:Community Development and Enterprise ServicesRE:Lease Contract Extension – Superior Osteo Postural Clinic                                                                                                               | TO:           | Mayor Matthew Shoemaker and Members of City Council       |
| RE: Lease Contract Extension – Superior Osteo Postural Clinic                                                                                                                                                                      | AUTHOR:       | Nicole Maione, Director of Community Services             |
|                                                                                                                                                                                                                                    | DEPARTMENT:   | Community Development and Enterprise Services             |
| Inc.                                                                                                                                                                                                                               | RE:           | Lease Contract Extension – Superior Osteo Postural Clinic |
|                                                                                                                                                                                                                                    |               | Inc.                                                      |

# Purpose

The purpose of this report is to provide information on exercising the option to extend the current lease for Superior Osteo Postural Clinic Inc. at the John Rhodes Community Centre for one year

# Background

The original agreement on the training area at the John Rhodes Community Centre was dated May 6, 2019, between the City and Superior Sports Training Inc. Superior Sports Training Inc. changed its name to Superior Osteo Postural Clinic Inc. effective December 16, 2021. The term of the current third extension agreement expires on May 05, 2025, with the option to extend permitted under section 6.9 of the original Agreement.

#### Analysis

The City is prepared to renew under the same terms and conditions until May 5, 2026, exercising the contract's year-to-year extension option. The City recommends adding CPI to the rent payment for the extension period, to which the proponent has agreed.

#### **Financial Implications**

The City received \$7,007 (now \$7,218) in rent and approximately \$3,550 in property taxes annually.

# Strategic Plan / Policy Impact / Climate Impact

This assists in building collaborative relationships and enhancing service delivery options, as well as eliminating barriers to business within our community through the Service Delivery Focus Area.

#### Recommendation

It is therefore recommended that Council take the following action:

The relevant By-Law 2025-56 is listed under item 12 of the Agenda and will be read with all by-laws under that item.

Lease Contract Extension – Superior Osteo Postural Clinic Inc. April 7, 2025 Page 2.

Respectfully submitted,

Nicole Maione Director, Community Services 705.759.5264 <u>n.maione@cityssm.on.ca</u>



# COUNCIL REPORT

| April 7, 2025 |                                                                                                                 |
|---------------|-----------------------------------------------------------------------------------------------------------------|
| TO:           | Mayor Matthew Shoemaker and Members of City Council                                                             |
| AUTHOR:       | Travis Anderson, Director Tourism and Community                                                                 |
|               | Development                                                                                                     |
| DEPARTMENT:   | Community Development and Enterprise Services                                                                   |
| RE:           | Community Development Fund Application, Economic<br>Development Stream – Rural Community Immigration<br>Program |
|               | Program                                                                                                         |

# Purpose

The purpose of this report is to provide recommendations to Council on allocating Community Development Funds – Economic Development Stream, for administration of the Rural Community Immigration Program (RCIP).

#### Background

The Rural Community Immigration Pilot program offers a pathway to permanent residence (PR) to skilled workers who want to work and settle in rural communities. On January 31, 2025, Immigration, Refugees and Citizenship Canada (IRCC) announced that Sault Ste. Marie was selected as one of 18 communities across Canada to participate in RCIP, a program that replaces the former Rural Northern Immigration Pilot (RNIP). RNIP was a highly successful program that assisted 248 local businesses in addressing their labour shortages by attracting 1,031 skilled foreign workers and 853 dependents to the community. Staff are optimistic that throughout the five years that RCIP will operate (2025 – 2030), it will produce similar results for local employers and the community.

By offering a pathway to permanent residence for skilled foreign workers, RCIP will help strengthen the local workforce and provide businesses with greater capacity to recruit and retain skilled talent. The aim is to attract over 1500 skilled professionals and their families to Sault Ste. Marie by promoting the program's benefits. The attraction and retention of a younger workforce will add to the resilience and diversity of the community and mitigate potential impacts as an older workforce transitions out of the working economy. Key criteria and expected outcomes of the program are listed below:

#### Key Criteria:

- To attract significant investment and employment to Sault Ste. Marie;
- To further diversify the local economy;

Community Development Fund Application – Rural Community Immigration Program

April 7, 2025

Page 2.

• To increase the municipality's tax base.

# Project outcomes:

Attracting and retaining newcomers to Northern Ontario

- 1,500 skilled workers attracted over five years (300/year);
- Assist 200+ new and existing local businesses;
- Maintaining ten partnerships with post-secondary and community service organizations locally, regionally, nationally, and internationally;
- Support Sault Ste. Marie's physician recruitment team in hiring physicians and healthcare workers.

To successfully administer the program, staff will replicate activities executed during RNIP. These activities include marketing and promotion within Canada and abroad, attendance at career fairs locally and externally to the community, active engagement with employers, and staff support with application processing.

The expected cost to administer the program for five years is \$1,025,000; however, FedNor has committed to funding ninety percent of the program costs, up to a maximum of \$922,500. The city must provide the remaining ten percent, or \$102,500. Staff are seeking approval from Council to allocate \$102,500 from the Community Development Fund's Economic Development Stream for our portion of the costs.

# Analysis

Staff's application to the Community Development Fund — Economic Development Fund to support the implementation of RCIP is based on its alignment with the criteria listed below.

# Program Overview

The Economic Growth Community Improvement Plan – Economic Development Fund stream aims to diversify the local economy and stimulate job growth by attracting new businesses and expanding existing ones.

The key program criteria are as follows:

- To attract significant investment and employment to Sault Ste Marie;
- To further diversify the local economy;
- To increase the municipality's tax base;
- To capitalize upon the significant investments that were made to acquire and service some industrial lands within the Project area.

At the Economic Development Corporation Board of Directors meeting on March 24, 2025, the funding application for the administration of the RCIP program was reviewed. In recognition of the positive economic impact RCIP will have on the local economy, the Board of the EDCE passed the following resolution:

Community Development Fund Application – Rural Community Immigration Program

April 7, 2025

Page 3.

Resolved that the request for EDF funding from the Economic Development Corporation in the amount of \$102,500 for Rural Community Immigration Pilot (RCIP) be recommended for approval.

With the support of the EDC Board, staff have brought forth the application to Council for consideration.

# Financial Implications

No new funds are needed, as the available balance of the CDF is \$1,249,350.

# Strategic Plan / Policy Impact / Climate Impact

This item supports the Corporate Strategic Plans Focus Area:

- Community Development and Partnership focus on Maximizing Economic Development and Investment with the commitment to maintain financial viability.
- Community Development Develop partnerships with key stakeholders and reconciliation.

There are no climate change impacts associated with this report.

# Recommendation

It is therefore recommended that Council take the following action:

Resolved that the report of the Director of Tourism and Community Development, dated April 7, 2025, be received and that Council approve \$102,500 from the Community Development Fund towards administration of the RCIP program.

Respectfully submitted,

Travis Anderson Director, Tourism & Community Development 705.989.7915 t.anderson@cityssm.on.ca



# COUNCIL REPORT

| April 7, 2025 |                                                                             |
|---------------|-----------------------------------------------------------------------------|
| TO:           | Mayor Matthew Shoemaker and Members of City Council                         |
| AUTHOR:       | Travis Anderson, Director Tourism and Community<br>Development              |
| DEPARTMENT:   | Community Development and Enterprise Services                               |
| RE:           | FedNor Contribution Agreement 514426 – Rural<br>Community Immigration Pilot |

# Purpose

The purpose of this report is to advise Council of the execution of FedNor's funding contribution agreement No.514426 to support administration of the Rural Community Immigration Pilot.

#### Background

In January 2025, the City of Sault Ste. Marie was selected as one of 18 host communities across Canada for the Rural Community Immigration Pilot (RCIP) program. By offering a pathway to permanent residence for skilled foreign workers, RCIP will continue to address labor shortages while promoting sustainable growth in the community.

The RCIP program builds on the success of the Rural Northern Immigration Pilot program (RNIP), with a continued focus on spreading the benefits of economic immigration to smaller, rural communities. Through the RNIP program, the City of Sault Ste. Marie assisted 248 local businesses in addressing their labor shortages by connecting them with skilled foreign workers and attracted 1,031 skilled foreign workers and 853 dependents to the community.

Going forward, the community will receive 1,500 recommendations under the RCIP program, which will allow the City to support more local businesses and attract new skilled workers and their families to Sault Ste. Marie.

#### Analysis

To support the administration of the RCIP Program, staff applied to FedNor's Northern Ontario Development Program – Community Economic Development Stream, and were notified on March 5, 2025, that the application was successful.

Under the terms of the conditional agreement, FedNor will pay up to ninety percent of the costs to administer the program, up to a maximum of \$922,500. The City is responsible for the remaining ten percent, or \$102,500. A report appears elsewhere on the agenda requesting a contribution from Community Development Fund (CDF) to cover the City's portion of matching funds required by this program. FedNor Contribution Agreement 514426 – Rural Community Immigration Pilot April 7, 2025 Page 2

Page 2.

Funds accessed through the FedNor Northern Ontario Development Program will assist staff in administering and marketing the RCIP program. The successful implementation of the RNIP program will help to achieve the goal of attracting a skilled workforce to the community and increasing population. The agreement was required to be signed by March 31, 2025. The CAO has signed the agreement under Delegated Authority By-law 2021-64 (time sensitive funding).

# **Financial Implications**

FedNor will provide funding for ninety percent of the eligible cost, up to a maximum of \$922,500. The remaining ten percent, or \$102,500, has been requested from the CDF.

# Strategic Plan / Policy Impact / Climate Impact

This item supports the Corporate Strategic Plans Focus Area:

- Community Development and Partnership focus of Maximizing Economic Development and Investment with the commitment to maintain financial viability.
- Community Development Develop partnerships with key stakeholders and reconciliation.

There are no climate change impacts associated with this report.

# Recommendation

It is therefore recommended that Council take the following action:

Resolved that the report of the Director of Tourism and Community Development dated April 7, 2025 concerning FedNor Contribution Agreement 514426 – Rural Community Immigration Pilot be received as information.

Respectfully submitted,

Travis Anderson, Director Tourism & Community Development 705.989.7915 t.anderson@cityssm.on.ca



# COUNCIL REPORT

| April 7, 2025 |                                                                |
|---------------|----------------------------------------------------------------|
| TO:           | Mayor Matthew Shoemaker and Members of City Council            |
| AUTHOR:       | Travis Anderson, Director Tourism and Community<br>Development |
| DEPARTMENT:   | Community Development and Enterprise Services                  |
| RE:           | Tourism Development Fund Applications – March 2025             |
|               |                                                                |

# Purpose

The purpose of this report is to provide recommendations to Council from City staff and the Tourism Sault Ste. Marie Board of Directors for the distribution of Tourism Development Funds.

# Background

The Tourism Development Fund (TDF) was implemented on June 1, 2021 to provide financial support to the broader tourism sector in two different streams – Festivals and Special Events and Attractions and Product Development. The funds for both streams of the TDF are generated from revenue collected by the Municipal Accommodation Tax (MAT).

Consideration is given to support initiatives that produce positive results in at least one of the following criteria:

- Development of quality tourism products and events;
- Increase in overnight stays and visitor spending in Sault Ste. Marie;
- Enhancement of the Sault's tourism product offerings;
- Support of the city's reputation and position as a first-rate visitor destination;
- Fulfill a gap in the tourism visitor experience landscape; and
- Encourage private sector tourism investment in Sault Ste. Marie.

Upon receipt of a TDF application, Tourism staff review it for eligibility and assessment criteria and makes recommendations to the Tourism Sault Ste. Marie Board of Directors. The Tourism Sault Ste. Marie Board of Directors further evaluates the applications and makes recommendations to Council for distribution of grant funds.

# Analysis

Tourism Development Fund applications are permitted on an ongoing intake and are reviewed monthly at the Tourism Sault Ste. Marie Board of Directors meetings.

Tourism Development Fund Applications – March 2025 April 7, 2025 Page 2.

After completing the event, the recipient expenses the funds and claims them through the Tourism Development Fund.

At the Tourism Sault Ste. Marie Board meeting held on March 18, 2025, five applications were reviewed with the following recommendations:

- 1. Community Strong Race Weekend (\$4,000);
- 2. Northern Ontario Service Deliverers Association AGM (\$2,000);
- 3. Sault Cycling Club Ontario Cup Mountain Bike Race (\$10,000);
- 4. Queen Street Cruise (\$5,000);
- 5. Warhammer Battle at the Bridge 40K (\$2,000).

# **Community Strong Race Weekend**

#### <u>Summary</u>

Community Strong Race Weekend is a premier running event in Sault Ste. Marie designed to promote physical and mental well-being while raising essential funds for local health initiatives. The event features various races over two days, June 21-22, 2025, including a marathon, half-marathon, 10km race, 5km colour run, and a kids' fun run.

Significantly, the Community Strong Marathon is the only Boston Marathon qualifier in Sault Ste. Marie, making it a key attraction for competitive runners and an opportunity to enhance the city's reputation as a destination for endurance events.

As an event with strong potential for growth, the Community Strong Race Weekend aims to attract local, regional, and out-of-town participants, increasing economic impact and community engagement. The previous funding allocation of \$5,000 in 2024 and \$5,000 in 2023 was effectively utilized for marketing and promotion, and further investment will help expand outreach, enhance event logistics, and increase participation in future editions.

Visitor Projections and Economic Impact

The 2025 event is expected to attract approximately 553 attendees, including:

455 local participants

42 regional visitors

- 30 from across Ontario
- 10 from other parts of Canada

16 from the United States

98 out of town visitors x 3 days x \$175/pp/pd= \$51,450

#### **Recommendation**

The Community Strong Festival aligns with Tourism Sault Ste. Marie's priority sector of sports tourism. With the prestigious Boston Marathon designation, the

Tourism Development Fund Applications – March 2025 April 7, 2025 Page 3.

event has strengthened its brand, expanded its reach, and enhanced marketing efforts. To maximize growth and long-term success, staff encourage organizers to accelerate planning, particularly in promotion and marketing. With strategic support and timely action, the festival has strong potential to expand its impact.

In recognition of the positive impact of the Community Strong Race Weekend and the opportunity to grow and enhance Sault Ste. Marie's only Boston Marathon qualifier, the Tourism Sault Ste. Marie Board of Directors recommended a contribution of \$4,000 and passed the following resolution: "Be it resolved that the Tourism Sault Ste. Marie Board of Directors recommended a contribution of \$4,000 through the Tourism Development Fund – Conferences and Special Events Stream to support the Community Strong Race Weekend to be hosted June 21 & 22, 2025, and that a report be submitted to City Council for consideration and approval."

# Northern Ontario Service Deliverers Association AGM

# <u>Summary</u>

The Northern Ontario Service Deliverers Association (NOSDA) holds an Annual General Meeting (AGM) each June, bringing together the 10 District Social Services Administration Boards (DSSABs) and the City of Greater Sudbury. Collectively, NOSDA represents all 144 municipalities in Northern Ontario, overseeing services related to social assistance, childcare, paramedic services, homelessness, and community housing. These services support a population of 789,519 people across 806,708 square kilometers.

The AGM serves as a key forum for discussion and collaboration, attracting Members of Parliament (MPs), Members of Provincial Parliament (MPPs), mayors, local municipal councils, and federal and provincial officials responsible for delivering critical community services. It allows communities to connect, share best practices, and explore innovations in service delivery, particularly in supporting Indigenous, racialized, and at-risk populations. The AGM also highlights advancements in frontline health care, including the expansion of community paramedicine programs.

Visitor Projections and Economic Impact

The 2025 event is expected to attract approximately 426 attendees, including:

24 local participants

20 regional visitors

160 from across Ontario

0 from other parts of Canada

0 from the United States

180 visitors x 4 days x \$175 pp/pd = \$126,000

Tourism Development Fund Applications – March 2025 April 7, 2025 Page 4.

#### Recommendation

The Northern Ontario Service Deliverers Association is an annual conference that rotates across northern communities. With a reputable history of successful attendance and participation, staff is confident that this conference will attract projected registrations.

In recognition of the positive impact of the meetings and convention sector, Tourism Sault Ste. Marie Board of Directors recommends a \$2,000 contribution to support the 2025 Service Deliverers Association of Ontario AGM and passed the following resolution: "Be it resolved that the Tourism Sault Ste. Marie Board of Directors recommend a contribution of \$2,000 through the Tourism Development Fund- Conferences and Special Events Stream to support the Northern Ontario Service Deliverers Association Annual General Meeting on June 3-5, 2025 and that a report be submitted to City Council for consideration and approval."

#### Sault Cycling Club Ontario Cup Mountain Bike Race- Skeeter Slam

#### <u>Summary</u>

The Ontario Cycling Association (OCA) MTB OCup is a provincially sanctioned mountain bike racing event that will take place on the recently constructed trail network in Hiawatha Highlands June 28-29, 2025. This marks the second time the event has been hosted in Sault Ste. Marie, reinforcing the city's commitment to expanding its mountain biking infrastructure and establishing itself as a premier destination for competitive cycling events. The event received \$10,000 from the Tourism Development Fund in 2024.

The event spans two days and features a series of races for participants aged nine and older, covering various categories and disciplines. Hosting the OCup reflects the City's investment in trail development and highlights the strong partnership with the Sault Cycling Club. Comprised of dedicated volunteers, the club plays a key role in maintaining the trails to ensure they are safe and accessible.

Securing this event contributes to the City's growing reputation as a host for highprofile competitions, strengthening its ability to attract future cycling events. The sanctioned nature of the OCup enhances the credibility of Sault Ste. Marie as a competitive mountain biking destination that draws participants and visitors from across Ontario.

#### Visitor Projections and Economic Impact

The 2025 event is expected to attract approximately 600 attendees, including:

252 local participants

100 regional visitors

210 from across Ontario

0 from other parts of Canada

40 from the United States

350 visitors x 3 days x \$175 pp/pd = \$183,750

Tourism Development Fund Applications – March 2025 April 7, 2025 Page 5.

#### Recommendation

The Ontario Cycling Association (OCA) MTB OCup presents a unique opportunity for Sault Ste. Marie to solidify its reputation as a premiere mountain biking destination. With an expected 600 attendees, including 350 out-of-town visitors, the event will generate a significant economic impact.

This event aligns closely with the Tourism Sault Ste. Marie's strategic plan, reinforces the city's investment in trail infrastructure and increases the City's ability to attract future high-profile cycling events. In recognition of this, the Tourism Sault Ste. Marie Board of Directors passed the following resolution: "Be it resolved that the Tourism Sault Ste. Marie Board of Directors recommend a contribution of \$10,000 through the Tourism Development Fund – Conferences and Special Events Stream to support the Sault Cycling Club OCup (Skeeter Slam) to be hosted June 28-29, 2025 and that a report be submitted to City Council for consideration and approval."

#### **Queen Street Cruise**

#### <u>Summary</u>

Queen Street Cruise is a celebrated annual event in Sault Ste. Marie, drawing car enthusiasts and community members to the downtown waterfront. Scheduled for June 20-21, 2025, the event will showcase over 350 vehicles, including classic cars, trucks, motorcycles, and more. Festivities encompass food vendors, alcohol tents, live music, and family-friendly activities, fostering a vibrant community atmosphere.

In 2023, the event was relocated to the Roberta Bondar Pavilion, utilizing the north parking lot at the Civic Centre. This move allowed for themed vehicle displays and expanded food and alcohol vending options, enhancing the overall attendee experience. For 2025, organizers plan to integrate the classic car showcase with Habitat for Humanity's annual Touch-a-Truck event, broadening the event's appeal and community engagement.

Queen Street Cruise has received support from the Tourism Development Fund (TDF) for out-of-town marketing and promotion:

- 2021: \$5,000
- 2022: \$5,000
- 2023: \$5,000
- 2024: \$5,000

Visitor Projections and Economic Impact

The 2025 event is expected to attract over 9,000 attendees, including:

9,962 local participants

250 from across Ontario

200 from the United States

400 visitors x 2 days x \$175 pp/pd = \$140,000

Tourism Development Fund Applications – March 2025 April 7, 2025 Page 6.

#### Recommendation

The Queen Street Cruise is a well-established annual event that brings a festival atmosphere to downtown Sault Ste. Marie. While it primarily attracts local car enthusiasts, the event also serves as a unique addition to the city's weekend tourism offerings, drawing visitors from across Ontario and the United States. By combining a classic car showcase with live entertainment, food and alcohol vendors, and family-friendly activities, the Queen Street Cruise enhances the city's reputation as a vibrant destination for event hosting.

In recognition of the positive impact of festivals and events, the Tourism Sault Ste. Marie Board of Directors passed the following resolution: "Be it resolved that the Tourism Sault Ste. Marie Board of Directors recommend a contribution of \$5,000 through the Tourism Development Fund – Conferences and Special Events Stream to support the Queen Street Cruise to be hosted June 20-21, 2025 and that a report be submitted to City Council for consideration and approval."

#### Battle at the Bridge

#### <u>Summary</u>

Battle at the Bridge is a competitive tabletop miniature tournament based on Games Workshop's Warhammer 40K. The event is structured as a team-based competition, where five-player teams compete in a series of one-on-one matches over two days. Points are accumulated, and teams are ranked, culminating in awards for the top three teams. Battle at the Bridge is scheduled for July 12-13, 2025.

The tournament aims to bring together Warhammer players from Ontario and the U.S., fostering community engagement, tourism, and awareness of the game. The event also seeks to establish itself as a recognized tournament on Games Workshop's national event calendar, which could further boost participation and tourism in the Sault.

Many participants viewed 2024 as a trial experience and expressed strong interest in returning with additional teams. The event received \$1,500 in support from the TDF in 2024.

#### Visitor Projections and Economic Impact

The 2025 event is expected to attract approximately 151 attendees, including:

68 local participants

68 from across Ontario

15 from the United States

83 visitors x 3 days x \$175 pp/pd = \$43,575

#### **Recommendation**

The Battle at the Bridge tournament presents a strategic opportunity to diversify our city's event portfolio and tap into the expanding tabletop gaming market. Warhammer 40K, akin to Dungeons & Dragons and World of Warcraft, boasts a Tourism Development Fund Applications – March 2025 April 7, 2025 Page 7.

dedicated and passionate following. Hosting such a niche yet rapidly growing event can position our community as a host destination for enthusiasts as the event continues to grow annually.

In recognition of the positive impact festivals and events have on the tourism sector, the Tourism Sault Ste. Marie Board of Directors passed the following resolution: "Be it resolved that the Tourism Sault Ste. Marie Board of Directors recommend a contribution of \$2,000 through the Tourism Development Fund – Conferences and Special Events Stream to support the Warhammer: Battle at the Bridge to be hosted July 12-13, 2025 and that a report be submitted to City Council for consideration and approval."

# Financial Implications

No new funds would be required. The Tourism Development Fund currently has \$782,645 uncommitted for the purposes of financial assistance within the tourism sector.

# Strategic Plan / Policy Impact / Climate Impact

This item supports the Corporate Strategic Plans Focus Area:

- Community Development and Partnership focus of Maximizing Economic Development and Investment with the commitment to maintain financial viability.
- Community Development Develop partnerships with key stakeholders and reconciliation.

There are no climate change-related impacts associated with this report.

# Recommendation

It is therefore recommended that Council take the following action:

Resolved that the report of the Director of Tourism and Community Development dated April 7, 2025, be received and that the recommendation of the Tourism Sault Ste. Marie Board of Directors to allocate \$23,000 as detailed below be approved:

- 1. Community Strong Race Weekend (\$4,000);
- 2. Northern Ontario Service Deliverers Association AGM (\$2,000);
- 3. Sault Cycling Club Ontario Cup Mountain Bike Race (\$10,000);
- 4. Queen Street Cruise (\$5,000);
- 5. Warhammer Battle at the Bridge 40K (\$2,000).

Respectfully submitted,

Travis Anderson

Director, Tourism and Community Development. 705.989.7915 t.anderson@cityssm.on.ca



# COUNCIL REPORT

| April 7, 2025 |                                                      |
|---------------|------------------------------------------------------|
| TO:           | Mayor Matthew Shoemaker and Members of City Council  |
| AUTHOR:       | Karen Fields City Solicitor                          |
| DEPARTMENT:   | Legal Department                                     |
| RE:           | Police Services Contract Extension – Prince Township |
|               |                                                      |

# Purpose

The purpose of this report is to seek Council approval to extend the current agreement between the City of Sault Ste. Marie and Prince Township for the provision of policing services.

#### Background

In 2020, past CAO White brought a report to Council with a proposed agreement outlining the proposal for the Sault Ste. Marie Police Service ("SSMPS") to provide police services to Prince Township. Council approved the five-year agreement, which expired on March 31, 2025.

#### Analysis

There has been a request to enter into a new agreement for police services, but the parties have not concluded a new agreement yet to bring to Council. The parties are looking to extend the current agreement for another two-month period. This would allow Prince Township to continue to have police coverage in the interim at the current cost and allow the parties to continue to negotiate an agreement to be brought to Council for its approval.

#### Financial Implications

There are no financial implications for the extension of the current agreement.

#### Strategic Plan / Policy Impact / Climate Impact

This is an operational matter not articulated in the corporate Strategic Plan.

#### Recommendation

It is therefore recommended that Council take the following action:

The relevant by-law 2025-49 is listed in section 12 of the Agenda and will be read with all by-laws under that item.

Police Services Contract Extension – Prince Township April 7, 2025 Page 2.

Respectfully submitted,

Karen Fields City Solicitor 705.759.5407 <u>k.fields@cityssm.on.ca</u>



# COUNCIL REPORT

| April 7, 2025 |                                                           |
|---------------|-----------------------------------------------------------|
| TO:           | Mayor Matthew Shoemaker and Members of City Council       |
| AUTHOR:       | Melanie Borowicz-Sibenik, Assistant City Solicitor/Senior |
|               | Litigation Counsel                                        |
| DEPARTMENT:   | Legal Department                                          |
| RE:           | Property Declared Surplus – 0 Nixon Road (1644291         |
|               | Ontario Limited – Ozzie Grandinetti)                      |
|               |                                                           |

# Purpose

The purpose of this report is to recommend to Council that the property described as PIN 31610-0183 (LT) PT LT 9 PL H536 KORAH PT 1 1R6198; SAULT STE. MARIE, being civic 0 Nixon Road, be declared as surplus and offered for sale by the City in accordance with the City's policy for the disposition of land.

# Attachment

Attached as Schedule "A" is a map of the subject property.

# Background

The Legal Department received a request on February 22, 2024 from Ozzie Grandinetti to ascertain if 0 Nixon Road would be declared surplus. The Applicant is interested in the subject property for road access and to run services to abutting property that will be developed. The request was circulated to various City Departments, the Sault Ste. Marie Region Conservation Authority ("SSMRCA") and the District of Sault Ste. Marie Social Services Administration Board ("DSSAB") for comment.

The Public Works and Transportation Department has no objections and supports the Planning Department on this request.

The Engineering Department has no objections.

The Planning Department is only supportive of declaring the subject property surplus if it is attached to 1171 Second Line West so that 0 Nixon Road and 1171 Second Line West become one contiguous parcel.

The Building Department supports the Planning Department and provided the following comments:

• The subject property is not serviced.

Property Declared Surplus – 0 Nixon Road (1644291 Ontario Limited – Ozzie Grandinetti) April 7, 2025 Page 2.

- Ditches are along both sides of Nixon Road. Culvert permit would be required for new entrance.
- No above ground electrical conductors are permitted other than overhead phone line along east side of Nixon Road.

The Community Development and Enterprise Services Department has no objections.

The SSMRCA advises that the subject property is not located within an area under the jurisdiction of the Conservation Authority, with regard to O. Reg.176/06 for Development, Interference with Wetlands and Alterations to Shoreline and Watercourses.

The DSSAB has no issues or comments with the request.

#### Analysis

If Council declares the subject property surplus, the property will be advertised on the City's web page.

#### **Financial Implications**

If the City decides to dispose of the Subject Property, it would be consistent with the City's plan to dispose of surplus property. The current use of the property is exempt from property taxation. Upon sale of the property it may be assessable depending upon its ultimate use.

#### Strategic Plan / Policy Impact / Climate Impact

Not applicable.

#### Recommendation

It is therefore recommended that Council take the following action:

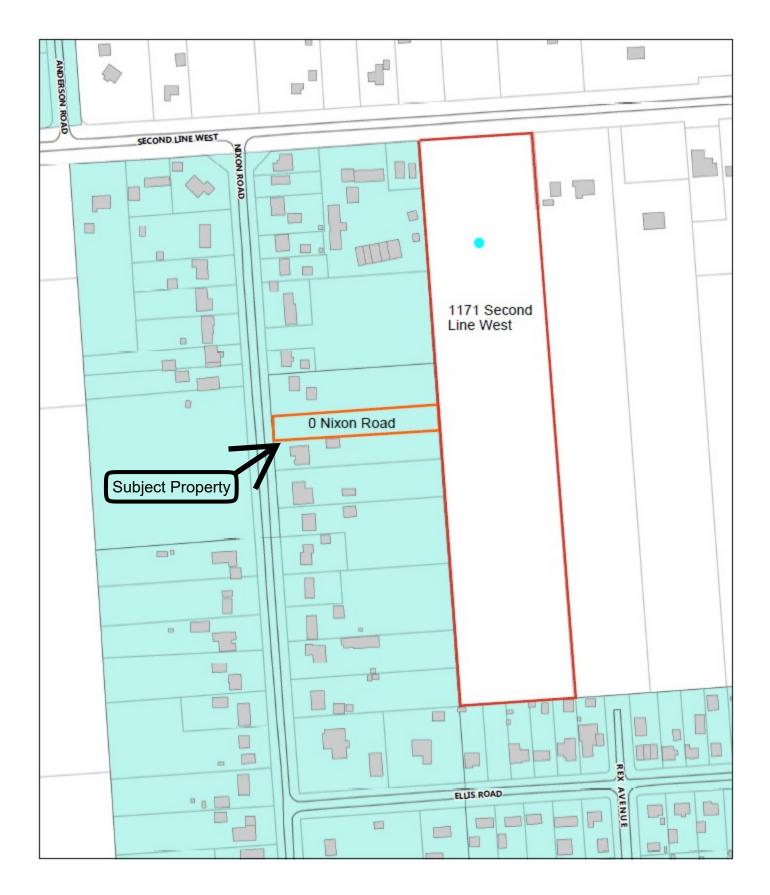
The relevant By-law 2025-53 is listed under item 12 of the Agenda and will be read with all by-laws under that item.

Respectfully submitted,

Melanie Borowicz-Sibenik Assistant City Solicitor/Senior Litigation Counsel 705.759.5403 <u>m.borowiczsibenik@cityssm.on.ca</u>

ep\\citydata\LegalDept\Legal\Staff\COUNCIL\REPORTS\2025\Property Declared Surplus – 0 Nixon Road (1644291 Ontario Limited – Ozzie Grandinetti) OPEN.docx

Schedule "A"





# COUNCIL REPORT

| April 7, 2025 |                                                           |
|---------------|-----------------------------------------------------------|
| TO:           | Mayor Matthew Shoemaker and Members of City Council       |
| AUTHOR:       | Melanie Borowicz-Sibenik, Assistant City Solicitor/Senior |
|               | Litigation Counsel                                        |
| DEPARTMENT:   | Legal Department                                          |
| RE:           | Property Declared Surplus – 657 Fourth Line East (Steven  |
|               | Shoemaker on behalf of Ryan Rocchetta)                    |
|               |                                                           |

# Purpose

The purpose of this report is to recommend to Council that the property described as PIN 31510-0131 (LT) LT 8 RCP H737 TARENTORUS; SAULT STE. MARIE, being civic 657 Fourth Line East, be declared as surplus and offered for sale by the City in accordance with the City's policy for the disposition of land.

# ATTACHMENT

Attached as Schedule "A" is a map of the Subject Property.

# Background

The Legal Department received a request on October 21, 2024, from Steven Shoemaker (Wishart Law Firm LLP) on behalf of his client, Rocchetta Holdings, to ascertain if the Subject Property could be declared surplus. Rocchetta Holdings desires to use this parcel in conjunction with the parcel abutting to the west that it currently owns, being 1284 Great Northern Road. The request was circulated to various City Departments, the Sault Ste. Marie Region Conservation Authority ("SSMRCA") and the District of Sault Ste. Marie Social Services Administration Board ("DSSMSSAB").

The Public Works and Engineering Services Department had no comments.

The Engineering Department advised that the closest sanitary main to the Subject Property is near the intersection of Fourth Line East and Great Northern Road. If a connection to the sanitary main is not desired, any onsite sanitary system would need to be approved by Algoma Public Health. Engineering noted that a water course appears to be running through the Subject Property. Further investigation may be required to determine its direction. A culvert permit may be required for access to the Subject Property.

The Planning Department had no issues with the requested purchase. The Subject Property has approximately 100' of frontage and 125' of depth, totaling a little over

Property Declared Surplus – 657 Fourth Line East (Steven Shoemaker on behalf of Rocchetta) April 7, 2025 Page 2.

0.1ha. To put this into context, the lot is similarly sized to many urban, serviced residential lots in the community. While there are water services to the Subject Property, the nearest sanitary sewer is approximately 60m west of the property, meaning that either the sewer would need to be extended along Fourth Line or future development would need to be serviced with an on-site septic system. Planning states that the existing zoning, coupled with the lack of easy access to a sanitary sewer connection and the undersized nature of the lot, result in very limited development potential for the Subject Property on its own. On the one hand, it is likely that the need to extend sanitary services might be cost prohibitive, given the relatively small development that could fit on the lot. On the other hand, septic systems take up space that may or may not be available given the small size of the lot. The Subject Property is zoned Highway Zone (HZ) which permits a variety of commercial uses aimed at servicing the travelling public. Planning recommends that the Subject Property be consolidated with the abutting lot if it is sold to the Applicant.

The Building Department had no concerns with the sale of this lot but notes the subject property is zoned HZ – Highway Zone. All uses and buildings must conform to the requirements as set out in Section 13.7 of Zoning By-Law 2005-150.

The Community Development and Enterprise Services Department had no issue or concerns with declaring this property surplus.

The SSMRCA advised that the Subject Property is located within an area under the jurisdiction of the SSMRCA regarding *Ontario Regulation 41/24: Prohibited Activities, Exemptions and Permits* under the *Conservation Authorities Act, R.S.O. 1990, c. C.27.* The east boundary of this property is associated with a watercourse that drains into the Root River. Any filling or modifying of the elevations adjacent to this waterway requires a site plan review and permit from SSMRCA. The Subject Property is within a WHPA-D zone, within a highly vulnerable aquifer, and is part of a high potential groundwater recharge area with respect to drinking water source protection.

The DSSMSSAB advised that there is no objection to the sale.

# Analysis

If Council declares the Subject Property surplus, the property will be advertised on the City's web page with the notation that it will be sold to the abutting property owner.

# **Financial Implications**

If the City decides to dispose of the Subject Property, it would be consistent with the City's plan to dispose of surplus property. As this property is presently City owned the City does not receive any revenues from taxes. Upon sale of the property, it may be assessable depending upon its ultimate use.

#### Strategic Plan / Policy Impact / Climate Impact

Not applicable.

Property Declared Surplus – 657 Fourth Line East (Steven Shoemaker on behalf of Rocchetta) April 7, 2025 Page 3.

#### Recommendation

It is therefore recommended that Council take the following action:

The relevant By-law 2025-50 is listed under item 12 of the Agenda and will be read with all by-laws under that item.

Respectfully submitted,

Melanie Borowicz-Sibenik Assistant City Solicitor/Senior Litigation Counsel 705.759-5403 <u>m.borowiczsibenik@cityssm.on.ca</u>

tm\\citydata\LegalDept\Legal\Staff\COUNCIL\REPORTS\2025\Fourth Line East,657 Declare Surplus OPEN.docx





# COUNCIL REPORT

| April 7, 2025 |                                                           |
|---------------|-----------------------------------------------------------|
| TO:           | Mayor Matthew Shoemaker and Members of City Council       |
| AUTHOR:       | Melanie Borowicz-Sibenik, Assistant City Solicitor/Senior |
|               | Litigation Counsel                                        |
| DEPARTMENT:   | Legal Department                                          |
| RE:           | POA – Fourth Inter-Municipal Agreement                    |
|               |                                                           |

# Purpose

The purpose of this report is to request Council approval of the fourth Inter-Municipal Agreement between the City and all POA Municipal Partners ("Agreement") regarding Provincial Offences' services and revenue sharing.

#### Background

On March 12, 2001, the City assumed the prosecution and administration of *Provincial Offences Act* charges. Since that time, the City has been operating the Provincial Offences Court on the first floor of the Civic Centre. The City's Provincial Offences Office services the Algoma Catchment Area encompassing an area which runs east to the Municipality of Huron Shores and north to White River. Accordingly, in 2009, the City entered into an Inter-Municipal Agreement with all of the municipalities in the Algoma Catchment Area to provide Provincial Offences' services and revenue sharing. The First Nations of Batchewana and Garden River also participate in this Agreement. The most recent renewal of the Agreement was made on August 10, 2020. The term of the existing Inter-Municipal Agreement has expired and must be renewed for a further five-year term ending March 31, 2030.

# Analysis

The Agreement confirms that the parties consent to the renewal of the 2009 Agreement for a further period of five years.

#### Financial Implications

Pursuant to Section 3 of the 2009 Agreement, the City shall continue to share the annual net *Provincial Offences Act* revenues and deficits with each municipal partner on a population basis.

#### Strategic Plan / Policy Impact / Climate Impact

This is an operational matter not articulated in the corporate Strategic Plan.

POA – Fourth Inter-Municipal Agreement April 7, 2025 Page 2.

# Recommendation

It is therefore recommended that Council take the following action:

The relevant By-Law 2025-52 is listed under item 12 of the Agenda and will be read with all by-laws under that item.

Respectfully submitted,

Melanie Borowicz-Sibenik Assistant City Solicitor/Senior Litigation Counsel 705.759.5403 <u>m.borowiczsibenik@cityssm.on.ca</u>

MBS/lv



# COUNCIL REPORT

| April 7, 2025 |                                                     |
|---------------|-----------------------------------------------------|
| TO:           | Mayor Matthew Shoemaker and Members of City Council |
| AUTHOR:       | Shelley Olar, Risk Manager                          |
| DEPARTMENT:   | Legal Department                                    |
| RE:           | Intact Public Entities – Insurance Claim Handling   |
|               | Agreement – Policy Period 2025-2026                 |

# Purpose

The purpose of this report is to seek Council approval of a Claim Handling Agreement (the "Agreement") between the City and Intact Public Entities Inc. ("Intact") that was contemplated in the General Insurance Services Agreement between the City and Frank Cowan Insurance Company ("Cowan") approved by Council under By-law 2021-42 and then with the extension of the General Insurance Services Agreement approved by Council under By-law 2024-156.

# Background

In 2020, the City issued an RFP for the provision of General Insurance Services. Council then approved Staff's recommendation at the conclusion of the RFP to enter into a three-year General Insurance Services agreement with Cowan for the period February 28, 2021 to February 28, 2024. The Frank Cowan Insurance Company rebranded and are now known as Intact Public Entities Inc ("Intact"). At the October 21, 2024, Council meeting, Council authorized the extension of the General Insurance Services Agreement to February 28, 2026.

The main General Insurance Services Agreement has provided a subsidiary agreement, specifically the Claim Handling Agreement for execution for the upcoming policy period February 28, 2025 to February 28, 2026. There is no additional cost for this agreement.

# Analysis

The Agreement grants the City permission to respond to certain claims through its processes and also sets out the City's reporting obligations to Intact. The City is required to immediately notify Intact if, during the handling of a claim, it becomes apparent that the claim:

• Reaches or is expected to reach a total incurred value (reserves and payments) in excess of 50% of the policy deductible;

Intact Public Entities – Claim Handling Agreement April 7, 2025 Page 2.

- Triggers coverage under a Claims Made wording (ie. E&O, environmental, etc.); or
- Is a certain type of claim as enumerated by Intact (ie. more serious in nature, including fatalities, brain damage resulting in mental/physical impairment, class action suits, etc.).

Further, the Agreement requires the City to maintain a claims reporting and tracking system, along with a "claims loss bordereaux of all claims handled by the City" every three months. The Risk Manager shall complete this reporting.

# Financial Implications

There is no additional financial impact to the City for the execution of this agreement.

# Strategic Plan / Policy Impact / Climate Impact

This is an operational matter not articulated in the corporate Strategic Plan.

#### Recommendation

It is therefore recommended that Council take the following action:

The relevant By-law 2025-57 is listed under item 12 of the Agenda and will be read with all by-laws under that item.

Respectfully submitted,

Shelley Olar, CIP Risk Manager 705.759.5768 <u>s.olar@cityssm.on.ca</u>



# COUNCIL REPORT

| April 7, 2025 |                                                     |
|---------------|-----------------------------------------------------|
| TO:           | Mayor Matthew Shoemaker and Members of City Council |
| AUTHOR:       | Steve Zuppa, Junior Planner                         |
| DEPARTMENT:   | Community Development and Enterprise Services       |
| RE:           | Housing Community Improvement Plan (CIP) Updates    |
|               |                                                     |

# Purpose

The purpose of this report is to seek Council approval of a draft amended Housing Community Improvement Plan (CIP) to provide public notice, with the intent of bringing the Draft Housing CIP back to Council for final approval.

#### Background

On December 11, 2023, Council endorsed the City's Housing Action Plan, 2023-2028 (Action Plan).

On August 12, 2024, Council approved the Housing CIP, establishing three financial incentive programs. These programs were scaled-down versions of the financial incentives originally recommended in the Action Plan, as no federal funding was available to the City at the time of approval. Also, on August 12, 2024, Council approved the Community Improvement Project Area (CIPA), which contains three geographic areas (named "Precincts").

On January 27, 2025, the City was awarded \$8.6 million in federal funding through the second round of the Housing Accelerator Fund (HAF2). Therefore, it is now appropriate to amend the financial grants within the Housing CIP to better reflect the recommendations of the Action Plan and the initiatives contained in the City's HAF2 application.

Section 28 of the *Planning Act* requires that Council approve a draft amended CIP before it is made available for public review and the prescribed public meeting can take place. Should Council approve the draft amended CIP for public review, the public meeting is anticipated to be held on May 12, 2025. Public feedback will be incorporated into the final version and considered when drafting the amending by-law.

# Analysis

The draft amendments to the Housing CIP were completed by City staff in consultation with the Affordable Housing Task Force. These amendments align with the Action Plan, which went through considerable public and stakeholder consultation.

A redline version of the draft amended Housing CIP has been attached as an Appendix. It is important to note that staff are recommending that the Tax Increment Equivalent Grant and the Sault Foundations Feasibility Study Grant remain unchanged. Substantive changes are as follows:

# Change 1: Expansion of Per-Door Grant Eligibility

The eligibility criteria for the Per-Door Grant is proposed to be expanded to include new market-rate units in Precinct 2. The maximum grant value is proposed to be \$10,000 per unit, which is lower than market-rate grants in Precinct 1.

Precinct 2 corresponds to the "Strategic Development Areas – Other" in the City's Official Plan. Including market-rate grants for new units in these areas aligns with Official Plan policies SD.1, SD.2, and SD.3 by providing financial incentives to encourage residential growth and complete neighbourhoods through infill development.

This change also aligns the Housing CIP more closely with the Action Plan. The Action Plan recommended a market rate grant for Precinct 2; however, it was not included in the Housing CIP due to a lack of funding from higher levels of government. HAF2 funding enables the expansion of eligibility as intended.

# Change 2: Increase in Per-Door Grant Incentive Values

The maximum Per-Door Grant incentive values are proposed to increase by \$10,000 to \$15,000 per unit for each housing category and unit type.

A portion of HAF2 and Building Faster Fund (BFF) funding has been allocated to Per-Door Grants for new units. Through extensive public consultation, it was found that the incentive values for affordable units in the adopted CIP are insufficient to offset the total loss of rental revenue over the mandatory 20-year affordability period compared to a market-rate unit. This increase in grant values will help bridge that gap and encourage the creation of new affordable residential units.

Further, the proposed increase in grant values in Precinct 1 aims to encourage the development of more units in the Downtown/First Neighbourhoods of the City and help cover demolition costs for units that are beyond repair. It is proposed that the increased Per-Door Grant incentive values in Precinct 1 be used instead of a new standalone Demolition Grant, which could be challenging to implement

# Change 3: Addition of a New Grant – Municipal Fees Rebate Program

A new Municipal Fees Rebate Program is recommended for inclusion in the Housing CIP. This program would offer a grant equal to a portion of municipal fees for applications under the *Planning Act*, the *Ontario Building Code*, and other selected municipal services. Eligibility for this grant is recommended to be similar to the amended Per-Door Grant.

Housing Community Improvement Plan (CIP) Updates April 7, 2025 Page 3.

The Municipal Fees Rebate Program is designed to reduce the soft costs of residential construction, particularly for affordable housing and projects within the City's SDAs.

Although this program was recommended in the Action Plan, it was excluded from the Housing CIP due to a lack of funding from higher levels of government; however, the program was included as an initiative in the City's HAF2 application, and HAF2 funds are now available. Therefore, it is appropriate to include this program to better align the Housing CIP with the Action Plan.

# **Financial Implications**

There are no financial implications to Council approving a draft of the amended Housing CIP for public review. Approval of the draft will allow for the CIP amendments to commence through the formal approval process under Section 28 of the *Planning Act*.

That said, should the Housing CIP amendments ultimately be approved by Council and adopted, the commitment of funds to the amended Housing CIP would be an annual consideration by Council. The amended CIP would contain three grants that require a budget, two of which are different from the current Housing CIP:

- 1. The Per-Door Grant expanded eligibility and increased value per unit
- 2. The Municipal Fees Rebate Program new program

All grants within the Housing CIP are eligible to be funded through HAF2. The City has received the first installment (\$2.1 million) of the HAF2 funding, totalling \$8.6 million over four years. The City has also received \$600,000 in BFF funding for 2024 for exceeding its 2023 housing target. If the City exceeds housing targets in 2024 and 2025, two more payments of \$600,000 can be expected.

# Strategic Plan / Policy Impact / Climate Impact

The proposed amendments support the following strategic focus areas of the corporate strategic plan.

Current Assets: This CIP encourages infill development and residential intensification within SDAs and the rest of the Urban Settlement Area, thus promoting more efficient use of existing municipal infrastructure and services.

Social Equity: Adequate and affordable housing is a key quality of life indicator. The CIP promotes the construction of new affordable housing units, as well as an increase in the overall housing supply (including purpose-built rentals, additional dwelling units, and multiple unit dwellings); thereby providing more housing options to a broader range of income levels.

Vibrant Downtown: This CIP encourages infill development within the First Neighbourhoods, which includes the Downtown. An increase in residential density in the Downtown can help create a vibrant, complete community where people want to live and work.

Housing Community Improvement Plan (CIP) Updates April 7, 2025 Page 4.

#### Climate Impact

Higher-density mixed-use development within the City's SDAs fosters an environment conducive to active transportation. Compact, mixed-use developments promote walkability, cycling, and public transit usage due to shorter distances between residences, workplaces, and amenities, thus reducing carbon emissions.

The Per-Door Grant application scorecard awards additional points for energy efficiency above and beyond the *Ontario Building Code*. This supports the City's GHG Reduction Plan.

#### Recommendation

It is therefore recommended that Council take the following action:

Resolved that the report of the Junior Planner dated April 7, 2025 concerning Housing Community Improvement Plan (CIP) Updates be received and that Council:

- Approve the draft amended Housing CIP in principle;
- Direct staff to proceed with the public review process, including the scheduling of a prescribed public meeting in accordance with Section 28 of the *Planning Act*; and
- Direct staff to forward the revised CIP documents to the Ontario Ministry of Municipal Affairs and Housing for review prior to bringing it back to Council.

Respectfully submitted,

Steve Zuppa Junior Planner 705.759.5279 <u>s.zuppa@cityssm.on.ca</u>



# City of Sault Ste. Marie Housing Community Improvement Plan

August 2024

April 2025

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# Land Acknowledgement

#### **Robinson-Huron Treaty Territory**

The City of Sault Ste. Marie acknowledges this area as part of the Robinson-Huron Treaty territory and is the traditional territory of the Anishinaabe and known as Bawating. Bawating is the home of Garden River First Nation, Batchewana First Nation, the Historic Sault Ste. Marie Metis Council and today is home to many Urban Indigenous people from across Turtle Island.

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# 1. Introduction

#### 1.1 Purpose of this Plan

This Community Improvement Plan ("CIP" or "Plan") is a community revitalization tool that responds to the housing needs of the City of Sault Ste. Marie ("City"). It directly implements Action 3 of Sault Ste. Marie's Housing Action Plan 2023-2028, to "provide financial incentives for housing". In doing so, the Plan establishes a range of financial incentive programs intended to facilitate broad investment in the City's housing stock to meet current and future housing demand.

Like many municipalities across Canada and in Ontario, the supply of adequate and affordable housing has emerged as a critical challenge. As of 2023, the City estimates that approximately 3,115 new housing units will be required by 2036 to meet projected housing demand. The Province of Ontario ("Province") has also identified a housing target for the City of 1,500 new units by the year 2031.

The City therefore plans to meet or exceed the Provincial housing target by 2031, as well as satisfy the housing demand that is projected by the year 2036. This Plan is intended to have a key role in achieving these housing targets.

Importantly, the City will require housing that responds to changing demographics, economics, and market conditions. Therefore, housing within the City will need to provide opportunities for people with housing needs and aspirations.

### 1.2 Objectives of this Plan

The objectives of this Plan are in response to the identified housing needs and opportunities within the City, while similarly advancing the priorities of the Housing Action Plan. Therefore, the objectives of this Plan are to:

- 1. Support implementation of the Housing Action Plan, specifically Action 3, which states "Provide Financial Incentives to Housing".
- 2. Implement the housing policies of the City's Official Plan.
- 3. Increase the overall inventory of housing stock.
- 4. Develop an appropriate mix of housing with regards to type and tenure.
- 5. Prioritize the development of affordable housing.
- 6. Focus housing development within the Strategic Development Areas of the City that have the greatest identified need or are within a safe-walkable distance to an array of services and amenities.
- 7. Respond to the diverse housing needs of current and future residents.

Proposed community improvement works that benefit from the financial incentive programs of this Plan must be consistent with these objectives. These objectives are also a critical component to the monitoring and evaluation framework of this Plan, and therefore should be evaluated regularly to inform future updates.

## 1.3 Community Improvement Project Area (CIPA)

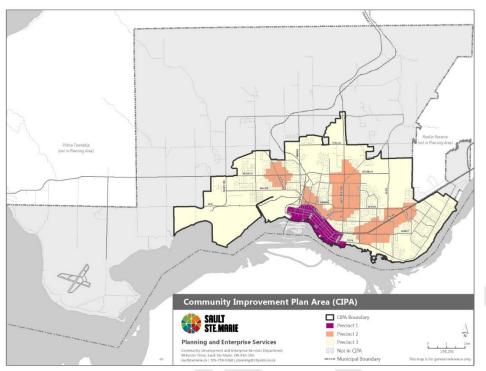
Properties eligible to apply for the financial incentive programs established by this Plan are shown on the CIPA. The CIPA is established as a separate by-law from this Plan and may be amended from time to time at Council's discretion. It is therefore important for eligible applicants to consult with the Plan Administrator to determine if a property or building is within the CIPA before applying.

The CIPA delineates distinct "Precincts", wherein this Plan contemplates some of the financial incentive programs differently in response to the housing priorities throughout the City. The Precincts are generally described as follows:

- 1. **Precinct 1:** This Precinct corresponds to the Strategic Development Areas First Neighbourhoods as identified in the Official Plan. Precinct 1 includes some of the City's first established residential neighbourhoods, as well as the Downtown and is an area that demonstrates a heightened and unique need for adequate and affordable housing.
- 2. **Precinct 2:** This Precinct corresponds to the Strategic Development Areas Other as identified in the Official Plan. Precinct 2 includes areas of the City that are within a safe-walkable distance to a variety of services and amenities. Over time, areas within Precinct 2 will experience residential growth and a resulting demand for new housing opportunities.
- 3. **Precinct 3:** This Precinct includes areas that are within the Urban Settlement Area of the City, but outside of Precincts 1 and 2.

The boundaries of the Precincts are delineated by the CIPA and may be subject to modification through a by-law as enacted by Council. The CIPA is shown in Figure 1.

Figure 1: Community Improvement Project Area (CIPA)



### 1.4 Legislative Authority

This Plan has been prepared and enacted in accordance with Section 28 of the *Planning Act*. Pursuant to Section 28, the City may issue financial incentives to eligible applicants within a designated CIPA, and where a CIP has been prepared.

This Plan is also permitted under Section 106 of the Municipal Act, 2001, which generally prohibits municipalities from directly or indirectly assisting manufacturing, business or other industrial or commercial enterprises. An exception to Section 106 is made under Section 106(3) for municipalities exercising powers under Section 28 (6) or (7) of the Planning Act, being to adopt a CIPA and CIP.

### 1.5 Structure of this Plan

This Plan is organized into four sections:

- 1. **Section 1** introduces the CIP, including relevant background information, purpose, and legislative authority.
- 2. Section 2 identifies the programs of this Plan which includes the description, purpose, and interpretation for each program.
- 3. Section 3 establishes the general eligibility criteria for programs.
- 4. **Section 4** provides detailed implementation policies that inform how this Plan is monitored and evaluated.

City of Sault Ste. Marie: Draft Housing Community Improvement Plan, August 2024 April 2025-|

# 2. Financial Incentive Programs

### 2.1 Purpose

This Plan establishes several financial incentive programs to advance the housing objectives of the Plan. The programs are intended to respond to a range of housing needs and opportunities within the community.

#### 2.2 Financial Incentive Programs

Under this Plan, a total of three four programs are established:

- 1. Per-Door Grant Program;
- 2. Tax Increment Equivalent Grant (TIEG) Program; and
- 3. Sault Foundations Feasibility Study Grant Program; and

#### 3.4.Municipal Fees Grant Program.

Specific details of the financial incentive programs are established under sections 2.4 through  $2.\overline{76}$  of this Plan.

#### 2.3 Interpretation of the Programs

The financial incentive programs are presented in sections to assist with interpretation and administration, as follows:

- 1. **Purpose:** Identifies the purpose of the financial incentive program and how it benefits applicants and the community.
- 2. **General Program Availability:** Specifies the types of housing and tenure that are eligible for the program based on the CIPA.
- 3. **Eligible Costs:** Provides details for which types of community improvement works are considered eligible in the calculation of a financial incentive program value.
- 4. **Financial Incentive Program Value:** This section identifies program-specific financial incentive values and maximum grant values.
- 5. **Payment of Financial Incentive Program:** Describes how and when a financial incentive is to be paid or deemed complete.
- 6. **Specific Eligibility Criteria:** Provides program-specific details of applicable criteria that applicants must satisfy in order to be eligible to apply for a Program. These eligibility criteria must be read in conjunction with Section 3 General eligibility of this Plan.

## 2.4 Per-Door Grant Program

#### 2.4.1 Purpose

The Per-Door Grant Program provides a one-time grant to small-scale developments that propose up to four new dwelling units. The Program is intended to support a greater mix, size, and tenure of housing within the City, while also contributing to an increase in the overall availability of affordable housing options, particularly missing middle housing options. Successful applicants will be required to enter into an agreement with the City to maintain the housing as affordable, in accordance with the specific eligibility criteria of this Program.

#### 2.4.2 General Program Availability

The availability of the Per-Door Grant Program depends on whether the housing is developed as affordable or market rate, and depending on tenure, as follows:

- 1. **Affordable:** Where affordable dwelling units are proposed, the Program is available in all three Precincts.
- 2. **Market Rate:** Where market rate dwelling units are proposed, the Program is only available in Precincts\_1\_and 2.
- 3. **Tenure:** Both freehold housing and rental housing are eligible for this Program, however freehold housing is limited to not-for-profit ownership in Precincts 2 and 3.

Additionally, only lands designated Residential, Commercial, or Institutional by the Official Plan shall be eligible for this Program.

#### 2.4.3 Eligible Costs

The following costs shall be deemed eligible for the purpose of calculating the total value of the grant:

- 1. Any development that results a net increase in the total number of dwelling units shall be eligible for this Program.
- 2. Where a development consists of a mixed-use format, only the residential component of the development shall be eligible.

### 2.4.4 Financial Incentive Program Value

The structure of the Per-Door Grant Program, including the per-unit grant value, is as shown in Table 1:

#### Table 1: Per-Door Grant Program Structure

| Housing<br>Category | Precinct | Tenure Types                               | Maximum Grant Value<br>(per unit)              |
|---------------------|----------|--------------------------------------------|------------------------------------------------|
| Affordable          | 1        | Purpose-Built Rental,                      | Bachelor: <del>\$30,000<u>\$45,000</u></del>   |
|                     |          | Freehold (private and not-for-profit)      | 1 Bedroom: <del>\$35,000<u></u>\$50,000</del>  |
|                     |          |                                            | 2 Bedroom: <del>\$40,000<u>\$55,000</u></del>  |
|                     |          |                                            | 3+ Bedroom: <u>\$45,000</u> <u>\$60,000</u>    |
|                     | 2 or 3   | Purpose-Built Rental,                      | Bachelor: <u>\$30,000</u> <u>\$40,000</u>      |
|                     |          | Freehold <u>* (not-for-profit)</u>         | 1 Bedroom: <del>\$35,000<u>\$45,000</u></del>  |
|                     |          | *only available to not-for-profit entities | 2 Bedroom: <u>\$40,000</u> <u>\$50,000</u>     |
|                     |          |                                            | 3+ Bedroom: <del>\$45,000<u>\$55,000</u></del> |
| Market Rate         | 1        | Purpose-Built Rental,                      | <del>\$20,000</del> \$30,000                   |
|                     |          | Freehold (private and not-for-profit)      |                                                |
|                     | <u>2</u> | Purpose-Built Rental,                      | <u>\$10,000</u>                                |
|                     |          | Freehold*                                  |                                                |
|                     |          | *only available to not-for-profit entities |                                                |

The maximum amount of incentive provided under this program to any approved eligible property will not exceed <u>\$180,000</u><u>\$240,000</u>. (which corresponds to a four-unit development in <u>Precinct 1</u> with all 3-bedroom units that meet the definition of affordable).

### 2.4.5 Payment of Financial Incentive Program

The grant shall be paid upon completion of works related to the eligible costs and when an occupancy permit is issued, or otherwise to the satisfaction of the City, and in accordance with the requirements of this Plan.

#### 2.4.6 Specific Eligibility Criteria

Eligible applicants must satisfy the requirements of Section 3 General Eligibility Criteria, as well as the following program specific eligibility criteria:

- 1. Where affordable housing is proposed, the City will require successful applicants to enter into an agreement with the City to maintain the housing as affordable for a period of 20 years.
- 2. The City requires eligible applicants to provide a cost estimate or quote in advance of the services being rendered by a qualified professional. The cost estimate or quote shall include a detailed breakdown of tasks and associated costs. At its discretion, the City may require additional cost estimates or quotes to be provided, and in this case, the payment of this portion of the grant shall be the lesser of the cost estimates provided.
- 3. Applications will be assessed and prioritized using a Per-Door Grant scorecard.

## 2.5 Tax Increment Equivalent Grant (TIEG) Program

#### 2.5.1 Purpose

The Tax Increment Equivalent Grant (TIEG) will provide an annual grant to reimburse a portion of the municipal property tax increase resulting from residential development on a property over a fixed number of years. The Program is intended to encourage significant investment in new housing within the City. Only applications that propose a total of five new dwelling units or greater are eligible for this Program.

#### 2.5.2 General Program Availability

The TIEG is available for affordable dwelling units in all three precincts. However, the Program is structured differently depending on tenure, as follows:

- 1. **Purpose-Built Rental:** Financial incentives for dwelling units defined as rental by this Plan are eligible in all Precincts.
- 2. **Freehold:** Financial incentives for units defined as freehold by this Plan are eligible in Precinct 1 only (for example, a condominium with 5 or more units).

Additionally, only lands designated Residential, Commercial, or Institutional by the Official Plan shall be eligible for this Program.

#### 2.5.3 Eligible Costs

The following costs shall be deemed eligible for the purpose of calculating the total value of the grant:

- 1. Any development that results in a net increase in 5 or more dwelling units shall be eligible for this Program.
- 2. Where a development consists of a mixed-use format, only the residential component of the development shall be eligible.

### 2.5.4 Financial Incentive Program Value

The maximum value of the TIEG is calculated as the difference between pre-project municipal tax assessment and the post-project municipal tax assessment.

As shown in Tables 2 to 4, the total length of the TIEG (in years) will be determined by the percentage of new affordable units within the development and the Precinct where the development is located.

A TIEG will typically contain a fixed number of years at 100% of the municipal portion of the tax increment, decreasing to 75% in the third last year, 50% in the second last year, and 25% in the final year. The grant ceases thereafter.

| Affordable<br>Units (%) ▶ | None | 1-9% | 10-<br>19% | 20-<br>29% | 30-<br>39% | 40-<br>49% | 50-<br>59% | 60-<br>69% | 70-<br>79% | 80-<br>89% | 90-<br>100% |
|---------------------------|------|------|------------|------------|------------|------------|------------|------------|------------|------------|-------------|
| Year 1                    | 100% | 100% | 100%       | 100%       | 100%       | 100%       | 100%       | 100%       | 100%       | 100%       | 100%        |
| Year 2                    | 100% | 100% | 100%       | 100%       | 100%       | 100%       | 100%       | 100%       | 100%       | 100%       | 100%        |
| Year 3                    | 75%  | 100% | 100%       | 100%       | 100%       | 100%       | 100%       | 100%       | 100%       | 100%       | 100%        |
| Year 4                    | 50%  | 75%  | 100%       | 100%       | 100%       | 100%       | 100%       | 100%       | 100%       | 100%       | 100%        |
| Year 5                    | 25%  | 50%  | 75%        | 100%       | 100%       | 100%       | 100%       | 100%       | 100%       | 100%       | 100%        |
| Year 6                    | 0%   | 25%  | 50%        | 75%        | 100%       | 100%       | 100%       | 100%       | 100%       | 100%       | 100%        |
| Year 7                    | 0%   | 0%   | 25%        | 50%        | 100%       | 100%       | 100%       | 100%       | 100%       | 100%       | 100%        |
| Year 8                    | 0%   | 0%   | 0%         | 25%        | 75%        | 100%       | 100%       | 100%       | 100%       | 100%       | 100%        |
| Year 9                    | 0%   | 0%   | 0%         | 0%         | 50%        | 75%        | 100%       | 100%       | 100%       | 100%       | 100%        |
| Year 10                   | 0%   | 0%   | 0%         | 0%         | 25%        | 50%        | 75%        | 100%       | 100%       | 100%       | 100%        |
| Year 11                   | 0%   | 0%   | 0%         | 0%         | 0%         | 25%        | 50%        | 100%       | 100%       | 100%       | 100%        |
| Year 12                   | 0%   | 0%   | 0%         | 0%         | 0%         | 0%         | 25%        | 75%        | 100%       | 100%       | 100%        |
| Year 13                   | 0%   | 0%   | 0%         | 0%         | 0%         | 0%         | 0%         | 50%        | 100%       | 100%       | 100%        |
| Year 14                   | 0%   | 0%   | 0%         | 0%         | 0%         | 0%         | 0%         | 25%        | 75%        | 100%       | 100%        |
| Year 15                   | 0%   | 0%   | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 50%        | 100%       | 100%        |
| Year 16                   | 0%   | 0%   | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 25%        | 75%        | 100%        |
| Year 17                   | 0%   | 0%   | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 50%        | 75%         |
| Year 18                   | 0%   | 0%   | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 25%        | 50%         |
| Year 19                   | 0%   | 0%   | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 25%         |
| Year 20                   | 0%   | 0%   | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%          |
| Length (Years)            | 5    | 6    | 7          | 8          | 10         | 11         | 12         | 14         | 16         | 18         | 19          |

Table 2: Percentage of Property Tax (Municipal Portion) Rebated for Developments in Precinct 1

Table 3: Percentage of Property Tax (Municipal Portion) Rebated for Developments in Precinct 2

| Affordable<br>Units (%) ▶ | None | 1-9% | 10-<br>19% | 20-<br>29% | 30-<br>39% | 40-<br>49% | 50-<br>59% | 60-<br>69% | 70-<br>79% | 80-<br>89% | 90-<br>100% |
|---------------------------|------|------|------------|------------|------------|------------|------------|------------|------------|------------|-------------|
| Year 1                    | 100% | 100% | 100%       | 100%       | 100%       | 100%       | 100%       | 100%       | 100%       | 100%       | 100%        |
| Year 2                    | 75%  | 100% | 100%       | 100%       | 100%       | 100%       | 100%       | 100%       | 100%       | 100%       | 100%        |
| Year 3                    | 50%  | 75%  | 100%       | 100%       | 100%       | 100%       | 100%       | 100%       | 100%       | 100%       | 100%        |
| Year 4                    | 25%  | 50%  | 75%        | 100%       | 100%       | 100%       | 100%       | 100%       | 100%       | 100%       | 100%        |
| Year 5                    | 0%   | 25%  | 50%        | 75%        | 100%       | 100%       | 100%       | 100%       | 100%       | 100%       | 100%        |
| Year 6                    | 0%   | 0%   | 25%        | 50%        | 100%       | 100%       | 100%       | 100%       | 100%       | 100%       | 100%        |
| Year 7                    | 0%   | 0%   | 0%         | 25%        | 75%        | 100%       | 100%       | 100%       | 100%       | 100%       | 100%        |
| Year 8                    | 0%   | 0%   | 0%         | 0%         | 50%        | 75%        | 100%       | 100%       | 100%       | 100%       | 100%        |
| Year 9                    | 0%   | 0%   | 0%         | 0%         | 25%        | 50%        | 75%        | 100%       | 100%       | 100%       | 100%        |
| Year 10                   | 0%   | 0%   | 0%         | 0%         | 0%         | 25%        | 50%        | 100%       | 100%       | 100%       | 100%        |
| Year 11                   | 0%   | 0%   | 0%         | 0%         | 0%         | 0%         | 25%        | 75%        | 100%       | 100%       | 100%        |
| Year 12                   | 0%   | 0%   | 0%         | 0%         | 0%         | 0%         | 0%         | 50%        | 75%        | 100%       | 100%        |
| Year 13                   | 0%   | 0%   | 0%         | 0%         | 0%         | 0%         | 0%         | 25%        | 50%        | 100%       | 100%        |
| Year 14                   | 0%   | 0%   | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 25%        | 75%        | 100%        |
| Year 15                   | 0%   | 0%   | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 50%        | 75%         |
| Year 16                   | 0%   | 0%   | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 25%        | 50%         |
| Year 17                   | 0%   | 0%   | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 25%         |
| Year 18                   | 0%   | 0%   | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%          |
| Year 19                   | 0%   | 0%   | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%          |
| Year 20                   | 0%   | 0%   | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%          |
| Length (Years)            | 4    | 5    | 6          | 7          | 9          | 10         | 11         | 13         | 14         | 16         | 17          |

| Affordable<br>Units (%) ▶ | None | 1-9% | 10-<br>19% | 20-<br>29% | 30-<br>39% | 40-<br>49% | 50-<br>59% | 60-<br>69% | 70-<br>79% | 80-<br>89% | 90-<br>100% |
|---------------------------|------|------|------------|------------|------------|------------|------------|------------|------------|------------|-------------|
| Year 1                    | 75%  | 75%  | 100%       | 100%       | 100%       | 100%       | 100%       | 100%       | 100%       | 100%       | 100%        |
| Year 2                    | 50%  | 75%  | 75%        | 75%        | 100%       | 100%       | 100%       | 100%       | 100%       | 100%       | 100%        |
| Year 3                    | 25%  | 50%  | 50%        | 75%        | 100%       | 100%       | 100%       | 100%       | 100%       | 100%       | 100%        |
| Year 4                    | 0%   | 25%  | 25%        | 50%        | 75%        | 100%       | 100%       | 100%       | 100%       | 100%       | 100%        |
| Year 5                    | 0%   | 0%   | 0%         | 25%        | 50%        | 75%        | 100%       | 100%       | 100%       | 100%       | 100%        |
| Year 6                    | 0%   | 0%   | 0%         | 0%         | 25%        | 50%        | 75%        | 100%       | 100%       | 100%       | 100%        |
| Year 7                    | 0%   | 0%   | 0%         | 0%         | 0%         | 25%        | 50%        | 75%        | 100%       | 100%       | 100%        |
| Year 8                    | 0%   | 0%   | 0%         | 0%         | 0%         | 0%         | 25%        | 50%        | 75%        | 100%       | 100%        |
| Year 9                    | 0%   | 0%   | 0%         | 0%         | 0%         | 0%         | 0%         | 25%        | 50%        | 75%        | 100%        |
| Year 10                   | 0%   | 0%   | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 25%        | 50%        | 75%         |
| Year 11                   | 0%   | 0%   | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 25%        | 50%         |
| Year 12                   | 0%   | 0%   | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 25%         |
| Year 13                   | 0%   | 0%   | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%          |
| Year 14                   | 0%   | 0%   | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%          |
| Year 15                   | 0%   | 0%   | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%          |
| Year 16                   | 0%   | 0%   | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%          |
| Year 17                   | 0%   | 0%   | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%          |
| Year 18                   | 0%   | 0%   | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%          |
| Year 19                   | 0%   | 0%   | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%          |
| Year 20                   | 0%   | 0%   | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%         | 0%          |
| Length (Years)            | 3    | 4    | 4          | 5          | 6          | 7          | 8          | 9          | 10         | 11         | 12          |

Table 4: Percentage of Property Tax (Municipal Portion) Rebated for Developments in Precinct 3

#### 2.5.5 Payment of Financial Incentive Program

- 1. The TIEG will only be issued subsequent to completion of approved eligible works, final inspections are complete, and an occupancy permit has been issued.
- 2. The grant will be paid annually by the City to the eligible applicant subsequent to payment of all property taxes.

### 2.5.6 Specific Eligibility Criteria

Eligible applicants must satisfy the requirements of Section 3 General Eligibility Criteria, as well as the following program specific eligibility criteria:

- 1. The TIEG program shall be eligible to be combined with the Feasibility Study Grant Program and the Municipal Fees Rebate Program of this Plan but not the Per-Door Grant program.
- 2. The City may evaluate the merit of an application based on considerations for achieving specific actions as part of the Housing Action Plan.
- 3. The applicant must demonstrate that a substantial increase in municipal property taxes will occur due to development or redevelopment.

- 4. The applicant shall provide to the City a post-improvement assessment. The postimprovement assessment will be used by the City to determine the difference between the amount of municipal taxes prior to the development or redevelopment and the amount of municipal taxes to be paid after the development is complete.
- 5. A grant issued under this Program will be issued in accordance with a grant schedule and provided to the registered owner of the property on an annual basis.
- 6. An annual grant shall not be issued until all property taxes owing for each year are fully paid. If a property tax installment is missed or payment is late, the City reserves the right, without notice and at its own discretion, to withhold or terminate all future grant payments.
- 7. An annual grant shall not be recalculated based on tax increases resulting from general re-assessments, or changes in tax legislation.
- 8. If the property is sold or there is otherwise a change in ownership, the City reserves the right to withhold or terminate future grants.
- 9. The City shall not issue an annual grant that is of greater value than the municipal tax collected in a given year on the increased assessed value of the property.
- 10. At its discretion, the City may suspend or discontinue this Program. However, existing agreements between the City and landowners will be recognized, whereby grants will continue to be issued subject to the agreement.

## 2.6 Sault Foundations - Feasibility Study Grant Program

### 2.6.1 Purpose

The Sault Foundations Program offers a grant to fund studies that assess the feasibility of building "missing middle" housing on a property that is owned by a Not-for-Profit agency. The feasibility study would facilitate development at the concept stage to identify steps and resources needed to make the development a reality.

### 2.6.2 General Program Availability

The Sault Foundations Program is available in all three precincts where proposed development includes an increase in residential units.

### 2.6.3 Eligible Costs

A feasibility study consisting of any combination of the following shall be deemed eligible under this Program:

1. financial analysis and feasibility assessment, or associated business development related studies and plans; and

- 2. technical reports or studies, such as a building conditions report, where an existing building is proposed to be repurposed or significantly modified or renovated.
- 2.6.4 Financial Incentive Program Value

The maximum grant value of the Program is \$30,000.

### 2.6.5 Payment of Financial Incentive Program

- 1. A grant may be issued to an eligible applicant in advance of the eligible costs being undertaken, at the City's sole discretion.
- 2. An application must be formally approved by the City before undertaking or initiating the eligible costs. The City may request that the applicant provide at least one quote from a prospective consultants who will conduct the study. Consultants must be qualified professionals.
- 3. The City may require that the study be completed within a specific timeframe. Further, the City may require full repayment of the total grant value should the study not be completed within the established timeframe.
- 4. The specific timeframe for which the study is completed will be determined through an agreement entered into between the City and an applicant. At its sole discretion, the City may extend this timeframe upon request of the applicant, provided advance notice is given, and justification for the extension is provided.

## 2.6.6 Specific Eligibility Criteria

Eligible applicants must satisfy the requirements of Section 3 General Eligibility Criteria, as well as the following program specific eligibility criteria:

- 1. Applicants must be a registered Not-for-Profit organization in good standing. The nature of the Not-for-Profit's interest in developing housing aligns with advancing the housing goals and objectives of the City and this Plan.
- 2. Applications that propose affordable housing units may be prioritized for funding under this Plan, at the discretion of the City.
- 3. If the project is deemed feasible, applicants may be eligible for other financial incentive programs in this Plan. For clarity, applicants shall not be eligible to apply for any other financial incentive program if combined with this Program, until such time that it can be demonstrated to the City that the proposed development is feasible.

## 2.7 Municipal Fees Rebate Program

### 2.7.1 Purpose

The Municipal Fees Rebate Program offers a grant equal to a portion of municipal fees paid to the City related to an application made under the Planning Act, the Ontario Building Code, and other selected municipal services. The Program is intended to reduce the soft costs of constructing new residential units, particularly those that meet the definition of "affordable" as defined by this Plan.

## 2.7.2 General Program Availability

The availability of the Municipal Fees Rebate Program depends on whether the housing is developed as affordable or market rate, and depending on tenure, as follows:

- 1. Affordable: Where affordable dwelling units are proposed, the Program is available in all three Precincts.
- 2. Market Rate: Where market rate dwelling units are proposed, the Program is only available in Precincts 1 and 2.
- 3. **Tenure:** Both freehold housing and rental housing are eligible for this Program, however freehold housing is limited to not-for-profit ownership in Precincts 2 and 3.

Additionally, only lands designated Residential, Commercial, or Institutional by the Official Plan shall be eligible for this Program.

### 2.7.3 Eligible Costs

The following costs shall be deemed eligible for the purpose of calculating the total value of the grant:

- 4. Any development that results a net increase in the total number of dwelling units shall be eligible for this Program.
- 5. Where a development consists of a mixed-use format, only the residential component of the development shall be eligible.

## 2.7.4 Financial Incentive Program Value

The structure of the Municipal Fees Grant Program is shown in Table 5:

#### Table 5: Municipal Fees Rebate Program Structure

| Housing<br>Category | Precinct      | Tenure Types                                      | <u>Maximum Grant Value</u><br>(per development) |
|---------------------|---------------|---------------------------------------------------|-------------------------------------------------|
| <u>Affordable</u>   | <u>1</u>      | Purpose-Built Rental, Freehold                    | 100% of Planning Act and                        |
|                     |               |                                                   | Building Permit application fees                |
|                     | <u>2 or 3</u> | Purpose-Built Rental, Freehold*                   | 100% of Planning Act and                        |
|                     |               | <u>*only available to not-for-profit entities</u> | Building Permit application fees                |
| Market Rate         | <u>1</u>      | Purpose-Built Rental, Freehold                    | 100% of Planning Act and                        |
|                     |               |                                                   | Building Permit application fees                |
|                     | <u>2</u>      | Purpose-Built Rental, Freehold*                   | 50% of Planning Act and                         |
|                     |               | *only available to not-for-profit entities        | Building Permit application fees                |

If a development in Precinct 2 or 3 includes both affordable and market-rate units, the rebate/grant will be adjusted according to the number or percentage of affordable units and the number or percentage of market-rate units.

## 2.7.5 Payment of Financial Incentive Program

Applicants are required to initially pay any applicable fees as an upfront cost under this Program. Subsequent payment of a financial incentive shall be in accordance with the following:

- Planning Act: Payment of a financial incentive under this Program that involves an application made under the *Planning Act* shall only be issued upon completion of the approved development.
- Building Permit: Payment of a financial incentive under this Program that involves a
  Building Permit shall only be issued when final site inspection is complete, and the work
  undertaken is deemed compliant with the Ontario Building Code and is in accordance
  with the Building Permit.

## 2.7.6 Specific Eligibility Criteria

Eligible applicants must satisfy the requirements of Section 3 General Eligibility Criteria, as well as the following program specific eligibility criteria:

- 1. The following fees shall be eligible for the program, provided they contribute to the creation of at least one new dwelling unit:
  - a. Planning Act Application Fees including Zoning By-law Amendments, Minor Variances, Consents to Sever Land, and Site Plan Control; and
  - b. Building Permit Fees.
- 2. For clarity, planning application fees and building permit fees are not eligible costs but shall be used as a basis to calculate the value of the grant.

- 3. Where affordable housing is proposed, the City will require successful applicants to enter into an agreement with the City to maintain the housing as affordable for a period of 20 years.
- 4. The City requires eligible applicants to provide a cost estimate or quote in advance of the services being rendered by a qualified professional. The cost estimate or quote shall include a detailed breakdown of tasks and associated costs. At its discretion, the City may require additional cost estimates or quotes to be provided, and in this case, the payment of this portion of the grant shall be the lesser of the cost estimates provided.

# 3. General Eligibility Criteria

### 3.1.1 Housing Objectives

All eligible works must be deemed by the City to be consistent with the objectives of this Plan, and the Housing Action Plan.

#### 3.1.2 Eligible Applicants

- 1. Eligible applicants are deemed to be the registered landowner, an agent of the landowner, or a tenant of a property. The following exception to this requirement shall apply:
  - a. For the purpose of the Sault Foundations Program, an eligible applicant shall be deemed to be a Not-for-Profit agency and must own the subject property.
- 2. Where an application is made by someone other than the registered landowner, the applicant is required to provide written authorization from the landowner prior to the submission of an application or before undertaking of any community improvement works.
- 3. Only properties within the designated CIPA shall be deemed eligible properties, and further, applications must meet all eligibility criteria of this Plan to be deemed eligible.

#### 3.1.3 No Retroactive Incentives

1. Works that have already been commenced or completed prior to entering into an agreement with the City are not eligible for any financial incentive program established by this Plan. At its sole discretion, the City may make an exception to this policy by awarding an incentive retroactively, provided the merit for doing so can be satisfactorily demonstrated to the City by the applicant.

### 3.1.4 Timing of Approved Works

- 1. The City shall stipulate a maximum period of time in which approved works associated with a financial incentive program under this Plan must be initiated by the applicant.
- 2. The City may further stipulate a maximum period of time in which the approved works funded by a financial incentive program under this Plan is required to be fully completed and/or occupied.
- 3. At its discretion, the City may elect to extend the maximum period of time in which approved works must be initiated and/or completed.
- 4. If the approved works are not initiated and/or completed within the stipulated timeframe, the City may reduce or otherwise revoke the agreement and/or grant.

#### 3.1.5 Combining Financial Incentives

- The Sault Foundations Program and the Municipal Fees Rebate Program is are permitted to be combined with other grants in this Plan, provided all eligibility criteria of this Plan are satisfied. The Tax Increment Equivalent Grant and the Per Door Grant Program shall not be permitted to be combined.
- 2. Where financial incentive programs are combined, in no case shall the total value of all financial incentives exceed the total value of all eligible costs and in no case shall eligible costs be counted more than once across one or more grants or applications.

#### 3.1.6 Site Inspection

- 1. The City reserves the right to visit a property or building prior to issuing a decision on an application.
- 2. The City also reserves the right to visit a property or building once the approved works are completed, but prior to making payment of the grant, to ensure all works have been completed in accordance with the approved application.

#### 3.1.7 Compliance

- 1. Eligible applications are required to comply with all applicable by-laws, standards, procedures, and guidelines of the City in order to be deemed eligible.
- 2. Eligible applications are also required to conform to the Official Plan and be in accordance with applicable land use regulations, including the Zoning By-law. The exception to this is where an amendment to the Zoning By-law is identified as an eligible cost by this Plan.
- 3. The City may determine that eligible applications are conditional subject to receiving necessary approvals, including but not limited to, permits from Provincial and Federal authorities.
- 4. Any conditions associated with required approvals or permits may be included in an agreement between the applicant and the landowner.

### 3.1.8 Completed Works

- 1. Any community improvement works that are undertaken and funded in whole or in part by this Plan must be consistent with the approved application agreement between the applicant and the City.
- 2. Where community improvement works are not undertaken in accordance with the approved application agreement, the City may delay, reduce, or cancel the approved agreement, and may require repayment for costs otherwise incurred by the City.

## 3.1.9 No Arrears or Defaults of City Requirements

An applicant is not eligible for a financial incentive program if they are in default of any City requirement at the time of an application or when payment of the grant is made. This includes arrears with regard to tax payments or any accounts receivable with the City. This eligibility criterion is to be included as a condition on the agreement between the City and the applicant.

#### 3.1.10 Change in Ownership

Any agreement entered into under this Plan between the City and a landowner(s) shall be considered binding and registered on title and shall continue to be upheld where the property has been sold or has otherwise changed ownership.

#### 3.1.11 Additional Information

At its discretion, the City may request additional information that it deems necessary to render a decision on an application, or to satisfy any of the eligibility criteria of this Plan. This may include additional information that demonstrates the applicant's creditworthiness and business track record.

#### 3.1.12 Total Value of Financial Incentives

The total amount of all grants shall not exceed the total eligible costs of community improvement works that benefit from this Plan's financial incentive programs.

#### 3.1.13 Maximum Grant Value

- 1. The total value of an individual grant shall not be greater than 100% of the calculated eligible costs for that grant.
- 2. Where two financial incentive programs are combined, in no case shall the value of an incentive be awarded for the same eligible costs between those combined programs.

#### 3.1.14 Minimum Grant Value

The minimum value of a grant shall not be less than \$1,000. For clarity, where the total value of a grant is calculated to be less than \$1,000, the application may not be accepted by the City.

#### 3.1.15 Minimum Affordability Period

- 1. Affordable dwelling units must be maintained in accordance with the definition of affordable under this Plan (see Section 4.6.1) for a minimum of 20 years, as indicated on an agreement between the City and landowner. The definition of affordable may be subject to change over this period of time as stated below.
  - a. For *affordable rental units*, the initial rental rate of any incentivized unit will be set at or below the affordable rental rate contained in the most recent Affordable

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Residential Units bulletin. The rental rate will be permitted to be raised annually based on the annual percentage rate amount approved by the Provincial Government for the duration of the affordability period.

- b. For *affordable ownership housing*, any freehold unit that has been incentivized must be sold at or below the affordable purchase price in the most current Affordable Residential Units bulletin if sold at any time during the affordability period.
- 2. An agreement prepared by the City, between the City and landowner shall be required regarding the minimum affordability period, with the agreement being registered on title. It will be a condition of this agreement that landowners will be responsible for costs associated with registering the agreement on title.
- 3. An agreement regarding the minimum affordability period shall include terms and conditions should the housing no longer meet the definition of affordable, and this may include full or partial repayment of any grants that have been paid.
- 4. An annual statement shall be provided to the City demonstrating that any housing subject to an agreement regarding affordability is being maintained and offered as affordable per the definition of this Plan. The City may require additional documentation or evidence to corroborate the statement.
- 5. Where the conditions of an agreement are not upheld by the landowner, the City may exercise its authority to terminate the agreement and further, require that the entire amount of the incentives, including any associated costs and interest, be fully repaid to the City.

### 3.1.16 No Implications on Approval

Under no circumstance does a decision by the City to award a financial incentive under this Plan imply the merit of an application made under the *Planning Act* or a permit pursuant to the Ontario Building Code, or otherwise obligate the City to approve same in any manner.

### 3.1.17 Permanent Improvements Only

Eligible costs must involve permanent improvements only. For greater clarity, any costs associated with lifecycle replacement, housewares, or appliances, shall not be deemed an eligible cost.

### 3.1.18 Disclosure of Funding

- 1. Applicants are required to fully disclose all funding sources at time of application, or when otherwise requested by the City.
- 2. If in the City's opinion an applicant has received additional funding for the same community improvement works, at its sole discretion, the City may reduce the value of a grant, or otherwise deny an application.

3. Without limiting the generality of the foregoing, additional funding may include grants made available through other Community Improvement Plans, commercial loans, seed funding, or other similar financial assistance.

#### 3.1.19 Relationship to Other Community Improvement Plans

- 1. The financial incentive programs of this Plan may be combined with other CIPs administered by the City.
- 1. Where financial incentive programs are combined between this Plan and another CIP, in no case shall funding be made available for the same eligible cost.
- 2. At its sole discretion, the City may determine that an application is non-eligible to receive funding through a financial incentive program of this Plan and another CIP.

### 3.1.20 Heritage Properties and Buildings

Community improvement works to a property or building designated under the *Ontario Heritage Act* or listed by the City may be required to submit additional information to the City in support of an application.

#### 3.1.21 Short-term Rentals

- 1. A dwelling unit developed with a grant issued under this Plan shall not be used for a Shortterm Rental, as defined by By-law 2022-178. For additional clarity, financial incentive programs established by this Plan shall not be used for the development or redevelopment of a dwelling unit that is used, or may be used, for a Short-term Rental.
- 2. The City shall require this as a condition in any agreement entered into with eligible applicants.
- 3. Failure to uphold this requirement may result in termination of the agreement by the City. The City may also exercise its powers to recuperate a portion, or the total value of any grant(s) issued under this Plan from the landowner.

### 3.1.22 Funding Discretion

- 1. At its discretion, Council may determine that certain financial incentive programs of this Plan be discontinued or the value of the grants to be modified.
- 2. The City is not bound to accept any application. The City reserves the right to consider any, none or all of the applications, to accept applications in whole or in part, and to elect not to proceed with this process at any given time.
- 3. Eligibility to programs does not guarantee funding of projects.
- 4. Grants and incentives are subject to budget.

## 4. Implementation

#### 4.1 General

- 1. This Plan is intended to be implemented over a 3-year horizon, with regular review and/or update as informed by the plan monitoring and evaluation framework of this Plan.
- 2. If through consultation with the Plan Administrator it is deemed by Council that this Plan has achieved its objectives, a by-law to dissolve this CIP and Community Improvement Project Area may be passed at any time, in which case a new CIP and Community Improvement Project Area may be enacted by a new by-law.
- 3. Interpretation and administration of this Plan is at the sole discretion of the Plan Administrator, or their delegate, or Council, as the case may be.
- 4. This Plan must be read, interpreted, and administered in its entirety.

### 4.2 Community Improvement Project Area

- 1. Only properties within the designated Community Improvement Project Area shall be deemed to be eligible for the financial incentive programs of this Plan.
- 2. Where a portion of a lot is within the designated Community Improvement Project Area, it shall be interpreted that the entirety of the lot is within the Community Improvement Project Area.
- 3. The Community Improvement Project Area is established separately from this Plan as a by-law of Council. Any modification to the Community Improvement Project Area shall therefore be subject to a new by-law of Council.
- 4. A total of three precincts are identified within the Community Improvement Project Area. Modifying the boundary of a precinct(s) shall only be permitted through an amending bylaw of Council. Further, any change to the availability of a financial incentive program within a precinct shall require and amendment to this Plan.

### 4.3 Plan Administration

- 1. Upon enactment of this Plan, Council shall designate a member of City staff to be the Plan Administrator.
- 2. The Plan Administrator, at their discretion, may identify an alternate Plan Administrator, should the principal plan administrator become unavailable.
- 3. Council shall be the approval authority of applications to financial incentive programs established by this Plan, however they can delegate approval authority to the Plan Administrator.

- 4. The Plan Administrator shall be responsible for ensuring the monitoring and evaluation framework of this Plan is fully implemented over the Plan horizon.
- 5. Applications shall be submitted and processed in accordance with the policies of this Plan. The Plan Administrator shall be responsible for ensuring that the review and decision process is undertaken in a timely manner.

## 4.4 Financial Incentive Program Funding

- 1. Council shall establish an annual budget for this Plan, including for each of the financial incentive programs.
- 2. Council reserves the right to fund all or none of the financial incentive programs under this Plan in any given budgetary year.
- 3. Based on monitoring and evaluation of this Plan, Council may decide that certain financial incentive values need to be modified to ensure that the programs function as intended, and to be responsive to the evolving housing needs of the City.
- 4. An amendment to this Plan shall not be required where Council modifies the value of a financial incentive program under this Plan.

### 4.5 Plan Monitoring and Evaluation

#### 4.5.1 General

- It is recognized that this Plan is a tool to facilitate housing development within the City and will therefore need to respond to evolving market forces, economic conditions, and financial resources to remain relevant. Therefore, Plan monitoring and evaluation is critical to the long-term success of this Plan and the financial incentive programs.
- 2. The Plan Administrator will dedicate the City's available resources to ensure that this Plan is regularly monitored and evaluated in accordance with the policies of this section.
- 3. The overall objectives of the monitoring and evaluation framework of this Plan are to:
  - a. Ensure the financial incentive programs are advancing the objectives of this Plan and achieving their individual intended outcomes.
  - b. Adjust aspects of the financial incentive programs, including their maximum values, as may be identified, or needed to ensure they are best positioned to respond to the evolving housing needs and opportunities of the City.

### 4.5.2 Baseline Conditions

1. Upon enactment of this Plan, the Plan Administrator will collect baseline information regarding key housing data and indicators within the Community Improvement Project Area.

City of Sault Ste. Marie: Draft Housing Community Improvement Plan, August 2024April 2025-

- 2. It is recommended that key housing data and indicators used to prepare the Housing Needs Assessment be initially used for this purpose.
- 4.5.3 On-going Monitoring
  - 1. On-going monitoring of this Plan and the baseline conditions are critical to informing future updates to this Plan or specific financial incentive programs.
  - 2. At a minimum, the following indicators will be monitored by the Plan Administrator:
    - a. The number of new affordable and market rate housing units that have been developed;
    - b. The tenure of new housing units that have been developed;
    - c. The location of new housing units;
    - d. Indicators pertaining to housing unit vacancies or where there is heightened demand;
    - e. Demographic and economic indicators related to the definition of "affordable" or may otherwise have bearing on the value of the financial incentive programs;
    - f. Indicators related to developer and purchaser costs of housing units that have been developed under this Plan;
    - g. The approved/denied value of the grant and the total value of construction (the total public investment versus private investment);
    - h. The projected and actual increase in property assessments and property taxes, as may be applicable; and
    - i. Indirect indicators including economic indicators, qualitative indicators and other indicators which speak more generally to the success of the City, and which may or may not be directly attributed to the influence and success of this Plan.

### 4.5.4 Reporting

- 1. The Plan Administrator shall prepare an annual report detailing the indicators that are being monitored. The annual report should be made publicly available and presented to Council.
- 2. The annual report shall include an assessment of each individual financial incentive program, to ensure that sufficient analysis is included to inform potential updates to specific aspects of each program.
- 3. The annual report shall also make recommendations on potential adjustments to this Plan based on its findings. This may include, for example:
  - a. Adjustments to the annual funding of this Plan;
  - b. Revisions to the CIPA boundary;
  - c. Adjustments to the financial incentive programs, including discontinuation of certain programs in response to funding constraints or low performance, or where otherwise necessary.

City of Sault Ste. Marie: Draft Housing Community Improvement Plan, August 2024 April 2025-|

- d. Modifications to the eligible costs, or eligibility criteria;
- e. Necessary modifications to the plan administration, including the monitoring and evaluation framework.
- 4. The annual report may also include an analysis or review of potential sources of funding for this Plan, and required actions or initiatives that must be undertaken by the City to pursue that funding or otherwise be considered eligible.

## 4.6 Definitions

- 1. "Affordable", "Affordability" or "Affordable Housing" means:
  - a. In the case of <u>ownership housing</u>, a unit would be considered affordable when the purchase price is at or below the lesser of:
    - i. Income-based purchase price: A purchase price that would result in annual accommodation costs equal to 30% of a household's gross annual income for a household at the 60th percentile of the income distribution for all households in the City of Sault Ste. Marie as set out in the Affordable Residential Units bulletin, as identified by the Minister of Municipal Affairs and Housing; and
    - ii. Market-based purchase price: 90% of the average purchase price of a unit of the same unit type in the City of Sault Ste. Marie as set out in the Affordable Residential Units bulletin.
  - b. In the case of <u>rental housing</u>, a unit would be considered affordable when the rent is at or below the lesser of:
    - i. Income-based rent: Rent that is equal to 30% of gross annual household income for a household at the 60th percentile of the income distribution for renter households in the City of Sault Ste. Marie as set out in the Affordable Residential Units bulletin, as identified by the Minister of Municipal Affairs and Housing; and
    - ii. Market-based rent: Average market rent of a unit of the same unit type in the City of Sault Ste. Marie as set out in the Affordable Residential Units bulletin.
- "Affordable Residential Units bulletin" means the bulletin entitled the "Affordable Residential Units for the Purposes of the Development Charges Act, 1997 Bulletin that is published by the Minister of Municipal Affairs and Housing on a website of the Government of Ontario and is amended from time to time.
- 3. "Applicant" means the registered landowner, an authorized agent of a registered landowner, or tenants of lands or buildings with written authorization from the registered landowner.
- 4. "Dwelling Unit" shall have the same meaning as defined in the City's Zoning By-law.

- 5. "Eligible Applicant" means an applicant (as defined above) who meets all general and specific eligibility requirements of this Plan and prepares and applies for a financial incentive program established by this CIP.
- 6. "Eligible Costs" shall have the same meaning as used in subsection 28 (7.1) of the *Planning Act*: "costs related to environmental site assessment, environmental remediation, development, redevelopment, construction and reconstruction of lands and buildings for rehabilitation purposes or for the provision of energy efficient uses, buildings, structures, works, improvements or facilities."
- 7. "Mixed-use" means any combination of two or more category of uses in a single development as permitted by the City's Zoning By-law.
- 8. "Not-for-Profit" means organizations that are, agencies, associations, clubs, or societies that are not charities and are organized and operated exclusively for social welfare or civic improvement, or any other community benefit purpose except profit.
- 9. "Purpose-Built Rental" means housing built specifically for long-term rental accommodation.



The Corporation of the City of Sault Ste. Marie

# COUNCIL REPORT

| April 7, 2025 |                                                     |
|---------------|-----------------------------------------------------|
| TO:           | Mayor Matthew Shoemaker and Members of City Council |
| AUTHOR:       | Virginia McLeod, Manager of Recreation and Culture  |
| DEPARTMENT:   | Community Development and Enterprise Services       |
| RE:           | Renaming of Rosedale Park to Kiwanis Park           |
|               |                                                     |

#### Purpose

The purpose of this report is to request Council approval to rename Rosedale Park to Kiwanis Park.

#### Background

Kiwanis Club of Lakeshore approached the City in 2021 to support enhancing the playground equipment at Rosedale Park. The Kiwanis Club of Lakeshore and its Foundation have worked with community partners, prepared grants, and initiated a fundraising campaign to obtain donations totaling \$280,406 to support new playground infrastructure.

On January 24, 2025, Kiwanis Club of Lakeshore Foundation submitted a request to rename Rosedale Park to Kiwanis Park.

The renaming of parks falls under City Policy D-IV-16, "Naming Facilities Within City-Owned and Operated Parks and Sport Complexes" (attached). In this policy, City Council has delegated authority to the Community Services Department and the Parks and Recreation Advisory Committee to accept submissions and make recommendations to City Council.

City staff, along with the Chair of the Municipal Heritage Committee and the Executive Director of the Sault Ste. Marie Museum, have researched the history of "Rosedale" and found nothing significant other than that it reflected the name given to that subdivision.

#### Analysis

As outlined in Policy D-IV-16, "Naming Facilities Within City-Owned and Operated Parks and Sport Complexes," the Kiwanis Club of Lakeshore Foundation submitted a complete written proposal, including letters of endorsement. The application meets the eligibility criteria and is attached for reference.

The application and research completed regarding the history of Rosedale Park were reviewed and discussed at the February 4, 2025, meeting of the Parks and

Renaming of Rosedale Park to Kiwanis Park April 7, 2025 Page 2.

Recreation Advisory Committee. At that meeting, the following resolution was passed:

Resolved that the Parks and Recreation Advisory Committee recommend to City Council that Rosedale Park be renamed Kiwanis Park.

Kiwanis Club of Lakeshore would like to have the grand opening the week of May 12, 2025.

#### Financial Implications

This is an operational matter. There are no financial implications.

#### Strategic Plan / Policy Impact / Climate Impact

This matter is not specifically identified; however, is linked to the Corporate Strategic Plan Focus Area 4: Service Delivery – Community Partnerships – Build collaborative relationships to enhance service delivery options.

#### Recommendation

It is therefore recommended that Council take the following action:

Resolved that the report of the Manager of Recreation and Culture dated April 7, 2025 concerning the Renaming of Rosedale Park to Kiwanis Park be approved.

Respectfully submitted,

Virginia McLeod Manager of Recreation and Culture 705.759.5311 v.mcleod@cityssm.on.ca



Subject: Naming or Re-naming of Parks and Sports Complexes or Facilities within City-Owned and Operated Parks and Sports Complexes Service Area: Public Works & Transportation - Parks Source: Assistant Manager, Recreation and Culture Date: 2017 11 17

#### **Purpose:**

This policy establishes the process and criteria to be used in naming or re-naming parks and sport complexes or facilities within parks and sports complexes.

## **Authority:**

City Council has delegated authority to the Community Services Department and the Parks and Recreation Advisory Committee to accept submissions and recommend acceptance of requests.

## **Eligibility:**

Submissions must acknowledge a contribution of significance to the community of Sault Ste. Marie by an individual or group.

1. The proposed name, if possible, should have a direct relationship to the particular park or facility.

2. Names should not duplicate identification elsewhere or create confusion for the public.

3. Names of living persons may be used but prior consent of the recognized person is required whenever possible.

4. Names of deceased persons may be used but consent of the family is required whenever possible.

5. The naming of a municipal park or facility should not be permitted in honour of an elected official if the official is currently in office.

6. Corporate names should not be accepted unless a significant financial or other contribution has been made to the City.

7. Naming of facilities after donors shall be permitted as approved by members of Council.

Applications will be accepted from the general public and/or community groups or representatives. Each application will be considered on individual merit.



## **Procedure:**

An individual or group wishing to submit a request must provide a written proposal to the Manager Recreation and Culture, which contains the following minimum information:

- Name of applicant
- Identification of the facility to be named
- Proposed name
- Background information which details the accomplishments and/or reasons to support the naming or re-naming
- A minimum of 3 letters of endorsement supporting the application

Such requests will be forwarded to a committee comprised of Parks & Recreation Advisory Committee Members and City staff.

If a facility is situated on land donated to the City, the original donor or family will be advised when possible.

If a submission is received for the re-naming of an existing park or facility, a historical review of the current name will be conducted prior to recommending approval.

## **Approval:**

Proposals will be recommended to City Council for final approval or declination.

### **Presentation:**

City staff will co-ordinate the public presentation of signage to acknowledge the naming or renaming of a site. Costs associated with the naming or renaming of a park or facility will be the responsibility of the applicant and/or municipality dependent on the circumstance. The City will have final approval for the selection of signage.

The addition of flowers, plant materials and/or ornaments near signage is prohibited.

The responsibility of ongoing maintenance for signage will be determined through agreement between the applicant and the City.



January 20, 2025

The Corporation of the City of Sault Ste. Marie Attention: Parks and Recreation Advisory Committee 99 Foster Drive Sault Ste. Marie, Ontario P6A 5X6

To Park and Recreation Advisory Committee:

Please accept this formal submission to change the name of Rosedale Park to Kiwanis Park, submitted jointly by the Kiwanis Club of Lakeshore Foundation, the Kiwanis Club of Lakeshore, the Kiwanis Club of Sault Ste. Marie, and the Kiwanis Club of North Eastern Ontario.

Background information and accomplishments:

Through a community analysis in 2021, the Kiwanis Club of Lakeshore and its Foundation decided to revitalize Rosedale Park, which was next on the list of the Parks and Recreation Master Plan Update 2020-2025 to revitalize neighborhood parks.

The Kiwanis Club of Lakeshore through its Foundation originally contributed \$80,000 to the City of Sault Ste. Marie for Rosedale Park Revitalization. Since our first meeting with the City of SSM Parks Department, on January 5<sup>th</sup>, 2022, other community partners, and the Kiwanis Club of Sault Ste. Marie, came onboard with additional donations of \$60,000.

It became evident that more funds would be needed to build a comprehensive accessible playground for the neighborhood children and their families. We successfully applied and received a club grant from the Kiwanis International Children's Fund for \$19,406 CAD and the Kiwanis Foundation of Canada for \$10,000. In April 2022, the Kiwanis Clubs started a corporate and individual fundraising campaign that was very successful and an additional \$36,000 was raised and a further contribution of \$75,000 was donated towards the park playground equipment and amenities in August 2022.

In 2023, the Kiwanis Club of Lakeshore Foundation started a second fundraising campaign to cover the cost of the Basketball Court and made a further contribution of \$18,500 toward the park revitalization.

So far, the Kiwanis Clubs in Sault Ste. Marie and various Kiwanis entities have contributed \$184,000 towards Rosedale Park Revitalization.

We are currently considering further investments in high priority city parks to benefit the children of our community for decades. We believe that playing is an essential part of a child's development and critical for the successful growth of both the brain and the body. Playgrounds offer a unique opportunity to support a child's cognitive, emotional, physical and social development.

Our research shows there are over two dozen Kiwanis Parks in Ontario Municipalities where Kiwanis Clubs have made a significant investment in a park, such as Elliot Lake, North Bay, Kitchener, London, and Ridgetown to name a few.

It would be a tremendous honor to acknowledge the impact that Kiwanis Clubs in Sault Ste. Marie have made over many decades to improve the lives of children in Sault Ste. Marie by changing the name to "Kiwanis Park".

Respectfully submitted on behalf of the Kiwanis Clubs,

## Serge F. Viau

Serge F. Viau, Chair Kiwanis Parks Revitalization Committee Kiwanis Club of Lakeshore Foundation, Treasurer

#### THRIVE Child Development Centre Centre de développement de l'enfant

OUR MISSION: THRIVE empowers children & their families to reach beyond what is expected, toward the extraordinary OUR VISION: A future of possibilities

| 74 ave Johnson Avenue, Sault Ste. Marie, ON P6C 2V5 | Tel: 705.759.1131 Toll Free: 1.855.759.1131     |
|-----------------------------------------------------|-------------------------------------------------|
| www.kidsthrive.ca                                   | Fax: 705.759.0783 Toll Free Fax: 1,855.759,0783 |

January 16, 2025

Parks & Recreation Committee City of Sault Ste. Marie 99 Foster Drive Sault Ste. Marie, ON P6A 5XB

Dear Parks & Recreation Committee:

We are writing in support of the Kiwanis Club's application to request a name change from the Rosedale Park to be renamed to "Kiwanis Park".

Not only are we personally aware of all the generous support the Kiwanis service club provides to our community, THRIVE Child Development Centre is also a grateful recipient of the generosity of this club and is proud of the partnership that has been developed. Kiwanis, Sault Ste. Marie offers direct support to our Infant & Child Development Program, by providing a monthly grocery fund that allows our Infant & Child Development consultants to purchase groceries to provide directly to families in need, and to stock our pantry with grocery and household items to have on hand when requests are made, or when a need is known. This fund has helped numerous families in Sault Ste. Marie over the last two years. This is only one small example of the support that is provided to our community by this service club.

Renaming Rosedale Park to Kiwanis Park, would acknowledge and honour the efforts of Kiwanis Sault Ste. Marie and other Kiwanis service clubs in a very meaningful way.

Thank you for your consideration and acceptance of this letter.

Sincerely,

Herderson

Lisa Henderson, CEO THRIVE Child Development Centre

Luna Coletti

Lanna Coletti, Professional Services Manager THRIVE Child Development Centre



T. (705) 759-5530 F. (705) 541-2249 GHC\_TrustFund@ghc.on.ca 65 Willow Ave. Sault Ste. Marie, ON Canada, P6B 5B1

January 16, 2025

The Corporation of the City of Sault Ste. Marie Attention: Parks and Recreation Advisory Committee 99 Foster Drive Sault Ste. Marie, Ontario P6A 5X6

To whom it may concern,

I hope this letter finds you well. I am writing to express my enthusiastic support for the Kiwanis Club of Lakeshore Foundation proposal to rename Rosedale Park to Kiwanis Park. As a local resident, I firmly believe that this change will both honor the contributions of the Kiwanis Club of Lakeshore and enhance the significance of the park as a community space for all.

The Kiwanis Club of Lakeshore Foundation has long been a pillar of service in our community, supporting numerous charitable causes and initiatives that improve the lives of residents, especially youth and families. By renaming the park in honor of the club, we will not only pay tribute to their dedication but also reinforce the values of volunteerism, community spirit, and civic pride that the Kiwanis represent.

As a community, we can recognize and celebrate the extraordinary efforts of the Kiwanis Club of Lakeshore Foundation in a way that is both visible and lasting. The renaming of the park would be a meaningful gesture to ensure their legacy is remembered, while also offering a place for reflection, recreation, and connection for all who visit.

I wholeheartedly support this proposal and encourage the consideration of this renaming as a wonderful way to honor the Kiwanis Club of Lakeshore Foundation's enduring influence on our community.

Sincerely,

Tricia Lesnick

Trust Fund Manager

## VIAU FINANCIAL GROUP INC

January 16, 2025

The Corporation of the City of Sault Ste. Marie Attention: Parks and Recreation Advisory Committee 99 Foster Drive Sault Ste. Marie, Ontario P6A 5X6

To whom it may concern,

I fully and enthusiastically support the Kiwanis Club's application for a request to change the name of Rosedale Park to Kiwanis Park.

As a Platinum Corporate Sponsor of the Kiwanis Rosedale Park Revitalization Campaign, I believe in the vision and investments that the Kiwanis Club of Lakeshore, its Foundation, the Kiwanis Club of Sault Ste. Marie, and other Kiwanis Entities have contributed to benefits the children and families of our community for decades to come.

To approve the park's name change to Kiwanis Park would honor and acknowledge the tremendous contributions the Kiwanis Clubs have made in the past and leave a lasting legacy.

Sincerely,

Serge F. Viau President/CEO Viau Financial group Inc.



John Caruso's Team Automotive Repair Centre Inc. 789 Peoples Road, Sault Ste Marie Phone :705-946-5110 Email: teamauto@shaw.ca



January 14, 2024

City of Sault Ste. Marie Farks and Recreation 99 Foster Drive Sault Ste. Marie, ON P6A 5X6

On behalf of Kiwanis Lakeshore Foundation, I am writing to support the application to rename the Rosedale Park to Rosedale Kiwanis Park.

As a member of Sault Ste. Marie, I recognize the support to our community that this organization gives in many different ways. From several different fundraisers, to Club events, partnering with Staples and The Salvation Army, to buying books for grade schools for their libraries and donating to the Food Banks.

Thank you in advance for approving this application.

Sincerely,

John Caruso Team Automotive



The Corporation of the City of Sault Ste. Marie

### COUNCIL REPORT

| April 7, 2025 |                                                     |
|---------------|-----------------------------------------------------|
| TO:           | Mayor Matthew Shoemaker and Members of City Council |
| AUTHOR:       | Brent Lamming, Deputy CAO Community Development and |
|               | Enterprise Services                                 |
| DEPARTMENT:   | Community Development and Enterprise Services       |
| RE:           | Downtown Business Improvement Area                  |
|               |                                                     |

### Purpose

The purpose of this report is to provide information on how comparable communities are activating, promoting, and marketing their downtown.

### Background

The following resolution was passed at the October 21, 2024 Council meeting:

Whereas the City of Sault Ste. Marie has had a Business Improvement Area known as the Downtown Association (formerly the Queenstown Association) since 1976, a time when Queen Street was the major commercial district within the community; and

Whereas since 1976, commercial activity in the community has become more spread out throughout the community, including the expansion of the mall, redevelopment of the St. Mary's Paper site into the Canal District, and expansion of offerings on Great Northern Road, Northern Avenue and Trunk Road; and

Whereas downtowns have, over the course of several decades, transformed from being solely commercial hearts of communities, to being the social hearts of a community, hosting festivals and events, all while continuing to offer commercial and retail draws; and

Whereas it is prudent to review if the model for downtown marketing and promotion that worked in 1976 continues to be the best model for our Downtown, recognizing that the community's definition of downtown is different than the Downtown Association's geographic boundaries; and

Whereas if Council believes downtown development is a community priority, it should be supported by the community, not just those businesses that front directly on Queen Street between Gore Street and East Street; and Downtown Business Improvement Area April 7, 2025 Page 2.

Whereas dissolution of a Business Improvement Area is an option available to municipalities under the *Municipal Act, 2001*; and

Now Therefore Be It Resolved that staff be requested to investigate how comparable communities are activating, promoting, and marketing their Downtowns, and report to Council on options available to it, either with a recommendation or with options from which Council could choose to best activate, promote and market Sault Ste. Marie's downtown.

The initial By-law 1976-49 defined Queenstown as Queen Street and all the buildings on Queen Street from East Street to Dennis Street. In 1981, after five years of planning, negotiations and consultations, the area boasted new sewers, waterlines and other underground services as well as surface aesthetic improvements. That same year, a full-time staff member was hired, and a Queenstown Association office was officially established. In 1987, Pim Street to East Street was also refurbished (Heritage Square) and it officially became part of Queenstown in January 1988.

A Business Improvement Area (BIA) is essentially a mechanism that encourages businesspeople to join together in a co-operative effort to revitalize and rejuvenate their business district. This BIA designation serves two functions: it allows the municipality to access provincial grant monies for much-needed physical and aesthetic improvements to the downtown and it establishes a framework for an association for the downtown.

There are several services that have traditionally been funded and managed by a BIA. These services include, but are not limited to:

- Seasonal flower installation and maintenance
- Street banner programs
- Christmas lights and decorations
- Holiday parking promotions
- Street speaker system
- Support for street events
- Downtown destination marketing (i.e. social media, eat local passport, etc.)
- Maintenance of municipally owned structures (i.e. arches, waste receptacles, etc.) beyond that provided at the expense of the municipality.

The City is completing a number of traditional BIA services noted here:

- Seasonal flower installation and maintenance PW Parks
- Street banner programs for installation/removal CDES Arenas Division
- Christmas lights and decorations (Downtown street poles, Clergue Park, Downtown Plaza, Civic Centre) – PW. DTA provides lighting strings for installation.
- Downtown Foot Patrols CDES
- Garbage receptacle pickup CDES and PW Parks. Individual containers are picked up regularly by Parks, containers on poles serviced through the Transit (bus stop) maintenance contractor
- Holiday Parking Promotion CDES Parking

Downtown Business Improvement Area April 7, 2025 Page 3.

The Downtown Association has a membership base of approximately 400 members, including 150 building owners and approximately 250 tenants. More information on the BIA can be found here <u>https://www.saultdowntown.com/about</u>.

### Analysis

There are about 300 BIAs in Ontario, made up of commercial and industrial property owners and their non-residential tenants, who join under a volunteer board of management to carry out improvements and promote economic development within their designated area. They are accountable to their respective municipal councils, who levy a fee from each business within a designated area to cover costs. The Ontario Business Improvement Area Association (OBIAA) provides further information about and resources for BIA's at www.obiaa.com.

BIAs are the traditional method of activating and promoting downtown business cores for Ontario municipalities, but there have been a number that have been dissolved in recent years, bringing the responsibility under City umbrellas utilizing City resources to activate and promote downtown areas. Reasons for the dissolution of BIAs include rising operational costs, reduced volunteer involvement, and alternative funding needs. This has driven some municipalities or business groups to re-evaluate the traditional BIA model.

A BIA is formed under section 204 of the *Municipal Act, 2001* (the Act) and is permitted to establish a special charge annually in the form of a property tax levy to raise the amount required for the purposes of the board of management. A board of management is a local board of the municipality for all purposes (subsection 204(2.1)). A board of management submits an annual report and budget, which includes audited financial statements for approval in whole or in part by City Council. Subsections 204(3) and (4) of the Act provide that the composition of a BIA is made up of the board of management and membership. The board of management is composed of one or more directors appointed directly by the municipality, and the additional directors are selected by a vote of the membership of the improvement area and appointed by the City Council. A board of management is a local board of the municipality for all purposes, and as such, its procedures and conduct are guided by City policies for local boards.

Members of an improvement area consist of people who are assessed, on the last returned assessment roll, with respect to rateable property in the area that is in a prescribed business property class and tenants of such property. A City Council has the discretion to review the governance, operations, and mandate of a BIA. Any final recommended changes cannot be more restrictive than the provisions under the Act.

### **Dissolving Business Improvement Areas**

There are two ways provided in the Act that may lead to the dissolution of a BIA. By initiative of the BIA board or those responsible for two-thirds of the taxes levied<sup>1</sup>,

<sup>1</sup>The *Municipal Act* requires one of two actions to occur to advance the dissolution of a BIA and the enabling by-law. Section 210 and 211 requires notice upon receipt of a resolution of the board

Downtown Business Improvement Area April 7, 2025 Page 4.

or by Council initiative. In all cases of dissolution, the assets and liabilities of the board of management for the BIA become the assets and liabilities of the municipality. The methods of dissolving a BIA are described in more detail below:

### 1. Unilateral Dissolution by the Municipality

The Act authorizes the City Council to repeal a by-law establishing a business improvement area without notice and without polling the membership of the BIA. In this scenario, all that is required is the notice provisions of the City's Procedure By-law regarding the inclusion of a motion on a City Council Agenda. Per the *Municipal Act* and regulation thereunder, a majority vote to repeal the BIA enabling by-law would result in the dissolution of the BIA per section 216 and the associated corporation being dissolved per paragraph 1(1)(f) of O.Reg. 582/06.

### 2. Dissolution at the Request of the Board or Membership

A resolution of the board of management requesting dissolution is received by City Council; or a request for dissolution signed by members of the BIA who are responsible for at-least one-third of the taxes levied for the purposes of the general local municipal levy is received by City Council. The provision of notice by the City Clerk in the case of either of the above criteria being met, the City Clerk would circulate notices to the board of management and the membership of the BIA.

City Council must dissolve the BIA if the notice of a by-law to dissolve results in requests for the dissolution being received by the City Clerk representing:

- 50% of the total number of people who are assessed for rateable property in prescribed business property classes located within the BIA; and
- 2. 50% of the taxes levied for the purposes of the general local municipal levy on rateable property in prescribed business property classes located within the BIA.

The City Clerk is empowered to determine whether the above-noted conditions have been met and the determination by the City Clerk is final. As a temporary alternative, City Council may also "pause" the operation of the BIA to allow for a full assessment. Pausing the BIA allows it to resume operations after dormancy and would allow the by-law to be reactivated with greater ease.

Staff have researched how other municipalities provide support for activating, promoting and marketing their downtown. As mentioned above, a few Ontario BIAs have dissolved for various reasons with a few of the municipalities bringing marketing and hosting of events in-house. Since 2021, staff are aware of at least eleven BIA's that have been dissolved, noted in the table below.

or a request by two-thirds of those responsible for the taxes levied. These sections do not apply to a Council initiative to repeal the by-law, see subsection 211(10) of the Act.

### Downtown Business Improvement Area April 7, 2025 Page 5.

| Dissolved BIA's |                                                                                        |                |                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |  |  |  |
|-----------------|----------------------------------------------------------------------------------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|
| Municipality    | Information                                                                            | Date Dissolved | New Structure                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  |  |  |
| Ottawa          | ByWard Market BIA<br>Dissolves - Ottawa                                                | March 2021     | New District Model Run Bythe City:<br>https://lowertownecho.ca/2023/04/20/tides-of-change-are-against-<br>byward-market/                                                                                                                                                                                                                                                                                     |  |  |  |  |  |
| Meaford         | Meaford Dissolves BIA<br>in Favour of "Main<br>Street" Organization                    | December 2022  | Meaford to dissolve BIA in favour of new "Main Street" organization                                                                                                                                                                                                                                                                                                                                          |  |  |  |  |  |
| Brockton        | Brockton Council<br>Dissolves Walkterton<br>BIA                                        | May 2022       | The Municipality will continue to provide support to our business<br>community through the Brockton Economic Development Committee<br>and the Community Development Coordinator, who oversees the<br>municipality's business recognition program, façade grants, Brockton<br>Dollars, visitor services and tourism promotion, and communications<br>about business-related matters and economic development. |  |  |  |  |  |
| Ajax            | Ajax Council Votes to<br>Dissolve Both BIAs                                            | April 6 2022   | KPMG recommended to dissolve the BIAs and for the town to absorb their responsibilities and execute a business engagement strategy.                                                                                                                                                                                                                                                                          |  |  |  |  |  |
| Niagara Falls   | Niagara Falls Seeking<br>Input on if BIA should<br>be reinstated                       | June 2024      | At the June 18th, 2024, City Council meeting, Council approved a motion to create a Downtown Committee.                                                                                                                                                                                                                                                                                                      |  |  |  |  |  |
| South Dundas    | South Dundas Council<br>Dissolves BIA                                                  | June 2024      | With this resolution the municipality absorbs all of the assets and<br>liabilities of the organization which has overseen plaza beautification<br>and various events and promotions since its inception in 1988.                                                                                                                                                                                             |  |  |  |  |  |
| Napanee         | Napanee BIA Dissolved                                                                  | April 2022     | By-Law 2022-0025 passed to Dissolve the Downtown Napanee<br>Business Improvement Area                                                                                                                                                                                                                                                                                                                        |  |  |  |  |  |
| Wawa            | Wawa BIA Dissolved                                                                     | March 2023     | The BIA's remaining funds and other assets like the Christmas lights<br>and BIA banners would transfer to the Municipality if the BIA's<br>dissolved.<br>This comes just shyof a decade after then-Mayor Linda Nowicki<br>pushed to dissolve the BIA due to inactivity, though she withdrew that<br>when the organization elected a new executive and pushed to<br>continue operations.                      |  |  |  |  |  |
| Thunder Bay     | https://www.tbnewswa<br>tch.com/local-<br>news/simpson-street-<br>bia-dissolved-825912 | January 2018   | Thunder Bay city council on Monday night voted to dissolve the south side business improvement area after years of evaporating interest from the neighbourhood's business owners.                                                                                                                                                                                                                            |  |  |  |  |  |
| Oshawa          | https://oshawaexpress.<br>ca/council-officially-<br>disbands-bia/                      | February 2021  | Oshawa City Council voted in favour of officially disbanding the BIA at its most recent council meeting. City assume all BIA responsibilities.                                                                                                                                                                                                                                                               |  |  |  |  |  |
| Walkerton       | Walkerton BIA<br>Dissolves                                                             | May 2022       | ABIAof the Municipality of Brockton                                                                                                                                                                                                                                                                                                                                                                          |  |  |  |  |  |

Northern Municipalities maintaining BIAs are noted in the chart below and one was dissolved in Thunder Bay as noted above.

Downtown Business Improvement Area April 7, 2025 Page 6.

| <sup>City</sup><br>Northern C | BIA<br>Ontario BIAs                  | BIA                                            | Dissolved BIA      |
|-------------------------------|--------------------------------------|------------------------------------------------|--------------------|
| SSM                           | Downtown Association                 |                                                |                    |
| Sudbury                       | Downtown Sudbury                     | <u>Flour Mill Business</u><br>Improvement Area |                    |
| Thunder Bay                   | Waterfront District BIA              | Fort William Business<br>Distrct               | Simpson Street BIA |
| North Bay                     | Downtown North Bay<br>and Waterfront |                                                |                    |
| Timmins                       | Downtown Timmins                     |                                                |                    |

A more detailed example of a municipality dissolving its BIA and bringing promotion and events under its umbrella is the City of Oshawa. Oshawa has an estimated 2024 population of 185,692 and 175,383 as of the 2021 census. Oshawa dissolved its BIA in 2021, with the City assuming its responsibilities. The Oshawa BIA stated, "As the City of Oshawa takes a greater role in the redevelopment of downtown Oshawa, we are confident that it will become even better and more vibrant than ever before."

City staff from Oshawa provided Council with three options on how to move forward without a BIA.

**Option 1.** The City assumes all BIA responsibilities with no formal entity with downtown representation,

**Option 2.** The City assumes all BIA responsibilities and establishes a Downtown Oshawa Advisory Committee.

**Option 3.** Establish a Downtown Action Committee and BIA responsibilities are divided with the city.

In the end, Oshawa Council chose option one. A deciding factor was that the city's assumption of BIA responsibilities still allows downtown businesses, organizations, and individuals an opportunity to approach the city as a delegation for future projects in the downtown area. The dissolution of the BIA meant they no longer oversee the improvement, beautification, and maintenance of the downtown, or promote the downtown as a business and shopping area. Further, there is no longer any downtown representation and additional staff resources in various departments as the City was required to assume these responsibilities.

Some implications include Oshawa taking over all streetscape beautification, including the banner program, holiday wreaths, winter greenery, and holiday lighting. Recreation and culture services were required to take over events and wall murals, as well as to look for sponsorship opportunities. Economic development services have taken over promoting the area as a business or shopping area.

Downtown Business Improvement Area April 7, 2025 Page 7.

Oshawa's Council held a vote, and only 30 of the 500 BIA businesses eligible participated. The majority of the 30 voted in favour of dissolving the BIA. The vote was held in-person at City Hall where businesses/property owners that paid the BIA levy were informed of the vote and the pertinent details and had to attend in person to cast a vote.

Bringing BIA services under the city umbrella in Oshawa had an estimated \$200,000 impact on the tax levy. An advisory board was not set up as part of the recommendation, and no incremental City staff were added. Staff have confirmed that having an Advisory Board with permanent staffing would have been beneficial based on their transition experience. Events held by the BIA were reduced from fifteen to one. The key event maintained was a signature event called "Kars on King," as supported by Oshawa City Council.

In Sault Ste. Marie, approximately \$219,000 is collected annually in the BIA assessment of which \$147,000 goes towards salaries required to deliver events and services.

### Options for Council consideration

- 1. Maintain the current Business Improvement Area (BIA) and Downtown Association (DTA) funded by BIA businesses;
- 2. Dissolve the current DTA and bring all services under the City umbrella;
- 3. Dissolve the current DTA and reallocate activities under the City umbrella with a supporting business advisory committee and some incremental staffing. This approach would be similar to what is in place for Tourism and Economic Development. An Advisory Board with Downtown Business owners would be selected for participation based on a selection process similar to the current committee process.

Option 1 – Maintain the current delivery model using the DTA to support the BIA.

Pros

- Maintains the current business levy of approximately \$219,000 for annual program delivery;
- Opportunity to improve communication by implementing quarterly meetings between DTA and City staff;
- Maintains opportunity for grant funding that the City would not be eligible for (approximately \$5,000 annually);
- Avoids risk of moving away from an established, traditional delivery model.

Cons

- The DTA could be challenged to maintain talent long-term based on historical turnover in positions;
- Limited staff resources for delivery with a smaller team;
- Reliant on City staff for support where activities are now being completed by City forces;
  - Downtown foot patrols;
  - Banner installation and removal;
  - Flowerbed maintenance;

Downtown Business Improvement Area April 7, 2025 Page 8.

• Christmas lights and decorations.

Option 2 – Dissolve the current DTA and bring all services under the City umbrella.

Pros

- Maintain a full-time employee and part-time hours for dedicated downtown program delivery reporting to the Downtown Plaza Supervisor, thus saving local businesses to fund the current positions;
- Improved efficiency using City support service areas such as Accounting, Finance, Legal and Information Technology;
- Opportunity to improve events with additional City resources;
- Save on operating expenses by using City facilities to house staffing (e.g., rent paid by DTA);
- Service the entire downtown core beyond current BIA boundaries;
- Key Performance Indicators and metrics can be implemented for tracking, consistent with other City departments;
- An annual report can still be provided to Council to highlight success and challenges;
- Downtown businesses currently paying the assessment will no longer have to pay, allowing them to use the funds within their respective businesses.

Cons

- The current pool of BIA assessed funds, which is collected from members in the amount of approximately \$219,000, would be forgone. Any remaining levy would be transferred for program activation in the final year;
- Perception of the downtown business members losing their voice;
- Some services could be impacted, such as snow removal for business entrances;
- Future Councils could cut City budgets, leaving downtown businesses at risk of no formal downtown support activities

Option 3 – Dissolve the current DTA and reallocate under the City umbrella with a supporting Business Advisory Committee.

Pros

• The same as Option 2 but also allows for an ongoing voice from business owners with active participation on the advisory committee.

Cons

• The same as Option 2 and requires additional resources to organize, coordinate, and administer the Business Advisory Committee

An alternative option is a hybrid solution that would see the City cover a portion of the BIA budget, which would have the effect of decreasing the special levy on the downtown businesses (details on how this is implemented would need to be worked out). This is present in both of Thunder Bay's BIAs (Victoria Avenue BIA and Waterfront District BIA). Under this model, the City of Thunder Bay provides funding for half of the financial requirements for each BIA. As per the proposed Downtown Business Improvement Area April 7, 2025 Page 9.

2025 Operating budget, the City of Thunder Bay's share will be \$60,000 for the Victoria Avenue BIA and \$117,000 for the Waterfront District BIA. There is one fulltime employee for each Thunder Bay BIA with one additional part-time employee for the Waterfront District BIA in comparison to Sault Ste. Marie's BIA has two fulltime employees and one part-time employee.

https://www.thewaterfrontdistrict.ca/

https://fortwilliambusinessdistrict.com/

Should Council decide to proceed with option two or three the recommended implementation date would be January 1, 2026, with costs being referred to the 2026 Budget.

### Financial Implications

There is not an immediate impact on the operating budget.

The City adds the Downtown levy to the final billing for each property based on their percentage of commercial assessment to the total commercial assessment of the BIA. The percentage is multiplied by the approved Downtown budget and is added to the final bills. The City collects the assessments and remits quarterly to the BIA based on the approved budget. The final quarter adjusts for write-offs that occurred during the year. The City calculates the assessment for each property for the BIA as the BIA does not have the resources to do this.

The amount collected is the net of the assessments, less the assessments writeoffs, and rebates. If there are any reductions in the assessment or application for rebate programs, the Downtown levy is adjusted as well. The 2024 amount is \$212,306.

The Downtown levy is an additional levy added to the properties within the BIA boundaries. If the Downtown Association is dissolved, the additional levy for the BIA would be eliminated, resulting in a reduction of the annual property taxes for the members. Assessments would not change from DTA elimination.

If the City takes on the responsibilities of the BIA, the City will no longer have that additional levy and expenses for downtown activation and programming will be placed on the entire tax base.

Should Council direct staff to bring the BIA in-house, the budget will be further refined and added to the 2026 operating budget.

### Strategic Plan / Policy Impact / Climate Impact

This request supports community development promoting economic activity in supporting the growth of a diversified economy. Namely, ensuring the City is attracting new businesses while supporting existing entrepreneurs and promoting business to increase tourism visitor spending.

• Under Quality of Life, ensuring that there is a Vibrant Downtown by creating a hub of activity and excitement through shops, events, promotion and amenities.

Downtown Business Improvement Area April 7, 2025 Page 10.

- Increase participation and grow the number of events in the downtown area year-over-year;
- Increase assessment value and growth rate in the Downtown.
- Fiscal responsibility, managing municipal finances in a responsible and prudent manner.
- Under Well Being, taking a collaborative approach towards a healthy and safe community.

### Recommendation

It is therefore recommended that Council take the following action:

Resolved that the report of the Deputy CAO, Community Development and Enterprise Services dated April 7, 2025 concerning Downtown Business Improvement Area Review be received and that implementation of option \_\_\_\_\_\_ be approved.

Respectfully submitted,

Brent Lamming, PFP, CPA, CMA Deputy CAO Community Development & Enterprise Services (705)759-5314 <u>b.lamming@cityssm.on.ca</u>



The Corporation of the City of Sault Ste. Marie

### COUNCIL REPORT

| April 7, 2025 |                                                     |
|---------------|-----------------------------------------------------|
| TO:           | Mayor Matthew Shoemaker and Members of City Council |
| AUTHOR:       | Shelley J Schell, CPA CA, Chief Financial Officer & |
|               | Treasurer                                           |
| DEPARTMENT:   | Corporate Services                                  |
| RE:           | 2025 Queenstown Board of Management Budget and 2024 |
|               | Audit Report                                        |
|               |                                                     |

### Purpose

The purpose of this report is to obtain Council approval of the Queenstown Board of Management (O/A The Downtown Association) 2025 budget. The audited financial statements for 2024 and the annual report are provided for information.

### Background

The Downtown Association Board of Directors approved the 2025 operating budget at the February 19, 2025 Annual General Meeting. As per the *Municipal Act*, section 205(2), the budget is to be submitted to the municipality, which may approve it in whole or in part but may not add expenditures to it.

#### Analysis

The Downtown Association annual budget may be found on page 10 of the attached 2024 Annual Report.

#### **Financial Implications**

The 2025 budget estimates of the Downtown Association are not part of the City budget estimates. A special levy is added for collection purposes to the tax bills of the properties within the Downtown Association's boundaries.

### Strategic Plan / Policy Impact / Climate Impact

This is an operational matted not articulated in the strategic plan.

#### Recommendation

It is therefore recommended that Council take the following action:

Resolved that the report of the Chief Financial Officer and Treasurer dated April 7, 2025 concerning the Queenstown Board of Management (O/A The Downtown Association) 2024 audited financial statements and annual report be received as information and that the Downtown Association budget for the year 2025 be approved.

2025 Queenstown Board of Management Budget and 2024 Audit Report April 7, 2025 Page 2.

Respectfully submitted,

Shelley J Schell. CPA CA Chief Financial Officer/Treasurer 705.759.5355 <u>s.schell@cityssm.on.ca</u>

# SAULT DOWNTOWN - ASSOCIATION -

# 2024 Annual Report

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## SAULT DOWNTOWN ASSOCIATION

### MISSION STATEMENT

The Sault Ste. Marie Downtown Association will deliver value to its membership, be a catalyst for, and support, them in creating a self-empowered downtown that thrives through the activation of its spaces, places and people.

### BOARD OF DIRECTORS

Nicholas Rosset, Chair, Safety & Security Subcommittee Chair

Paul Scornaienchi, Vice-Chair, Governance and Plaza Subcommittees Chair

Kristi Cistaro, Treasurer, Finance Subcommittee Chair

Angela Caputo, Director, City Council Representative

Angela Romano, Director, Communications Subcommittee Chair

Jacob Rendell, Director, Grants Subcommittee Chair

Marnie Stone, Director, Parking Subcommittee Chair

Micheal McAdams, Director, Events Subcommittee Chair

Tamar Tucker, Director, Beautification Subcommittee Chair

### <u>STAFF</u>

Nicholas Luck, Executive Director

Ashton Carter, Coordinator

Micheal Vincent, Beautification Associate

# **MANDATE 1976**

### for the following objects, this is to say:

- TO foster and advance the interests of those who are engaged in or who are directly or indirectly connected with industrial, commercial, financial and professional undertakings and endeavours in the central commercial business area of the said City of Sault Ste. Marie; pertaining to or affecting their business or professional undertakings and endeavours in the central business area of the said City of Sault Ste. Marie;
- TO represent the members of the Corporation in any matters pertaining to or affecting their business or professional undertakings and endeavours in the central commercial business area of the said City of Sault Ste. Marie;
- TO support, oppose or promote, as the case may be, any contemplated legislation by provincial, municipal or other authorities insofar as the same may affect the central business community of the said City of Sault Ste. Marie;
- TO endeavour to achieve a closer relationship and a better understanding among the members of the central business community of the said City of Sault Ste. Marie;
- TO gather statistics of commercial, industrial, financial and professional businesses in other matters calculated to be of use and assistance to the members of the Corporation;
- TO endeavour to settle differences among its members and promote good relations and a closer understanding between the members and the community;
- TO co-operate with other organizations, whether incorporated or not, which have objects similar in whole or in part to the objects of the Corporation; and
- Subject to The Mortmain and Charitable Uses Act and The Charitable Gift Act, to collect moneys by way of donations or otherwise, to accept gifts, legacies, devices and bequests and to hold, invest, expend or deal with the same for charitable or patriotic purposes or generally the furtherance of the objects of the Corporation;

# **MUNICIPAL COUNCIL**





2024 was a challenging, but exciting year to be a part of Sault Ste. Marie's downtown. Council approved the Downtown Revitalization Project for Brock to Elgin St. The Downtown Plaza has been a wonderful addition to the downtown and I am very proud of the turnout for the 1st Annual New Year's Eve Puck Drop, which saw over 3000 attendees. It was wonderful for me to see this motion come to life both as a member of Council and SDA Board member. I have also proposed a Downtown Food Truck Park and am awaiting staff's report on that. I am proud to continue to support the development of the downtown by bringing new ideas forward and bolstering support for events.

### Ward 3 Councillor, Angela Caputo

# **CHAIR REPORT**

Dear Members, Stakeholders, and Community Partners,

It is with great pride that I present the 2024 Annual Chair's Report for the Sault Downtown Association BIA. This past year has been one of modernization, resilience, and community-driven progress. As we continue to navigate an ever-changing economic and social landscape, our commitment to enhancing and promoting our downtown remains steadfast.

Throughout the year, we have prioritized initiatives aimed at supporting local businesses and driving economic activity. Our efforts have included business retention and attraction programs, marketing campaigns, and collaborations with local entrepreneurs. The SDA facilitated information events, workshops, and training sessions, ensuring that our members have the tools and knowledge needed to thrive in our Downtown. In an effort to strengthen our advertising and marketing efforts the SDA undertook a rebranding process that yielded a fresh new look. We look forward to a strong impact getting our messaging out to the community.

Resurfacing of part of Queen Street had a major impact on our membership this year. Our staff worked diligently to coordinate and implement assistance for our membership. We also promoted and advocated for our members through this challenging time. In 2024, we invested in various beautification projects, including seasonal decorations, improved lighting, and enhanced public spaces. Our street-cleaning and graffiti removal programs ensured that downtown remained a clean and inviting environment for all.

Bringing people together is at the heart of what we do. Over the past year, we hosted and supported numerous events, including festivals, parties, markets, and holiday celebrations. These events not only contributed to community spirit but also provided a boost to local businesses by increasing foot traffic and visibility.

As we move into 2025, our focus will be on expanding our support for our membership, we are planning to boost our program to fill vacant buildings; further improving the downtown streetscape with decorating initiatives to unify and beautify the area; and strengthening our advocacy efforts. Results from the BR&E study will help drive future strategies and our overall direction.

I would like to extend my heartfelt gratitude to our Board of Directors, dedicated staff, volunteers, and community partners for their support and hard work. Your passion and commitment are what make the Sault Downtown Association a success.

Sincerely, Nicholas Rosset Chair, Sault Downtown Association

# **EXECUTIVE REPORT**

This year we continued to be your voice. We forwarded your concerns of the impacts of the Queen Street construction to project management every step of the way, we organized a townhall in regards to changes to parking and compiled recommendations based on your direct feedback to officials, we met with the Minister of Small Business and brought forward your concerns and needs to the national level.

Main Street is the place to do business! We had 16 new Members open up on Queen Street this year complimenting the existing business mix and providing more options for visitors and residents to choose to shop local and to shop downtown. Our organization actively supports new and existing businesses to access all the supports available to help sustain and grow their operations. In partnership with the Community Development Corporation and the Chamber of Commerce we have been undergoing a Business Retention & Expansion project to identify both the short term and long term needs for SMEs here in Downtown and the wider community.

This year we hosted 14 events/festivals and supported more than 25 events in the downtown and wider community. These events included our block parties, Halloween on Queen, Greyhound Tailgate Parties, Courtyard Concerts, Clean Ups, The Longest Garage Sale, Poutine Feast, Vivid Art Festival, and Moonlight Magic events. On our Downtown events calendar we saw hundreds of events listed in the core.

Our Beautification Team was hard at work keeping Queen Street tidy. In 2024, we removed thousands of pounds of litter off the streets and parking lots through our operations and clean up events. We responded to over 60 individual Member dispatches for clean up including sand and snow removal, landscaping, and graffiti removal.

Day-to-day we strive to bring improvements to the public realm in Downtown to make the core vibrant and centred in place. With our partners, we delivered three new large scale murals during Vivid Art Festival, installed street lighting with our Light Queen Street for the Holidays initiative, and will bring forward more projects for enhancing the public realm in 2025.

We will continue to serve you through our ongoing and new initiatives, bolster our advertising and marketing, carve new strategic partnerships to improve our main street and main streets across Northern Ontario, direct more housing density in the core through development and redevelopment, and improve our service capacity to strengthen Sault Ste. Marie's downtown. Thank you for your investment in the Sault Downtown Association and we are so excited to support you in 2025.

Nicholas Luck Executive Director

# **2024 AGM MINUTES**

March 20, 2024 / 6:00 PM / The Grand Theatre

Board Members: Nicholas Rosset, Chair; Paul Scornaienchi, Vice-chair; Kristi Cistaro, Treasurer; Angela Romano, Director; Jacob Rendell, Director.

Staff: Nicholas Luck, Executive Director; Ashton Carter, Coordinator; Micheal Vincent, Beautification Associate.

Attendees: Maggie McAuley, City of Sault Ste. Marie; Darrel Maahs, AECOM; Salvatore Marchese, City of Sault Ste. Marie; Katie Marchese, Sault Community Career Centre; Rick Talvitie, AECOM; Tamar Tucker, Tamar's Trends; James Wishon, Camera Craft; Lisa Bruni, His Hers Home; Jennifer Johnson, iCA Immigration; Trish Mitchel, Venue; Aaron Craig, The Queen's Tarts; Joshua Ingram, Tourism Sault Ste. Marie; Tessa Vecchio, City of Sault Ste. Marie; Gail Maich, Silver Threads; Tom Vair, City of Sault Ste. Marie; Robert Peace, Rolling Pictures; Krista Nolan, Mane Street Cafe & Lounge; Jon Young, Mane Street Cafe & Lounge; Mel Taylor, Rad Zone; Marissa Fragomeni, Life's a Stitch; Heather McClelland, Vision & Optical Boutique; Joby McClelland, Vision Optical & Boutique; Wanda Maki, The Grand Theatre; David Helwig, SooToday; Tracy Theriault, Duke of Windsor.

Regrets: Angela Caputo, City Council Representative; Stephanie Harman, Director; Michael McAdams, Director.

Call Meeting to Order: 6:12 PM

Approval of the 2024 AGM Agenda

Moved by James Wishon; Seconded by Jake Rendell. AIFNO.

Approval of the 2023 AGM Minutes

Moved by James Wishon; Seconded by Paul Scornaienchi. AIFNO.

Chair Report/Executive Report

• Nicholas Rosset presented the Chair Report.

Presentation of the 2023 Audited Financials

• Eric Pino presented the Downtown Association 2023 audited financials.

# **2024 AGM MINUTES**

Approval of the 2023 Audited Financials ● Moved by Kristi Cistaro; Seconded by Jake Rendell. AIFNO.

Presentation of the Proposed 2024 Budget ● Kristi Cistaro presented the 2024 Budget as written.

Approval of the Proposed 2024 Budget ● Moved by Robert Peace; Seconded by Kristi Cistaro. AIFNO.

Presentation of the 2024 Summer Moon Festival Update ● Josh Ingram presented the 2024 Summer Moon Festival Update as written.

Presentation of the Queen Street Improvements Phase 1 Maggie McAuley presented the Queen Street Improvements Phase 1 as written, followed by Darrel Maahs presenting the Queen Street Improvements Phase 1 as written, followed by Tessa Vecchio presenting the Queen Street Improvements Phase 1 as written.

Adjournment

• Moved by Kristi Cistaro; Seconded by Paul Scornaienchi. AIFNO.

Meeting adjourned.

# **2025 BUDGET**

### BOARD OF MANAGEMENT OF QUEENSTOWN, THE SAULT STE. MARIE CENTRAL BUSINESS DISTRICT IMPROVEMENT AREA

#### Statement of Financial Activities and Accumulated Surplus 2025 Budget, with Comparative Information for Year ended December 31, 2024

|                                         | 202 | 4 BUDGET | 202 | 4 ACTUAL | 202 | 2025 BUDGET |  |
|-----------------------------------------|-----|----------|-----|----------|-----|-------------|--|
| Revenue:                                |     |          |     |          |     |             |  |
| Assessments                             | \$  | 218,847  | \$  | 218,847  | \$  | 218,847     |  |
| Grants & Other                          |     | 9,922    |     | 16,630   |     | 61,476      |  |
| Events                                  |     | 73,600   |     | 53,511   |     | 78,600      |  |
| Digital Main Street                     |     | 12,310   |     | 12,310   |     | -           |  |
| Rental Income                           |     | 300      |     | 8,407    |     | 300         |  |
| Interest                                |     | 1,791    |     | 1,741    |     | 1,791       |  |
| TOTAL REVENUE                           | \$  | 316,770  | \$  | 311,446  | \$  | 361,014     |  |
| Expenses:                               |     |          |     |          |     |             |  |
| Events & Activities                     |     | 88,377   |     | 71,539   |     | 82,511      |  |
| Wages & Benefits                        |     | 149,054  |     | 147,096  |     | 206,891     |  |
| Digital Main Street                     |     | 12,310   |     | 10,452   |     | -           |  |
| Rent                                    |     | 21,712   |     | 22,063   |     | 22,063      |  |
| Office                                  |     | 6,232    |     | 9,586    |     | 7,850       |  |
| Professional Fees                       |     | 5,300    |     | 8,260    |     | 5,700       |  |
| Meetings & Seminars                     |     | 2,775    |     | 3,439    |     | 3,775       |  |
| On Street Costs                         |     | 4,350    |     | 1,377    |     | 12,300      |  |
| Assessments written-off and rebates     |     | 6,541    |     | 9,711    |     | 7,000       |  |
| Amortization of Tangible Capital Assets |     | 3,000    |     | 3,869    |     | 3,000       |  |
| Insurance                               |     | 2,868    |     | 2,524    |     | 2,524       |  |
| Telephone and Internet                  |     | 2,000    |     | 1,937    |     | 2,000       |  |
| Promotion & Marketing                   |     | 12,500   |     | 12,719   |     | 4,850       |  |
| Miscellaneous                           |     | 470      |     | 1,135    |     | 550         |  |
| TOTAL EXPENSES                          |     | 317,489  |     | 305,707  |     | 361,014     |  |
| Annual (deficit) Surplus                |     | 719      |     | 5,739    |     | C           |  |
| Funds Pulled from Reserve               |     |          |     |          | ļ   |             |  |
| Accumulated Surplus, Beginning of Year  |     | 150,468  |     | 150,468  | Ì   | 156,207     |  |
| Accumulated Surplus, End of Year        |     | 149,749  | \$  | 156,207  | \$  | 156,207     |  |

# BEAUTIFICATION

### **BEAUTIFICATION SUBCOMMITTEE**

Keeping downtown tidy and beautiful is strategically important for promoting the area. Actively responding to litter, graffiti, sweeping, snow clearing, and maintaining public and private property is crucial in this pursuit.

### Operations

Our Beautification Team was hard at work keeping Queen Street tidy. In 2024, we removed thousands of pounds of litter off the streets and parking lots. We responded to over 60 individual Member dispatches for clean up including sand and snow removal, landscaping, and graffiti removal. We also conducted walkabouts with the subcommittee to identify issues, compiled reports, and responded to those issues.

### Light Queen Street for the Holidays

Through our generous funders, Community Development Corporation and the PUC, we were able to source holiday lights and install them along Queen Street for the winter season of 2025. We will continue this initiative moving forward to beautify and keep Queen Street bright during the darkest months of the year.

### Public Art/Vivid Art Festival

Since the launch of the Community Art Project (CAP), with our partners, we have realized 22 murals in the Downtown Area. 12 of those murals are in the BIA. The CAP expanded into a wider community arts and culture festival now known as Vivid Art Festival. For CAP in 2025, we are planning to continue hosting the arts and culture festival in September again and will be actively reach out to Members who wish to engage and participate in the festival.



### BEAUTIFICATION

### **Downtown Cleanups**

In 2024, we hosted two downtown clean ups to remove litter from sidewalks, streets, and parking lots in the BIA. In 2025 we are planning to organize three clean ups and support a Clean North clean up in the downtown. Thank you to all those who volunteered their time to tidy up the downtown including those from the Algoma East Masons, Your Neighbourhood Credit Union, Clean North volunteer members, and community members.



### 2025

This year we plan on engaging in a number of beautification projects including public realm infrastructure improvements. We will be studying public spaces such as the King St. Alleyway and the Queenstown Commons for opportunities to enrich these spaces and make them safer. We will be engaging with neighbours to identify issues and gather ideas to create a improvement plan. We are also pursuing installing cigarette waste receptacles on street lamps throughout the membership to reduce litter from sidewalks and our waterways.



# COMMUNICATIONS

### COMMUNICATIONS SUBCOMMITTEE

Communications are vital for keeping the Membership and our stakeholders updated and informed on the happenings and opportunities in downtown. In 2024 we engaged with the Membership and following actively with monthly newsletters, mailouts, weekly events announcements, social media outreach, and physical outreach.

In 2024 we continued supporting our membership with active communications and marketing initiatives. This includes monthly newsletters, a downtown jingle, blog features, daily social media activity, announcements, construction updates, advertising, etc.

### 2024 Key Performance Indicators:

### EMAIL:

- 53 email campaigns.
- Open rate: 47.5% compared to national average for NPOs of 26.6%.
- Click rate: 3.2% compared to national average for NPOs of 2.7%.

### ADVERTISING:

- 10 boosted social media campaigns.
- Ad Media Solution QR codes linking to Sault Downtown website explore page in all hotel rooms including Holiday Inn Express, Comfort Inn & Suites, Days Inn, and the Sleep Inn. Projecting 47,000+ engagements in 2025.
- Weekly events calendar ads and monthly real estate listings ads.
- 2 Billboards.
- SooNow distributed twice to 120 locations.
- 2 radio advertising campaigns.
- 8 SooToday advertising campaigns.

### SOCIAL MEDIA:

- 172 Instagram posts.
- 200 Facebook posts.
- 1881 Stories published.
- Facebook Followers: 4204.
- Instagram followers: 3539.
- X followers: 2202.
- Combined following: 9945.

### COMMUNICATIONS

### WEBSITE

- 26K visitors +5% compared to 2023.
- 22K unique visitors +7% compared to 2023.
- 40K page views.

### SOURCE OF WEBSITE VISITS

- 15.5K Google.
- 5.8K Direct.
- 2.5K Facebook.
- 511 Bing.
- 1.2K Other.

### **TOP 3 PAGES**

- 12.9K Events Calendar.
- 4.6K Home.
- 1.9K Commercial Space for Rent/Lease.

### 2025

This year we will be hiring a full-time social media and marketing intern to focus entirely on marketing and advertising the downtown. The Marketing and Social Media Intern will be responsible for the execution and implementation of new and ongoing marketing initiatives. This includes social media communications, advertising campaigns, monthly newsletters, content creation, website updates, and managing relationships with SDA members and partners.

We will also direct our efforts to connecting with tourism partners and popular destinations to reach new audiences as well as exploring new advertising opportunities to drive more visitors to the downtown.



## **BR+E**

As part of our ongoing efforts to support and strengthen the local business community, we are excited to invite you to participate in an important initiative focused on downtown **business retention and expansion** in partnership with the <u>Sault Ste. Marie Community Development Corporation</u> and the <u>Sault Ste. Marie Chamber of Commerce</u>.

Our program is modeled after the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) **Business Retention and Expansion (BR+E) program**, which has successfully helped many communities across Ontario. The BR+E program is designed to engage local businesses in identifying opportunities and challenges within their communities and industries, ultimately helping to ensure the continued growth and success of our downtown core.

### Why Participate?

By taking part in this initiative, you will have the opportunity to:

- Share your insights about your business experience and challenges in the downtown area.
- Provide valuable feedback to help guide local economic development efforts.
- Connect with other business owners and collaborate on strategies for business expansion and sustainability.
- Access resources and tools to help improve your business operations and enhance your long-term success.

Our goal is to work collaboratively with businesses like yours to ensure that downtown remains a thriving, vibrant place for both current and future generations. Your participation will play a key role in shaping the future of our local business landscape.



### BR+E

### **How It Works**

Participating businesses will be asked to complete a confidential survey that covers a variety of topics such as:

- Current business challenges and opportunities.
- Infrastructure and service needs.
- Workforce and skills development.
- Ideas for improving the downtown business environment.

Following the survey, there will be follow-up consultations to discuss key findings and help develop tailored action plans to address specific needs.

We are confident that your input will have a positive impact on both your business and the broader downtown community.

### Next Steps

### If you are interested in participating, please fill select a time and date in the calendar below.

If you have any questions regarding the BR+E Project, please reach out to <u>info@saultdowntown.com</u> or call 705-942-2919.

Thank you for your continued commitment to the success of downtown Sault Ste. Marie. We look forward to collaborating with you to create a stronger, more resilient downtown business community.

### www.saultdowntown.com/downtownssmbrebooking



## **EVENTS**

### **EVENTS SUBCOMMITTEE SUMMARY**

Events and activities are vital for promoting the Downtown as a place to enjoy, a trip enhancer for visitors to the Sault, and create a sense of place and community pride in the Downtown. Events bring people together, foster an ecosystem for cooperation and collaboration as well as create third spaces for people to congregate in the heart of the city to shop and support our community.

This year we hosted 14 events/festivals (15,000+ attendees) and supported more than 25 events in the downtown and wider community. These events included our block parties, Halloween on Queen, Greyhound Tailgate Parties, Courtyard Concerts, Clean Ups, The Longest Garage Sale, Poutine Feast, Vivid Art Festival, and Moonlight Magic events. On our Downtown events calendar we saw hundreds of events listed in the core.

At our Annual General Meeting we will be presenting our 2025 events calendar. To ensure your input was included, we distributed an online survey, a phone survey, a webinar, and an in-person open house to collect as much input as possible to steer the direction of the events in 2025. We are also seeking to align closely with Downtown Plaza events to maximize reach and visitor traffic to festivals and events hosted in the core.



### **EVENTS**

# 2025 Downtown Events Calendar

| <b>April 19</b><br>Downtown<br>Cleanup Event<br>Queen St. East<br>(Pim - Dennis)                            | May 9<br>Downtown<br>Cleanup Event<br>Queen St. East<br>(Pim - Dennis)                       | May 17<br>Longest Garage<br>Sale<br>Queen St. East<br>(Pim - Dennis)                     | <b>June 14</b><br>Festival of Beer<br>Sault Downtown<br>Plaza<br>SDA Kids Zone            |
|-------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| <b>June 20 - 21</b><br>Queen St. Cruise<br>Location & Road<br>Closure TBD                                   | <b>June 27 - July 1</b><br>Poutine Feast<br>Sault Downtown<br>Plaza                          | <b>June 30</b><br>SDA Street Party<br>Queen Street East<br>(Pim - Spring)<br>Road Closed | <b>July 6 - 7</b><br>Giovanni's<br>Italian Festival<br>(date may change)<br>R.B. Pavilion |
| <b>Jul<u>y</u> 17 - 19</b><br>Rotary Fest<br>SDA Block Party<br>Square One (East -<br>Brock)<br>Road Closed | <b>August 7</b><br>SDA Street Party<br>Queen Street East<br>(Spring - Dennis)<br>Road Closed | <b>August 13 - 17</b><br>Fringe North Fest<br>Location TBD                               | September 19-21<br>VIVIDArt Fest<br>Location TBD                                          |
| <b>September - TBA</b><br>Greyhounds<br>Season Opener<br>Square Six (Bruce<br>-Dennis)<br>Road Closed       | October 18<br>Downtown<br>Cleanup Event<br>Queen St. East<br>(Pim - Dennis)                  | October 25<br>Halloween<br>on Queen<br>Queen St.<br>(Pim - Dennis)                       | <b>November 20</b><br>Moonlight Magic<br>Queen St.<br>(Pim - Dennis)<br>Road Closed       |

December 31 NYE Downtown Puck Drop Sault Downtown Plaza

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### **EVENTS**

Beyond DTA organized events, the downtown area (Pim Street to Huron Street-Wellington Street to the water) saw another surge in activity this year. We will continue to support and promote events held in the downtown. We will also strive to make organizing events easier for businesses, organizations, community groups, etc. to enable more activations in the core and to empower the Membership and others to execute exciting new events.

We would like to thank our generous sponsors for our events season including:

TENARIS SOOTODAY COMMUNITY DEVELOPMENT CORPORATION ONTARIO LOTTERY AND GAMING PUBLIC UTILITIES CORPORATION TOURISM SSM LILLIE FINANCIAL ALGOMA UNIVERSITY WINDSOR PLACE RETIREMENT RESIDENCE



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# GOVERNANCE

### **GOVERNANCE SUBCOMMITTEE**

The Downtown Association board is a board of governance. It sets out policy for management and delegates the responsibility for implementation of the policy to an executive director. Board governance responsibility is typically to advise and support the board in the areas such as legal and regulatory changes, financial and strategic reporting, environmental impact assessment and reporting.

This year in 2024 included the following governance items:

- Increased inclusiveness and implementation of land acknowledgements.
- Friendly reminders to board of directors with code of conduct during meetings with protocols and perceived conflict of interest.
- Update the memorandum of understanding with the City of Sault Ste. Marie for best practice protocols, financial accountability, insurance and indemnification, services and beautification.
- Review possibility of duplicating the memorandum of understanding with the City of Sault Ste. Marie and extending to the Public Utilities Commission.
- New memorandum of understanding with the City of Sault Ste. Marie for "Community Art Project (Vivid Art Festival 2024)."
- New memorandum of understanding with Algoma Maker's Market for events.
- In progress with the OBIAA (Ontario BIA Association) review of the *Municipal Act Consultation Report* and recommendations for positive change for BIAs.
- In progress with the review of AWIC report Bringing your Governing Documents in Line with Ontario's Not-for-Profit Corporations Act.

# **QUEEN ST. IMPROVEMENTS**

The Queen Street Improvements Phase 1 project was awarded in late April 2024. The scope of the work extended from Elgin Street to Brock Street and included:

- New asphalt, curbs, concrete sidewalks, and paving stone boulevards areas
- Full reconstruction of underground pipes between Elgin Street and March Street
- Upgrades to storm sewer system including installation of new catch basins throughout.
- Improvements to watermain valves and hydrants
- New planters, soil cells and tree grates

Work progressed steadily throughout the season until winter conditions required a temporary pause. As soon weather allows, the Contractor will return to complete the paving stone boulevards and planters between Brock Street and Spring Street, as well as between March Street and Elgin Street. Additional finishing touches this spring will include the installation of benches, bike racks and signage. Also, with the receipt of NOHFC funding, the project will be extended to bring these same improvements from Brock Street to East Street which will continue when conditions allow in the spring.

We understand that construction can be disruptive, and we sincerely appreciate your patience. During Phase 1, the Contractor worked hard to keep traffic flowing, minimizing road closures, and maintaining pedestrian access throughout the site. During this next phase, we remain committed to keeping businesses, residents and the Downtown Association informed as we move forward.

AECOM will continue with sending weekly email updates about construction activities, including any impacts caused by the ongoing work. If you haven't already done so, you can provide your contact information to stay informed.

Thank you for your ongoing support. We look forward to delivering a revitalized Queen Street that benefits the entire community.

### Maggie McAuley, Engineering Division, City of Sault Ste. Marie

# PARKING

### PARKING SUBCOMMITTEE SUMMARY

This subcommittee is dedicated to overseeing the parking inventory in the BIA and the liaison with city departments, property owners, and the public related to parking enforcement and management.

This year, the subcommittee brought forward new initiatives and reforms to parking in the downtown. Initiatives included:

- 1. Parking Town Hall was organized in response to a city council approved parking agreement between the North Shore Tribal Council and the Sault Ste. Marie Housing Corporation. Based off member and community input, the Sault Downtown Association approved 7 recommendations to ease concerns and find solutions to the potential impacts of the agreement. See: *Downtown Association Membership Parking Solution Report to the City of Sault Ste Marie.*
- 2. The committee met with city staff to provide recommendations for parking signage and wayfinding signage. These recommendations are currently being processed by Public Works and Corporate Communications and are set to be implemented into the Queen Street Improvements Project.
- 3.A letter was sent to members to implement best practices and courtesies surrounding the usage of on-street parking, to prioritize customers for on-street parking.
- 4. Research on equivalent cities and their respective parking enforcement models were forwarded to city staff for consideration.
- 5. Advocacy for a free two hour complimentary parking in all of municipally owned parking spaces downtown.

The parking committee will continue to develop on these initiatives and work closely with city departments to determine solutions and efficiencies related to parking downtown that is convenient for visitors and residents alike.

# **SAFETY & SECURITY**

### SAFETY & SECURITY SUBCOMMITTEE

Safety and security is paramount and top of mind for many in our membership and actions to ensuring safeguards are in place to protect properties and businesses as well as ensuring there is a environment in which patrons and visitors feel safe to shop, work, and live downtown is a top priority.

### **Security Patrols**

In June 2024, NorPro downtown security patrols was resumed with foot patrols between East and Dennis Street along Queen Street and will continue into 2025. Data provided by the City of Sault Ste. Marie detailed below:

|                                          |          | Year                    |             |             |             | 202         | 24          |             |             |             |        |
|------------------------------------------|----------|-------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------|
| Report<br>Template                       | Category | Month<br>AM<br>or<br>PM | (01)<br>Jan | (06)<br>Jun | (07)<br>Jul | (08)<br>Aug | (09)<br>Sep | (10)<br>Oct | (11)<br>Nov | (12)<br>Dec | Totals |
| Downtown<br>Patrol-<br>Garbage<br>Report | [N/A]    | AM                      | 1           |             |             |             |             |             |             |             | 1      |
| Downtown<br>Patrol-                      | [N/A]    | AM                      | 16          |             |             |             |             |             |             |             | 16     |
| Shift<br>Summary                         | [rec]    | PM                      | 4           |             |             |             |             |             |             |             | 4      |
| DWT -                                    |          | AM                      |             |             | 1           | 17          | 5           | 6           | 7           | 5           | 41     |
| CMHA<br>Report                           | [N/A]    | PM                      |             |             | 7           | 21          | 19          | 11          | 12          | 7           | 77     |
| DWT -                                    |          | AM                      |             | 3           | 9           | 16          | 4           | 3           | 2           | 2           | 39     |
| Contact<br>report                        | [N/A]    | PM                      |             | 1           | 53          | 51          | 33          | 27          | 15          | 20          | 200    |
| DWT -                                    |          | AM                      |             |             | 4           | 1           |             | 2           |             |             | 7      |
| Police/EMS<br>Report                     | [N/A]    | PM                      |             |             | 2           | 6           |             | 1           |             |             | 9      |
| Norpro<br>Uniform<br>Request             | [N/A]    | РМ                      |             |             | 1           |             |             | 2           |             |             | 3      |
| Tour Multi                               | 101/01   | AM                      | 16          |             |             |             |             |             |             |             | 16     |
| Exception                                | [N/A]    | PM                      | 4           |             |             |             |             |             |             |             | 4      |
|                                          | Totals   |                         | 41          | 4           | 77          | 112         | 61          | 52          | 36          | 34          | 417    |

### **Downtown Patrol Report**

# **SAFETY & SECURITY**

### Canadian Mental Health Association Downtown Ambassadors

Downtown Ambassadors continued work in the downtown in 2024. This vital service interacts with those in need, directs those in need to appropriate services, business check-ins, disposal of paraphernalia, and more. KPIs from 2024 include **2576 client interactions, 153 calls for support, 1247 needles picked up**, and more. For further data, please contact us for full summary.

### **Police Services**

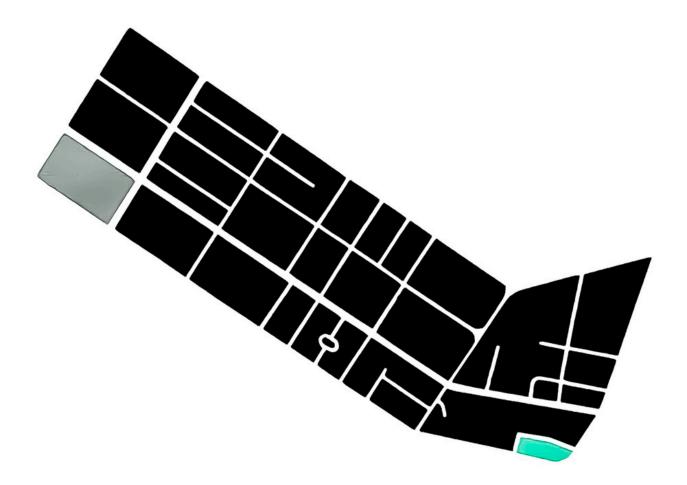
The Sault Ste. Marie Police Service is establishing Division 2, a new downtown police station located at 180 Brock Street is aimed at enhancing safety and police presence in the area. Initially, the facility will support Traffic Services, Bicycle Patrol, and Dynamic Patrol initiatives to address community concerns and improve response times.

Future plans include integrating partner agencies such as Crime Stoppers and Victim Services Algoma to expand support services in the downtown core. The station is being developed in partnership with St. Luke's Cathedral under a 10-year agreement. This initiative aligns with ongoing efforts to create a safer and more vibrant downtown environment for residents, businesses, and visitors.

Division 2 is set to begin operations on April 1, 2025.

### Zero Vacancy

The Zero Vacancy program is being renewed in 2025 with a new model of delivery. This will be an incubator program with a subsidized rent for a new business to occupy a vacant retail space on Queen Street. The Sault Downtown Association will cover a large portion of the rent and work with the landlord as well as local economic/business development agencies to ensure the business is set for success with the goal for the enterprise to become a long term tenant and compliment the existing business mix while also reducing commercial vacancies downtown. Page left blank intentionally.



# www.saultdowntown.com

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**Financial Statements of** 

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## BOARD OF MANAGEMENT OF QUEENSTOWN, THE SAULT STE. MARIE CENTRAL BUSINESS DISTRICT IMPROVEMENT AREA

And Independent Auditor's Report thereon

Year ended December 31, 2024



Page 2

# Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with Canadian public sector accounting standards, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Board's ability to continue as a going concern, disclosing as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Board or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Board's financial reporting process.

### Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian generally accepted auditing standards will always detect a material misstatement when it exists.

Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

As part of an audit in accordance with Canadian generally accepted auditing standards, we exercise professional judgment and maintain professional skepticism throughout the audit.

We also:

 Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion.

The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Board's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.

Statement of Financial Position

December 31, 2024, with comparative information for 2023

|                                                          | 2024          |    | 2023    |  |
|----------------------------------------------------------|---------------|----|---------|--|
| Financial assets                                         |               |    |         |  |
| Cash                                                     | \$<br>150,960 | \$ | 140,454 |  |
| Term deposit                                             | 44,922        | •  | 43,181  |  |
| Accounts receivable (note 2)                             | 12,387        |    | 13,416  |  |
| Total financial assets                                   | 208,269       |    | 197,051 |  |
| Financial liabilities                                    |               |    |         |  |
| Accounts payable, accrued and lease liabilities (note 3) | 22,046        |    | 16,094  |  |
| Deferred revenue (note 4)                                | 13,797        |    | 12,310  |  |
| Total financial liabilities                              | 35,843        |    | 28,404  |  |
|                                                          | 172,426       |    | 168,647 |  |
| Non-financial assets                                     |               |    |         |  |
| Tangible capital assets (note 5)                         | 14,076        |    | 12,116  |  |
| Prepaid expenses                                         | 196           |    | 196     |  |
| Total non-financial assets                               | 14,272        |    | 12,312  |  |
| Commitments (note 11)<br>Economic dependence (note 12)   |               |    |         |  |
| Accumulated surplus (note 9)                             | \$<br>186,698 | \$ | 180,959 |  |

The accompanying notes are an integral part of the financial statements.

On behalf of the Board:

Director Director

Statement of Changes in Net Financial Assets

Year ended December 31, 2024, with comparative information for 2023

|                                         | 2024<br>Budget |    | 2024       |         |
|-----------------------------------------|----------------|----|------------|---------|
|                                         | Budget         | _  | 2024       | 2023    |
|                                         | (note 8)       |    |            |         |
| Annual surplus (deficit)                | \$<br>(719)    | \$ | 5,739 \$   | 30,491  |
| Acquisition of tangible capital assets  | (5,829)        |    | (5,829)    |         |
| Amortization of tangible capital assets | 3,000          |    | 3,869      | 2,833   |
|                                         | (3,548)        |    | 3,779      | 33,324  |
| Change in prepaid expenses              | : <b>.</b>     |    | -          | 1,763   |
| Change in net financial assets          | (3,548)        |    | 3,779      | 35,087  |
| Net financial assets, beginning of year | 168,647        |    | 168,647    | 133,560 |
| Net financial assets, end of year       | \$<br>165,099  | \$ | 172,426 \$ | 168,647 |

The accompanying notes are an integral part of the financial statements.

Notes to Financial Statements

Year ended December 31, 2024

The Board of Management of Queenstown, The Sault Ste. Marie Central Business District Improvement Area (the "Board") was established on September 28, 1976, to foster and enhance commercial interests in the downtown business improvement area of Sault Ste. Marie, Ontario.

#### 1. Significant accounting policies:

The financial statements of the Board are prepared by management in accordance with Canadian generally accepted accounting principles for government organizations as recommended by the Public Sector Accounting Board (of the Chartered Professional Accountants of Canada).

Significant aspects of the accounting policies adopted by the Board are as follows:

(a) Revenue recognition:

Government transfers are recognized in the financial statements as revenues in the period in which events giving rise to the transfer occur providing the transfers are authorized, any eligibility criteria have been met, and reasonable estimates of the amounts can be made.

Assessments are recognized as revenue when received or receivable if the amount to be received can be reasonably estimated and collection is reasonably assured.

Events and rent revenues are recognized when the services are performed, collection of the relevant receivable is probable, persuasive evidence of an arrangement exists and fees are fixed or determinable. Amounts received for future events or services are deferred until the service is provided.

(b) Financial Instruments:

The Board initially measures its financial assets and financial liabilities at fair value adjusted by, in the case of a financial instrument that will not be measured subsequently at fair value, the amount of transaction costs directly attributable to the instrument. Amounts due to and from related parties are measured at the exchange amount, being the amount agreed upon by the related parties. The Board subsequently measures its financial assets and financial liabilities at amortized cost, except for investments in equity securities that are quoted in an active market or financial assets or liabilities designated to the fair value category, which are subsequently measured at fair value. Unrealized changes in fair value are recognized in the statement of operations.

Financial assets measured at amortized cost include cash, term deposits and accounts receivable.

Financial liabilities measured at amortized cost include accounts payable, accrued and lease liabilities.

Financial assets measured at amortized cost are tested for impairment when there are indicators of possible impairment. When a significant adverse change has occurred during the period in the expected timing or amount of future cash flows from the financial assets, a valuation allowance is used to reflect the financial asset at the lower cost and estimated net recoverable value, and, as adjustments become necessary, they are reported in earnings in the year in which they become known.

Notes to Financial Statements

Year ended December 31, 2024

#### 3. Accounts payable, accrued and lease liabilities:

|                     | 2024         | <br>2023     |
|---------------------|--------------|--------------|
| Trade payables      | \$<br>3,532  | \$<br>1,230  |
| Accrued liabilities | 16,129       | 11,749       |
| Lease liability     | 2,385        | 3,115        |
|                     | \$<br>22,046 | \$<br>16,094 |

Interest of \$257 (2023 – \$257) relating to lease liability has been included in miscellaneous expense.

#### 4. Deferred revenue:

The balances in deferred revenue consist of:

|                                                   | 2024              | 2023              |
|---------------------------------------------------|-------------------|-------------------|
| Vivid Art Festival<br>Digital Main Street Program | \$<br>13,797<br>- | \$<br>_<br>12,310 |
|                                                   | \$<br>13,797      | \$<br>12,310      |

Continuity of deferred revenue is as follows:

|                                  | 2024         | 2023         |
|----------------------------------|--------------|--------------|
| Balance, beginning of year       | \$<br>12,310 | \$<br>51,723 |
| Contributions received           | 60,000       | 56,750       |
| Contributions taken into revenue | (58,513)     | (96,163)     |
| Balance, end of year             | \$<br>13,797 | \$<br>12,310 |

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Notes to Financial Statements (continued)

Year ended December 31, 2024

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#### 5. Tangible capital assets (continued):

|                         | Balance at          |                    |    |              |    | Balance at      |
|-------------------------|---------------------|--------------------|----|--------------|----|-----------------|
|                         | December 31,        |                    |    |              |    | December 31     |
| Cost                    | <br>2022            | Additions          |    | Disposals    |    | 2023            |
| Furniture and equipment | \$<br>11,031        | \$<br>3,795        | \$ | -            | \$ | 14,826          |
| Photocopier             | 3,795               |                    |    | -            |    | 3,795           |
| Computer equipment      | 12,574              | 3 <del>75</del>    |    | -            |    | 12,574          |
| Signage                 | 15,078              |                    |    | -            |    | 15,078          |
| Leasehold improvements  | 12,581              | 2.55               |    |              |    | 12,58 <i>°</i>  |
| Work in process         | 3,795               |                    |    | (3,795)      |    | ). <del>K</del> |
| Total                   | \$<br>58,854        | \$<br>3,795        | \$ | (3,795)      | \$ | 58,854          |
|                         | Balance at          |                    |    |              | _  | Balance a       |
| Accumulated             | December 31,        |                    |    | Amortization |    | December 31     |
| Amortization            | <br>2022            | <br>Disposals      |    | Expense      |    | 2023            |
| Furniture and equipment | \$<br>5,704         | \$<br>3 <b>2</b> 3 | \$ | 1,445        | \$ | 7,149           |
| Photocopier             | 63                  | 3 <u>-</u> 2       |    | 759          |    | 822             |
| Computer equipment      | 10,479              | 3 <b>2</b> 3       |    | 629          |    | 11,108          |
| Signage                 | 15,078              | 3 <b>-</b>         |    | -            |    | 15,078          |
| Leasehold improvements  | 12,581              | ÷2                 |    | -            |    | 12,581          |
| Total                   | \$<br>43,905        | \$<br>7 <b>2</b>   | \$ | 2,833        | \$ | 46,738          |
|                         | <br>Net book value, |                    | _  |              |    | Net book value  |
|                         | December 31,        |                    |    |              |    | December 31     |
|                         | <br>2022            |                    |    |              |    | 2023            |
| Furniture and equipment | \$<br>5,327         |                    |    |              | \$ | 7,677           |
| Photocopier             | 3,732               |                    |    |              |    | 2,973           |
| Computer equipment      | 2,095               |                    |    |              |    | 1,466           |
| Signage                 |                     |                    |    |              |    | 2.5             |
| Leasehold improvements  |                     |                    |    |              |    |                 |
| Work in process         | 3,795               |                    |    |              |    | 174             |
| Total                   | \$<br>14,949        |                    |    |              | \$ | 12,116          |

Notes to Financial Statements

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Year ended December 31, 2024

#### 9. Accumulated surplus:

Accumulated surplus is comprised of:

|                                                               | 2024                    | 2023                   |
|---------------------------------------------------------------|-------------------------|------------------------|
| Invested in tangible capital assets<br>Operating fund surplus | \$<br>11,691<br>175,007 | \$<br>9,001<br>171,958 |
|                                                               | \$<br>186,698           | \$<br>180,959          |

#### 10. Segmented reporting:

The Chartered Professional Accountants of Canada Public Sector Accounting Handbook Section PS2700 – Segmented Disclosures establishes standards on defining and disclosing segments in a government's financial statements. Government organizations that apply these standards are encouraged to provide the disclosures established by this section when their operations are diverse enough to warrant such disclosures. The Board has only one identifiable segment, considered to be fostering and enhancing commercial interests in the downtown business improvement area of Sault Ste. Marie, Ontario as presented in these financial statements.

#### 11. Commitments:

The Board is committed to minimum monthly office lease payments of \$1,763 through January 31, 2024. Subsequent to year end, the lease agreement has not yet been renewed and is continuing on a month to month basis at payments of \$2,045.

The Board has entered into a financing agreement for a photocopier purchase with minimum monthly payments of \$72 for a term ending on November 30, 2027. The liability has been recorded in accounts payable accrued liabilities, accrued and lease liabilities.

#### 12. Economic dependence:

The Board receives approximately 70% (2023 - 56%) of its funding from membership assessments as approved in the annual operating budget. The future of the Board is reliant on the continuation of such assessments to manage the requirement of current and future years.

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The Corporation of the City of Sault Ste. Marie

# COUNCIL REPORT

| April 7, 2025 |                                                       |
|---------------|-------------------------------------------------------|
| TO:           | Mayor Matthew Shoemaker and Members of City Council   |
| AUTHOR:       | Jonathan Kircal, Intermediate Planner                 |
| DEPARTMENT:   | Community Development and Enterprise Services         |
| RE:           | 0 Chippewa Street A-02-2025-Z.OP 57T-25-501, 502, 503 |
|               |                                                       |

## PURPOSE

The applicant is seeking approval for a plan of subdivision, a standard plan of condominium, a common elements condominium, a site-specific Official Plan amendment, and a rezoning to facilitate the development of a mixed-use community located at 0 Chippewa Street. The proposal includes single-detached homes, semi-detached homes, townhouses, and apartments, along with neighbourhood retail and park space. Expanding the Urban Service Area as per the *Municipal Act* has also been requested.

#### PROPOSED CHANGE

The following approvals have been requested:

### Draft Plan of Subdivision (57T-501):

Approve a Draft Plan of Subdivision to create 74 lots for single-detached homes and semi-detached homes (Block C), a neighbourhood commercial lot (Block D), a public park square (Block E) and open space strip (Block A). Blocks A and E are to be deeded to the city to satisfy parkland dedication requirements.

#### Draft Plan of Common Elements Condominium (57T-502):

Approve Draft Plan of Common Element Condominium (Block G) to create 104 freehold townhouse condominium units, an amenity building for condominium residents, and private roadways.

#### Draft Plan of Standard Condominium (57T-503):

Approve Draft Plan of Condominium (Block B) to create one lot for two, 5-storey apartment buildings containing 180 dwelling units in total and private roadways.

#### Rezone the subject property in the following manner:

**Blocks A and E** (public square park and public linear park)

Rezone from Rural Area Zone (RA) to Parks and Recreation Zone (PR) for park space to facilitate the development of a linear park system along the northwest

0 Chippewa Street A-02-2025-Z.OP 57T-25-501, 502, 503 April 7, 2025 Page 2.

perimeter of the property, abutting Bennettt Creek, and a traditional park of approximately 0.282 hectares in size.

### **Block B** (apartment buildings)

Rezone from Rural Area Zone (RA) to Medium Density Residential Zone (R4.S) with a special exception to include the following provisions:

- Reduce the front yard setback (north facing) from 7.5 metres to 3.5 metres.
- Reduce the interior side yard setback (west facing) from 7.5 metres to 5 metres.
- Permit parking in a required front yard.
- Permit loading spaces to be located in a parking aisle.
- Waive the requirement that loading spaces be visually screened.

### Blocks C and G (single, semis, and townhouses)

Rezone from Rural Area Zone (RA) to Low Density Residential Zone (R3.S) with a special exception to include the following provisions:

- Reduce the 'other side yard setback' from 3 metres to 1.8 metres for a twostorey building, and 1.2 metres for a one-storey building.
- Reduce the rear yard setback from 10 metres to 1.2 metres for one-storey residential structures.
- Increase the maximum lot coverage from 40% to 47% for one-storey residential structures.

### **Block D** (neighbourhood commercial building)

Amend the Official Plan by way of a site-specific textual amendment to Residential Policy R.7 to increase the gross floor area of commercial space from 200 square metres to 400 square metres.

Rezone from Rural Area Zone (RA) to Commercial Transitional Zone (CT2.S) with a special exception to:

- Prohibit the following uses: residential structures, bed and breakfasts, group homes and residences, nursing and residential care facilities, rooming houses, and short-term rentals.
- Reduce the required parking from 4.5 spaces/100 square metres to 3.5 spaces/100 square metres.

### **Block F** (private amenity building)

Rezone from Rural Area Zone (RA) to Low Density Residential Zone (R3.S) with a special exception to include the following provisions:

- Amusement and fitness facilities, arts and cultural heritage uses, day care facilities, recreational facilities, in addition to the uses permitted in an R3 zone.
- Reduce the parking requirement to 0.

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#### Subject Property:

- Location: West of the stub ends of Chippewa, Atwater, and Amherst Streets.
- Approximate size: irregular shaped lot with no frontage and approximately 15 hectares in area.
- Present use: Vacant
- Owner: 1000571972 Ontario Inc (c/o Harjinder Kang)

#### BACKGROUND

In 1986, application 79-1986-Z.OP was filed to permit the development of singledetached housing on the subject property under a zoning classification that no longer exists.

#### ANALYSIS

#### Conformity with Official Plan

This application proposes a variety of housing types, supported by several community amenities such as park space, a private amenity building, and neighbourhood commercial uses, all within the city's urban area. The range of dwelling sizes and the design features, such as at-grade entrances or alternatives to steps and stairs, are intended to accommodate a broader social and demographic profile of residents.

Further, the proposal represents a gradual increase in the level of density compared to the adjacent residential neighbourhood.

Therefore, this application is supported by the following Official Plan policies:

#### Housing Policies

Supporting a diverse housing stock, residential infill and intensification are recognized approaches to supporting the goals of more attainable housing as it increases more housing options that can respond to different demographic and social needs.

#### Residential Policies

The subject property falls under the Residential Land Use designation shown on the land use map (Schedule C). Residential land use policies support uses that contribute to the completeness of a neighbourhood, such as schools, recreational centres, neighbourhood parks, and small-scale commercial.

R.1 – A mixture of housing types and diversity of ownership and tenure forms shall be encouraged in new development.

R.4 – Small-scale intensification may be permitted in all residential areas unless adequate supporting infrastructure is not available or significant physical constraints exist.

Policy R.7 limits commercial uses in residentially designated areas to 200 square metres. A neighbourhood commercial building of up to 400 square metres is

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proposed in Block B necessitating the need for a site-specific textual amendment to the Official Plan. This amendment is supported.

#### Fish Habitat

Fish habitat exists just outside the perimeter of the subject property, specifically, the system of creeks that run along the north and west of the property, as well as within the municipal drainage ditch located along the southern and southeast lot lines.

The Official Plan's fish habitat policies serve to protect fish habitat from harmful disruption, alteration, or destruction as a result of development. As per Official Plan policies, given the scale of the proposed development and its proximity to fish habitat, the applicant was required to submit an environmental impact study from a qualified professional. This study identifies potential impacts on fish habitat and outlines appropriate mitigation measures. The environmental impact study is attached to the Agenda and discussed further in this report.

Some of the study's recommended mitigation measures to protect fish habitat include:

- Establishing a 15-metre vegetated buffer setback from the top of bank of the Bennett-West Davignon Diversion Channel towards the west of the property, abutting Block B.
- Consider incorporating native grasses and shrubs within this buffer.
- Design storm-water management to prevent impacts to the creeks.
- Minimize impervious areas within 50-metres of the creeks.

As per the concept site plan, a 15-metre wide buffer setback from the top of the creek bank will be provided. This land will be deeded to the City as a linear park, with plans to construct a 3-metre multi-use trail in the future. In a follow-up discussion with Planning staff, Greenstone Environmental Engineering confirmed that the trail construction would not impact fish habitat.

According to the applicant's submitted Municipal Servicing Report, stormwater management systems, mostly dry ponds, will be used to control water quantity and quality before being discharged into the creek. Water quality and quantity must meet the requirements set by the City's Engineering Division, the Sault Ste. Marie Region Conservation Authority, and the Ministry of Environment, Conservation and Parks (MECP). Approval from all three agencies will also be required.

### Archaeological Resources

As per the Archaeological Resources map (Schedule E of the Official Plan), the northern and western portions of the lot are identified as having potential archaeological resources; however, because the property has been completely cleared of trees and was previously used as agricultural land, likely pastureland,

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an archaeological assessment is not required. The previous intensive soil disturbance exempts this requirement.

Therefore, this proposal is consistent with the OP.

#### **Conformity with Provincial Planning Statement 2024**

On August 20, 2024, the Province released the new Provincial Planning Statement (PPS), 2024, formerly known as the Provincial Policy Statement, to take effect on October 20, 2024. The PPS 2024 has carried over existing policies and has introduced entirely new policies and definitions. The PPS 2024 has a refreshed focus on intensification to implement its updated vision of building more homes for all Ontarians to achieve its goal of getting at least 1.5 million homes built by 2031.

Its Housing policies (Section 2.2) provides direction to planning authorities to ensure an adequate and diverse range of housing options and densities to meet the needs of current and future residents. Its primary intent is to address housing affordability and inclusion by accommodating a broader spectrum of housing throughout the community. It emphasizes residential intensification, including repurposing underutilized commercial and institutional sites for housing, and promoting sustainable development that maximizes land and resource efficiency.

Land Use Compatibility policies (Section 3.5) seek to prevent land use conflicts between major facilities, such as industrial operations, and sensitive land uses, such as residential developments, schools, hospitals, etc. This protects both existing and planned industrial or manufacturing facilities from constraints imposed by sensitive land uses while ensuring that new sensitive uses are not exposed to unacceptable levels of noise, odour, or other contaminants.

It is noted that the subject property is within proximity to industrially zoned lots to its south. To confirm that the proposal is in conformity with the PPS's Land Use Compatibility policies, the applicant was required to submit a land use compatibility study from a qualified professional. This study, attached to the agenda and further discussed elsewhere in this report, confirms that the proposed residential development on the subject lands are compatible with surrounding industrial uses and transportation corridors.

Therefore, this proposal is consistent with the PPS.

#### Conformity with Growth Plan for Northern Ontario 2011

The Growth Plan for Northern Ontario envisions residential development that supports the creation of strong, vibrant, and sustainable communities while addressing the unique characteristics and challenges of the region. Its vision for residential development aligns with broader goals of economic growth, environmental stewardship, and quality of life. 0 Chippewa Street A-02-2025-Z.OP 57T-25-501, 502, 503 April 7, 2025 Page 6.

This application proposes compact residential growth and a grid-like street network to make efficient use land, infrastructure, and resources in an effort to minimize sprawl and to support cost-effective service delivery. The Plan also encourages the provision of a range of housing types that serve to contribute to overall housing affordability initiatives to meet the needs of existing and future populations.

The redevelopment and intensification of underutilized lands to support population growth and economic activity is also envisioned.

This application is consistent with the GPNO 2011.

#### COMMENTS

#### Project Description

This is a large and complex application due to the number and types of approvals and amendments that are concurrently being applied for. Pending Council approval, secondary approvals from staff are required through the subdivision and condominium process, and site plan control. Additionally, approvals from outside agencies will also be required prior to staff finalizing the plans. Should any significant alterations to the proposal be made through these processes, an amendment to the draft plan will need to be submitted to Council for approval.

This application proposes to permit a variety of housing types, such as singles, townhouses, and mid-rise apartments, as well as park space, and commercial space to establish a new residential neighbourhood in the City's west end. The subject property is presently a large undeveloped parcel of land located on the western edge of the City's urban settlement area and adjacent to the Broadview Gardens residential neighbourhood.

The project is presented as meeting the diverse needs of residents with varying housing preferences. Single-storey houses and smaller units in the form of apartments are ideal for individuals with mobility challenges who wish to minimize or avoid stairs, as well as those seeking more affordable housing options. Condominium units are tailored for those who prefer the convenience of not having to manage exterior maintenance.

This application would permit urban development to extend toward Bennett Creek, rounding out the Broadview Gardens neighbourhood with compatible housing forms such as singles, semis, and townhomes. Two 5-storey apartment buildings are proposed towards the western edge of the subject property, serving as a natural westerly transition and defining the neighbourhood's boundary along Bennett Creek.

Chippewa, Atwater, and Amherst Streets, along with all other utilities, will be extended westward at the developer's expense. A grid-like street network has been proposed, providing an efficient and direct route for travel within the area. Sidewalks are planned on both sides of the proposed public rights-of-way and on 0 Chippewa Street A-02-2025-Z.OP 57T-25-501, 502, 503 April 7, 2025 Page 7.

one side of the private roads within the condominium blocks. Given the anticipated lower levels of vehicular traffic and the fact that through-traffic is not expected, staff recommend placing sidewalks on only one side of the public rights-of-way.

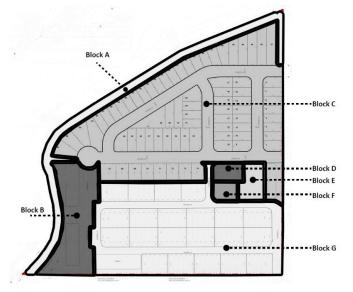
Block B will be a standard condominium plan, featuring two 5-storey apartment buildings with a total of 180 units. Parking will be provided both underground and at grade. Access to this block will be through public roads to be constructed in the subdivision (Block C). The applicant's site plan also indicates access through the adjacent common elements condominium (Block G). Therefore, the applicant will need to secure mutual easements to grant access to another lot.

Block G will be a common elements condominium plan with 104 townhouse units, designated as Parcels of Tied Land (PoTLs), associated with the condominium corporation's internal roadways and private amenity building. Access to Block G will be via Amherst Street and the public roads to be constructed in the subdivision (Block C). Due to the angle and configuration of Arden Street, it is unsuitable for access. All roads and utilities within the condominium plan will be privately owned and maintained by the condominium corporation.

The tenure of the townhouse and apartment units within the plan of condominium and common elements (Block B and G) have yet to be finalized, but it has been noted that there may be an opportunity for purpose-built rentals.

Block C will be established through a standard plan of subdivision and will include single-detached homes, a municipal stormwater management pond, a small neighbourhood commercial block, a linear park along Bennett Creek, and a public park. Its roads and utilities will be assumed by the City and become public. Conceptually, this area will contain 66 single-detached homes and 16 semidetached homes. Access will be via Atwater Street and Chippewa Street. 0 Chippewa Street A-02-2025-Z.OP 57T-25-501, 502, 503 April 7, 2025 Page 8.

The north and west edge of the property that runs along Bennett Creek and is identified as Block A will be deeded to the City and used to facilitate a multi-use trail within a linear park-like setting in the future. Long-term municipal plans would be to connect this to Goulais Avenue to the east and Second Line to the south, forming part of a 'west end loop Hub Trail' that is contemplated in the draft Active Transportation Master Plan.



A public park and small neighbourhood commercial building are proposed on Blocks E and D respectively. These features contribute to a more tightly knit community, providing convenience and leisure within walkable distance from the proposed development.

This large-scale development includes multiple draft plans, making phasing a key consideration. Certain infrastructure requirements for one phase rely on the completion of works from another phase, creating interdependencies that must be managed. The applicant's consulting engineer will need to collaborate with municipal staff to coordinate these phases and ensure a seamless implementation. It is anticipated that the plan of condominium (apartment block and townhomes) will be constructed first, with the plan of subdivision (single-detached homes) being built afterwards. Final phasing and ownership strategy have not yet been finalized and may change based on market conditions.

At present, bus service does not extend past Broadview Drive; however, the transit route network may be adjusted in conjunction with the phasing of this development to ensure ridership and coverage standards are fulfilled.

The Broadview Gardens neighbourhood, with its curvilinear streets, mix of single and semi-detached homes on relatively smaller lots, can be described as a low density suburban neighbourhood, predominantly composed of singles and semidetached homes, whereas the proposed development represents medium density development due to its mix of townhomes and two mid-rise apartments mixed with single-detached homes. The proposed housing forms are conducive to its surroundings.

| Block | Land Use                        | Description                                                                                                                      |
|-------|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| A     | Linear public park              | Lands along the north and west perimeter<br>along the creek to be deeded to the City to<br>satisfy parkland dedication policies. |
| В     | Apartment                       | Draft plan of condominium to facilitate the development of two, 5-storey apartment buildings for a total unit count of 180.      |
| С     | Single-detached homes           | Plan of subdivision to create 74 lots for the purposes of single-detached homes.                                                 |
| D     | Neighbourhood<br>commercial use | Commercial-use building up to 400 square metres.                                                                                 |
| E     | Public park                     | Park square to be deeded to the City to satisfy parkland dedication policies.                                                    |
| F     | Private amenity building        | Amenity building to be used for recreational purposes for the condominium residents.                                             |
| G     | Townhouses                      | Draft plan of common elements condominium with 104 dwelling units.                                                               |

The table below provides a breakdown of the overall proposal.

## Parkland Dedication:

Under the *Planning Act*, municipalities can require developers to dedicate up to 5% of the total residential area of a property for public park purposes as part of a subdivision application. This ensures park space for residents in new and growing neighbourhoods. Alternatively, municipalities may accept cash-in-lieu of parkland, where money is collected instead of land. These funds are used to purchase parkland elsewhere or to upgrade existing parks. The municipality may request up to 5% of the appraised land value prior to development, with a lower rate of 2% for commercial uses.

The applicant proposes to dedicate 1.37 hectares of lands for park space purposes, representing 9% of the total developed area. Although this includes the linear park, staff do note that it is encumbered by an Enbridge easement.

| Parkland Dedication | Parkland Dedication Statistics |                                |  |  |  |  |
|---------------------|--------------------------------|--------------------------------|--|--|--|--|
| Use                 | Property<br>Size (ha)          | Required Dedication            |  |  |  |  |
| Residential portion | 14.919                         | 5%, which is 0.746 ha          |  |  |  |  |
| Commercial portion  | 0.179                          | 3%, which is 0.0036 ha         |  |  |  |  |
| Total               | 15.10                          | 0.75 ha                        |  |  |  |  |
| Proposed            | N/A                            | Percentage of Subject Property |  |  |  |  |
| Public Square Park  |                                | 1.8%, which is 0.28 ha         |  |  |  |  |
| Public Linear Park  |                                | 7.2%, which is 1.09 ha         |  |  |  |  |
| Total               |                                | 9%                             |  |  |  |  |
|                     |                                | (min ~5% required), which is   |  |  |  |  |
|                     |                                |                                |  |  |  |  |
|                     |                                | 1.37 ha                        |  |  |  |  |
|                     |                                | (min 0.75 required)            |  |  |  |  |

To evaluate the need for park space, staff used the 'hectares of parkland per 1,000 residents (HPP) measure. The surrounding neighbourhood, bounded by Bennett Creek, Second Line, and Goulais Avenue, has four developed parks within an 800-metre distance, which is considered a safe walking distance. These parks include Munroe Park, Westwood Park, and Winfield Park. Arden Park was excluded as it is undeveloped.

When factoring in the existing population and the gross area of the four existing parks, there is approximately 1.9 hectares of parkland per 1,000 people. With the full build-out of this proposal, including the population increase and the addition of the public park square, the HPP would decrease from 1.9 to 1.4. For comparison, the city average in the urban area is 3.4 hectares per 1,000 people. A high-level municipal scan suggests that best practice is to aim for 1 to 2 hectares per 1,000 people.

Including the linear park would increase the HPP from 1.4 to 1.8; however, it is important to note that there are fundamental differences between a linear park and a public park. Like sidewalks, many municipalities view linear parks as transportation infrastructure, prioritizing connectivity and mobility over recreational use. Additionally, linear parks typically lack space for park amenities, such as playground equipment, due to their narrow design, and access is limited to specific points along public rights-of-way. In both cases, the City would be responsible for equipment, construction, and maintenance.

The City's Parks and Recreation Master Plan, approved in May 2024, recommends that parkland dedication in the form of trail networks in new subdivision developments be considered. The linear park that the applicant wishes to deed to the City would facilitate the future development a multi-use trail (i.e. Hub Trail) in the City's west end. High level plans envision construction of a multi-use trail along Bennett Creek that would connect Goulais Avenue to Second Line. 0 Chippewa Street A-02-2025-Z.OP 57T-25-501, 502, 503 April 7, 2025 Page 11.

Given this, the linear park is subject to an Enbridge easement due to the presence of an underground gas line. According to Enbridge's 'Third-Party Requirements in the Vicinity of Natural Gas Facilities,' specific construction methods and clearances must be followed to protect the gas line. Review and/or approval will likely be required for the construction of a multi-use trail due to excavation needs. Before assuming ownership of the lands, the applicant must identify the location of the underground line and the extent of the easement, allowing City staff to better assess the development potential of the multi-use trail.

Additionally, the applicant's Environmental Impact Study (EIS), required due to the presence of fish habitat, recommended establishing a 15-metre wide buffer along the west side of the property, behind the proposed apartments. After further consultation with their environmental engineer, it was determined that a 3-metre wide multi-use trail would have no significant impact on the fish habitat, provided that the other recommended mitigation measures outlined in the EIS are followed.

Therefore, the square park and the linear park proposal is acceptable as the resulting park space would still fall within an acceptable range in terms of hectares of park space per 1,000 people, and it also serves to benefit long-term city plans to develop active transportation trails in the west end.

### Zoning and Official Plan Amendments:

The subject property is zoned Rural Area (RA) and therefore, rezonings to permit urban residential uses are required, in addition to several special exceptions to adjust the building regulations.

### Block A and E (public park space)

It is requested to rezone both parks from the Rural Area Zone (RA) to the Parks and Recreation Zone (PR). While this is an appropriate amendment, Planning staff recommend zoning these lands to match the abutting lands, which are to be rezoned for residential use. As a result, the parks would be zoned as Low Density Residential (R3) and Medium Density Residential (R4). Residential zones still permit parks and playgrounds, but the advantage of this zoning is that it provides flexibility for potential residential development on these lands if there is a minor lot boundary adjustment.

### Block B (apartment buildings)

Rezoning this area from Rural Area Zone (RA) to Medium Density Residential (R4), with further variances, has been requested.

The apartments are proposed to be located on the western edge of the property, adjacent to the creek, and do not have a prominent presence on the neighborhood streetscape. The apartment block has minimal frontage, as it only faces the public road where the road terminates at the cul-de-sac. It is more integrated into the adjacent plan of condominium. Additionally, a proposed entrance to the trail

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system provides a slight buffer between the apartment building and the nearest single-detached home. For these reasons, amending the front and west side yard setbacks is appropriate.

Given the minimal length of frontage along the cul-de-sac, it is appropriate to permit parking within the required front yard so long as landscaping features are provided to soften the aesthetic impacts associated with parking. Landscaping will be secured through site plan control.

Based on experience, loading space provisions have proven to be impractical for development and are best handled by the owner as an operational matter. This was acknowledged in the Gentle Density: Proposed Amendments to the Zoning By-law Regarding Residential Development Regulations planning report, presented to Council at its April 2024 meeting, where loading space requirements were reduced by half. For the proposed development, the parking lot area is sufficient for loading, so it is recommended that loading space provisions in the zoning by-law be waived for this particular development.

#### Block C and G (single, semis, and townhouses)

Rezoning this area to Low Density Residential (R3) zone would enable the existing urban fabric of Broadview Gardens to continue to be extended to round out the neighbourhood towards the creek.

While the proposal includes a mix of single-detached, semi-detached, and townhouse dwellings, the urban residential zones, following the April 2024 'Regulatory Flexibility' City-wide amendments, no longer regulates specific housing typologies under the zoning by-law. Instead, it focuses on performance standards such as height, lot coverage, setbacks, and parking requirements for residential structures.

The purpose of a 3-meter side yard is to accommodate vehicle parking. However, the applicant plans to integrate parking through garages, making the standard 1.2-meter and 1.8-meter side yard setbacks appropriate.

The rear yard setback reduction from 10 metres to 1.2 metres for a one-storey residential structure is not necessary, as the R3 zone already permits a reduced rear yard setback for one-storey homes; however, the applicant has requested this amendment for additional assurances in later approval phases.

Increasing the lot coverage from 40% to 47% will allow for a slightly larger building footprint without the need to increase the lot size. The applicant has noted that larger homes meet housing demand for older demographics who prioritize interior space over outdoor backyard space. This variance is only being requested for single-storey residential buildings. Planning staff support this variance.

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#### Block D (neighbourhood commercial building)

To help create a more walkable community where daily needs are within close proximity, it was recommended that the development plan include a lot designated for a small neighborhood commercial use. Block D is therefore recommended for rezoning to the Commercial Transitional Zone (CT2) to allow only commercialrelated uses. Permitted commercial uses include daycare facilities, offices, food services, personal services, and retail trade.

The CT2 zone is typically used to introduce lighter, more compatible forms of commercial use in residential neighborhoods. It also excludes fast food outlets, bars, and taverns to maintain compatibility. It is anticipated that such a use would primarily serve the surrounding residents, which would reduce car dependency. As a result, parking standards have been adjusted to reflect lower parking ratios, similar to those in the downtown area. The overall lot dimensions, combined with parking requirements, prevent the possibility of large-scale retailers with high customer traffic from locating here.

The Official Plan limits commercial uses in residential zones to a maximum of 200 square metres. Planning staff recommend increasing this limit to 400 square metres, which will be reflected in site-specific Official Plan policies and the CT2 zone.

Non-commercial uses permitted in the CT2 zone, such as parking lots and residential uses, will be excluded from the site to ensure it remains a neighborhood-supportive commercial space.

#### Block F (private amenity building)

As part of the goal to create a walkable, mixed-use community, the applicant has indicated their intention to build a private amenity building to function as a community centre for condominium residents.

To allow for this use, it is proposed to rezone the block to the Low Density Residential Zone (R3) with a special exception to permit additional uses, including amusement and fitness facilities, arts and cultural heritage uses, daycare facilities, and recreational facilities, alongside the typical uses permitted in an R3 zone. Since there is no requirement to dedicate land for a private amenity building, establishing a residential parent zone will offer flexibility, should a developer choose to include residential uses instead.

The applicant has requested a reduction of the parking requirement to 0 spaces. Similar to the approach taken for the neighbourhood commercial block, Planning staff prefer applying the lower, downtown-equivalent requirement rather than a complete reduction. Further flexibility may be considered through a minor variance if/when more details about the lot's utilization become available. 0 Chippewa Street A-02-2025-Z.OP 57T-25-501, 502, 503 April 7, 2025 Page 14.

#### Environmental Management Zone

An Environmental Management Zone (EM) exists along the southern and eastern edges of the property and gets wider as it continues eastward. The purpose of this zone is to protect the structural stability of the creek's slope by limiting development.

The extent to which this zone affects the development potential of the area depends on the assessment by the Conservation Authority. The applicant may be required to shift the proposed buildings in this area further to the north and potentially reduce its size to avoid encroaching on the EM zoned lands. The EM lands and the surrounding area fall under the jurisdiction of the Conservation Authority, and permits from their office are required before a building permit can be issued.

#### Urban Service Area Extension:

The Urban Service Area, not to be confused with the Urban Settlement Area, refers to the area where city services (water and sewer) are currently available. It is primarily used as a taxation tool. Properties within the urban service area are taxed at the urban rate, while properties outside of it are taxed at a slightly lower rural rate. This is governed by the *Municipal Act*, not the *Planning Act*.

The northern portion of the subject property, approximately 145 metres in depth with an area of approximately 4.5 hectares (11 acres), falls just outside the urban service area. Since this proposal is for urban residential development that requires municipal services, the service area boundaries need to be extended to include these lands.

As per the *Municipal Act*, expanding the urban service area requires that the City submit a request to the Ontario Land Tribunal (OLT). This will be a process managed by both the Planning and the Legal Divisions.

#### Technical Studies

Given the scale, complexity, and location of the proposed development, the applicant was required to submit several supporting studies as part of this application. These studies are discussed below and are also attached to this report.

Planning Justification Report (Robert Russell Planning Consultants):

Given the scale and complexity of the proposal, the applicant was required to retain a land use planner to guide the creation of the development proposal and evaluate it against land use planning principles and policies.

The planning justification report addresses the neighbourhood context, development concept, and planning policies from both provincial and municipal perspectives.

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The report concludes that the proposed development and its amendments represent sound planning and are appropriate for the subject property.

#### Land Use Compatibility (RWDI Engineering):

This application proposes introducing sensitive uses, specifically residential uses, near existing industrial uses to the south, between the subject property and Second Line West.

The Provincial Planning Statement (2024) emphasizes that major facilities and sensitive land uses must be planned to avoid, or if necessary, minimize and mitigate adverse effects such as odour, noise, and contaminants, to ensure public health, safety, and the long-term viability of major facilities. Additionally, new development near transportation corridors must be compatible with and supportive of their long-term function while minimizing potential negative impacts.

This policy is further supported by the Ministry of Environment, Conservation and Parks' (MECP) D-series guidelines, which recommend separation distances based on the characteristics of major facilities and industrial uses.

Therefore, the applicant was required to conduct a land use compatibility study in accordance with these policies and guidelines to assess any potential compatibility concerns between future residential uses and the surrounding industrial uses, and to determine whether any design or buffering measures should be incorporated.

The study reviewed land use regulations for the surrounding area, analyzed environmental registries and permits for industries within 1,000 metres of the property, assessed wind travel, and conducted other related tasks.

The study concluded that the proposed residential development is compatible with the surrounding industrial uses and transportation corridors, and no design interventions are necessary.

### Environmental Impact Statement (Greenstone Environmental Engineering):

The presence of fish habitat has been identified in the creeks that run along nearly all of the subject property's perimeter to the north and west. In accordance with the Provincial Planning Statement and the Official Plan, the applicant submitted an environmental impact study to assess any potential impacts on fish habitat and outline necessary mitigation measures.

The study recommended several mitigation and monitoring measures to protect the fish habitat, including establishing a vegetation buffer along sections of the property that abut the creek, limiting the use of herbicides, pesticides, and fertilizers, developing a stormwater management plan to prevent direct impacts on the creeks, minimizing impervious surfaces, particularly within 50 metres of the creeks, and more. To address some of the larger recommendations, a 15-meter buffer will be established along the creek as part of the development, with much of it to be left in its natural vegetated state, especially along the section adjacent to the proposed apartments. This area that is adjacent to the proposed apartments has the characteristics of a natural creek, while the rest of the creek system functions more like a drainage ditch and appears to have been minimally maintained given wetland vegetation growing in parts of the channel and on its banks. This buffer is proposed to be deeded to the City, which would support the development of the trail system. A multi-use trail is not expected to significantly impact fish habitat.

A stormwater management plan will be developed to direct runoff to a proposed dry pond, which will control water quality and quantity before being discharged into the West Davignon Creek channel. This plan must receive approval from the City, the Sault Ste. Marie Region Conservation Authority, and the Ministry of the Environment, Conservation and Parks (MECP), all of which will assess its impact on watercourses and fish habitat.

Impervious surfaces within 50 metres of the creeks will be minimized as much as possible. No large-scale surface parking will be located within this buffer, and where municipal roadways exist within this 50-meter area, they will include stormwater management systems to direct runoff to the dry pond, rather than directly into the creek.

#### Geotechnical Study (Down to Earth Geotechnical Investigation Report):

A geotechnical study was required to evaluate soil, rock, and groundwater conditions to assess the suitability of the site for development and identify any engineering challenges.

Based on the geotechnical investigation, soil laboratory testing, and engineering analysis, it was determined that the proposed residential structures can be supported by the existing ground conditions, provided that certain building design methods are incorporated. These methods would address concerns such as ground susceptibility to frost heave, variability in soil strength across the site, and other geotechnical characteristics.

The geotechnical analysis did not include the lands intended for the two apartment buildings, so it has not been confirmed whether the ground can support these structures.

Therefore, it is recommended that the development of the apartment parcel be conditional on a geotechnical study for the apartment block to the satisfaction of the City. This can be secured through conditions of draft approval and site plan control. 0 Chippewa Street A-02-2025-Z.OP 57T-25-501, 502, 503 April 7, 2025 Page 17.

#### Traffic Impact Study (CIMA+):

A traffic impact study was conducted in support of this proposal. The purpose of the study was to determine whether the road infrastructure can handle the increased traffic, if any road improvements are necessary, and to provide a basis for decision making for the proposed development applications.

As part of the study, five intersections within the surrounding road network were analyzed under existing, pre-development conditions and post-development conditions for the weekday AM and PM peak hour.

Five Intersections:

- Chippewa Street and Goulais Avenue (unsignalized).
- Atwater Street and Broadview Drive (unsignalized).
- Rushmere Drive and Goulais Avenue (unsignalized).
- Arden Street and Second Line West (unsignalized).
- Goulais Avenue and Second Line West (signalized).

The three main parameters that were used in the study included:

- Operational flow of traffic of 'at capacity' or 'worst' case levels of service (LOS).
- Ratio between traffic volume and roadway capacity.
- Consideration of whether a turn lane, through lane, or roadway has enough space to accommodate queued vehicles.

The study found that the road network can accommodate current, predevelopment conditions; however, by 2032, when factoring in full site build-out and general traffic growth, the intersection of Goulais Avenue and Second Line West is expected to exceed capacity. This may cause turning lane queues to extend beyond available storage space, leading to backups in through lanes. Based on the engineering consultant's modelling, adjusting signal timing at this intersection can mitigate congestion and improve traffic flow to more acceptable levels.

#### Municipal Servicing Report (Kresin Engineering Corporation):

The municipal service report includes studies and concept designs for grading, site access and egress, sanitary sewer, water servicing, stormwater management, and electrical and roadway lighting.

Overall, the consultant determined that the proposed development is functionally feasible; however, it was noted that the estimated sanitary sewer usage would exceed capacity by 110%. The Engineering Department has raised this as a concern and will require their consulting engineer to explore methods to reduce sanitary sewer usage to fit within the capacity limits. This may involve adjustments to the proposal, such as reducing the number of dwelling units in the apartment block and townhouse units.

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As a condition of draft approval, the applicant will be required to revise the number of dwelling units within the plan of condos to align with the available sanitary sewer capacity. This will allow the rezoning process to move forward. However, depending on the extent of changes to the overall plan, the applicant may need to return to council to amend the draft approval.

### CONSULTATION

Public notice was advertised in the following manner:

- SaultStar Saturday, March 15, 2025.
- City website Tuesday, March 11, 2025.
- Mail-out Friday, March 14, 2025. The mail out radius was expanded beyond the legislated 120-metres from subject property line to include all properties up to Broadview Drive, as well as the industrial properties to the south.

At the time of writing this report on March 21, 2025, three members of the public contacted Planning staff. Any additional comments from the public after this date will be added to the Council Agenda.

Summary of Public Comments from Neighbourhood Meeting and Public Notice: The applicant hosted a neighbourhood meeting in December, 2023 at the Northern Community Centre. Given the scale of the proposal, the public notice radius was extended beyond legislated requirements to encompass a broader portion of the neighbourhood to include the homes up to Broadview Avenue, as well as the industrial properties to the south.

The applicant and planning consultant provided a presentation, followed by a question-and-answer period. Approximately 30 people attended, along with ward councillors and planning staff.

The general sentiment of the meeting was that attendees were interested in learning more about the proposed development. Overall, some of the topics raised by the public included traffic, drainage, transit, protection of the creek and wildlife. The studies submitted by the applicant address all of these concerns and confirm that no significant neighborhood impacts are anticipated as a result of the development.

### Application Circulation

As part of the application review, this proposal was circulated to City divisions and external agencies for technical review and comment. The section below provides a brief summary of comments received. The complete comment package is included in this report as an attachment.

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#### Engineering Department:

A number of technical details and design adjustments will be required in the detailed design review process.

As discussed elsewhere in this report, the existing sanitary system between Ascot Avenue and Winfield Drive is over capacity and therefore, the number of dwelling units within both of the Plan of Condominiums (Block B and G) may need to be reduced pending further modelling systems that can be conducted at a later stage of the approvals process. This will be secured through conditions of draft approval and site plan control.

#### Building Division:

The Building Division outlined various building setback requirements and noted that for the apartments, firefighting provisions as outlined in Subsection 3.2.5. of the *Ontario Building Code* must be adhered to. Details relating to driveway location, hydrants, fire access routes, and fire department connections will be reviewed in detail during the site plan control process.

#### Public Works:

Public Works commented that for the areas under plan of condominium and common elements, maintenance operations, such as snow removal and refuse collection will be the responsibility of the condominium corporation.

#### <u>PUC</u>:

The Public Utilities Commission (water utility) has noted that the municipal water system may not be able to provide the required fire flow for the proposed apartment buildings and townhomes within the plan of condominium and common elements condominium. Multi-unit residential structures typically have higher fire flow demands.

To assess capacity, PUC will conduct a water capacity and hydraulic analysis at the developer's expense. Based on the results, the developer will need to ensure that the buildings meet acceptable fire flow standards. Potential solutions may include implementing sprinkler systems, incorporating greater fire separation walls, or reducing unit sizes, as this would lower the required fire flow.

This matter will be addressed through site plan control. The concern does not apply to the proposed single-detached homes within the plan of subdivision.

PUC Distribution Inc. (electric utility) has no concerns with the proposal, and has outlined a number of technical site servicing requirements for the applicant.

#### Sault Ste. Marie Region Conservation Authority:

The Conservation Authority does not have any objections to the proposed rezoning, plan of subdivision, or plan of condominium applications, but notes

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that development on the property will require review and permit approvals from their office.

#### Enbridge:

An Enbridge high-pressure gas line runs along the northern and western perimeter of the property, adjacent to the creek. These lands are under an Enbridge easement and are also proposed to be deeded to the City for a linear park.

Planning staff have been in discussions with Enbridge to address their concerns regarding utility operations, safety, and ensuring that the proposed development does not encroach on the easement. Enbridge has indicated that their concerns can be addressed through conditions of draft approval and site plan control.

At the time of writing this report, Enbridge provided preliminary comments stating that any construction activity within the easement must be reviewed and approved by Enbridge Gas. A second set of comments is expected, outlining recommended conditions for draft approval of the plan of subdivision and the plan of standard condominium. To ensure compliance, Planning staff have included conditions requiring Enbridge's overall approval with the plans before the City provides final approval.

#### FINANCIAL IMPLICATIONS

Approval of this application will not result in any incremental changes to municipal finances.

#### **STRATEGIC PLAN / POLICY IMPACT**

Promoting growth from within the urban settlement area with mixed use, denser development is a more efficient way of growing and also promotes the concept of walkable communities where opportunities to reduce vehicular dependence exist.

This supports the strategic plan's second and third focus area of quality of life and infrastructure. The goals of these focus areas speak to environmental sustainability and climate action, exceed provincial housing targets, and to expand the active transportation network.

#### SUMMARY

A number of applications are being submitted concurrently to permit a variety of housing types, including singles, townhouses, and low-rise apartments, as well as park and commercial space, to establish a new residential neighborhood in the city's west end. Significant park space would be transferred to the City for use as a public park and trail system.

The subject property is currently a large, undeveloped parcel of land located on the western edge of the City's urban settlement area, adjacent to the Broadview Gardens residential neighborhood. 0 Chippewa Street A-02-2025-Z.OP 57T-25-501, 502, 503 April 7, 2025 Page 21.

Several technical studies have been submitted in support of this application, with additional matters to be addressed at later approval stages, such as the final approval of the subdivision, condominium, and site plan control, including any necessary external approvals from outside agencies.

This proposal represents an appropriate extension of the existing Broadview Gardens neighborhood, incorporating compatible housing types and neighbourhood-supportive uses. Planning staff recommend approval of this application.

### RECOMMENDATION

It is therefore recommended that Council take the following action:

Resolved that the report of the Planner dated April 7, 2025 concerning application A-2-25-Z-Z.OP 57T-25-501/502/503 be received and that Council approve this application in the following manner:

- Amend the Official Plan by way of a textual amendment as outlined in OPA 258 T-170.
- Amend Zoning By-law 2005-150 as outlined in Schedule A.
- Approve Draft Plan of Subdivision 57T-25-501 subject to the conditions of draft approval outlined in Schedule B.
- Approve Draft Plan of Common Elements Condominium 57T-25-502 subject to the conditions of draft approval outlined in Schedule C.
- Approve Draft Plan of Condominium 57T-25-503 subject to the conditions of draft approval outlined in Schedule D.
- That Block B, D, F, and G be deemed subject to Site Plan Control.
- That the Legal Department be directed to apply to the Ontario Land Tribunal to extend the Urban Service Area 156 metres north on the subject property to encompass the lands between the edge of the service area and the creek.

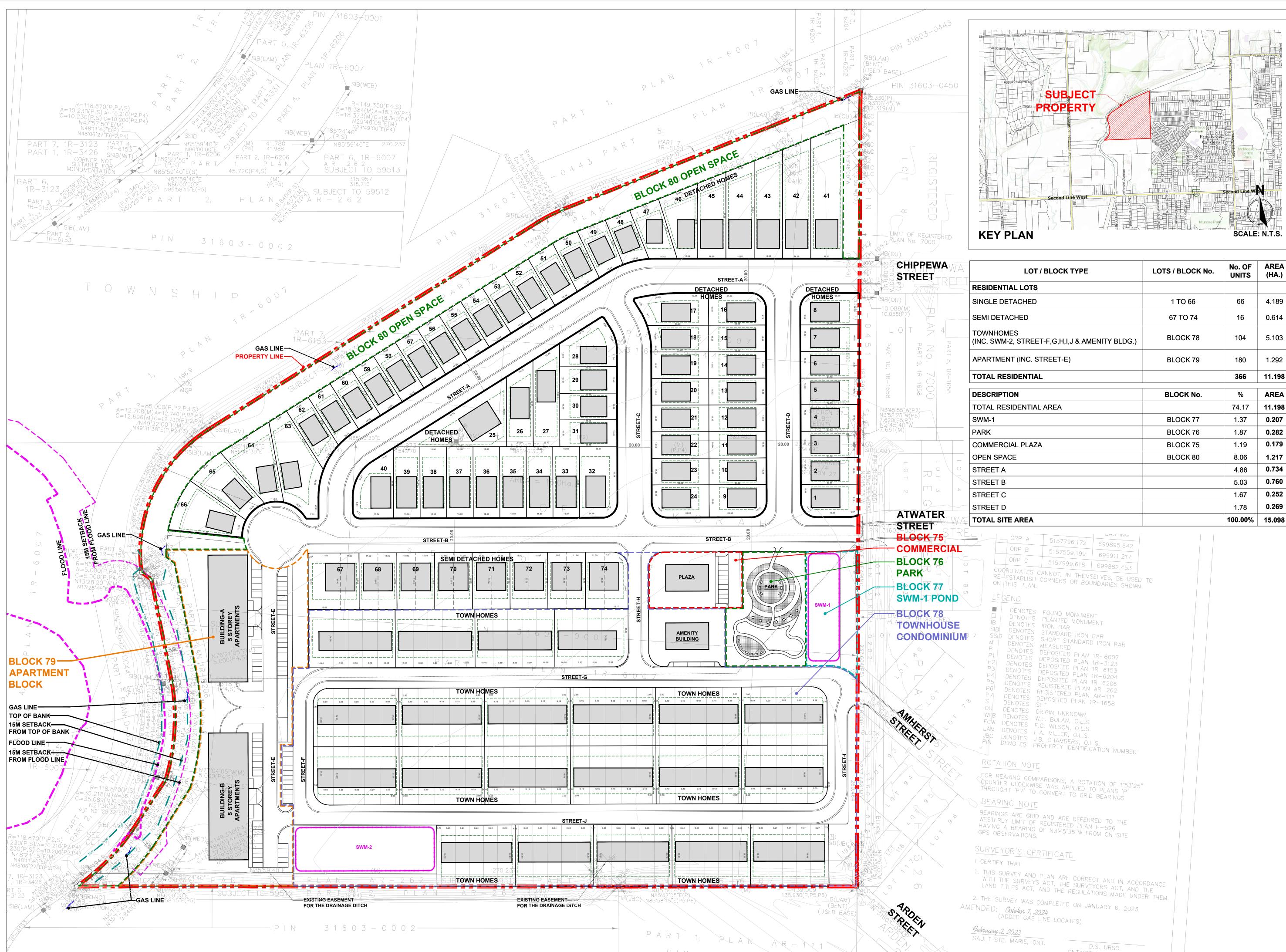
And that the Legal Department be requested to prepare the necessary by-law(s) to effect the same.

Respectfully submitted,

Jonathan Kircal, RPP

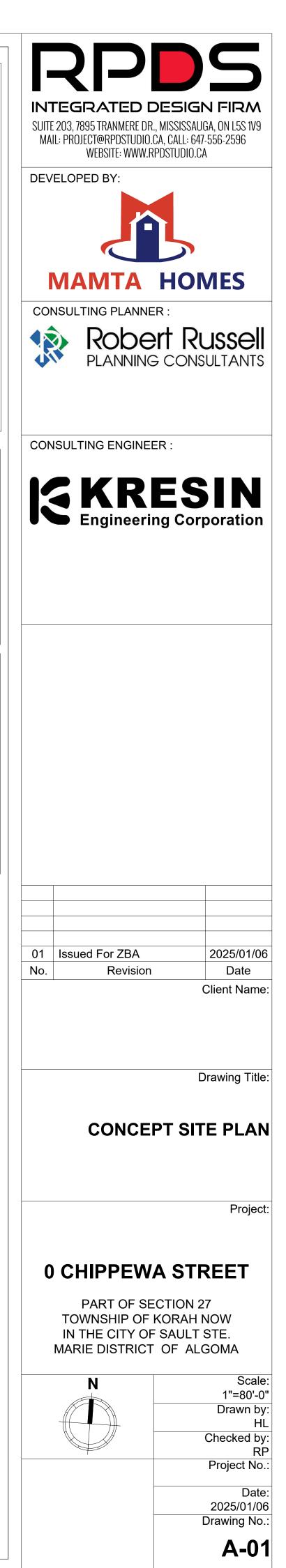
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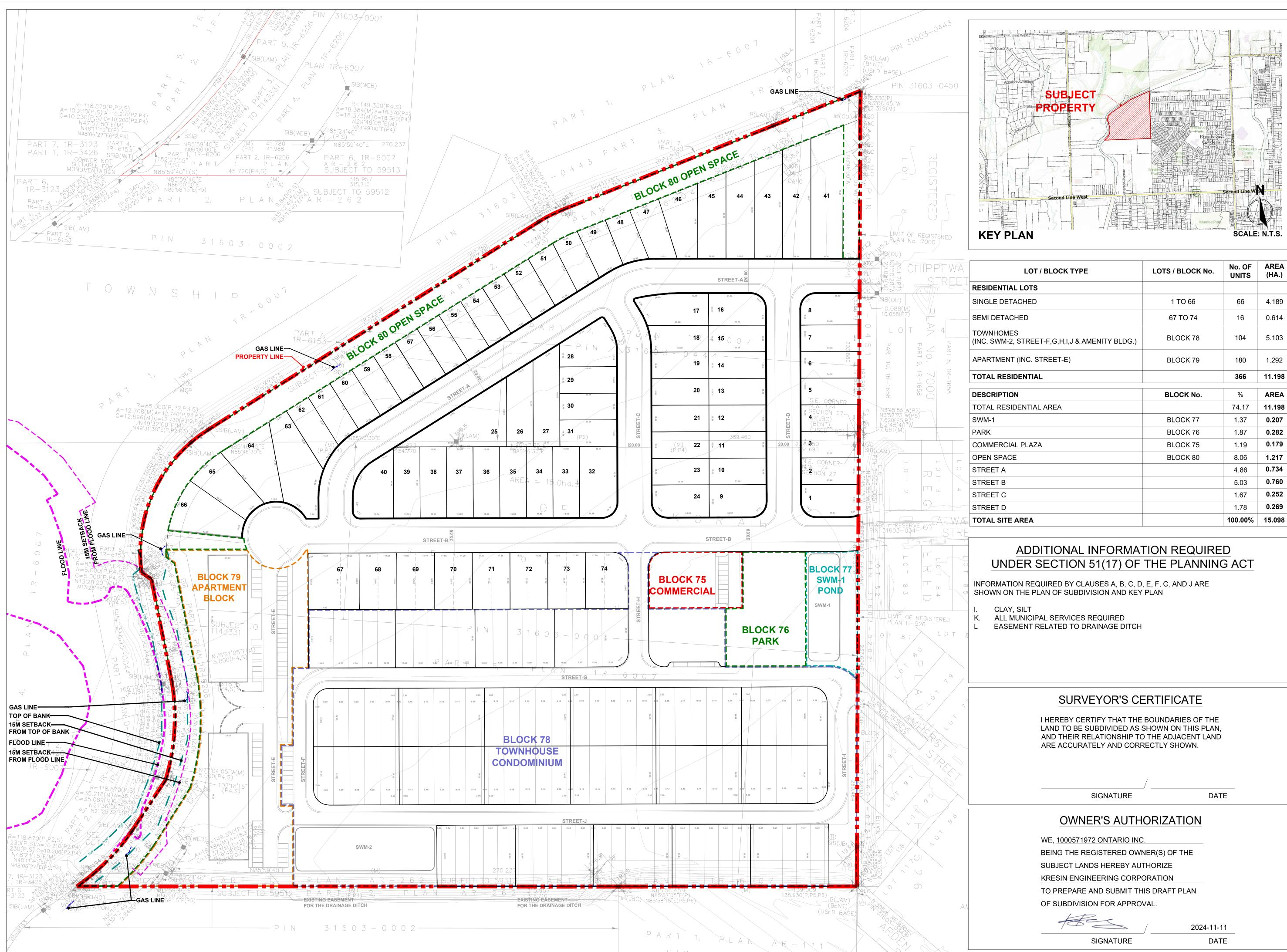
Intermediate Planner 705.759.6227 j.kircal@cityssm.on.ca



| LOT / BLOCK TYPE                 | LOTS / BLOCK No. | No. OF<br>UNITS | AREA<br>(HA.) |
|----------------------------------|------------------|-----------------|---------------|
| LOTS                             |                  |                 |               |
| HED                              | 1 TO 66          | 66              | 4.189         |
| ED                               | 67 TO 74         | 16              | 0.614         |
| TREET-F,G,H,I,J & AMENITY BLDG.) | BLOCK 78         | 104             | 5.103         |
| NC. STREET-E)                    | BLOCK 79         | 180             | 1.292         |
| INTIAL                           |                  | 366             | 11.198        |
|                                  | BLOCK No.        | %               | AREA          |
| NTIAL AREA                       |                  | 74.17           | 11.198        |
|                                  | BLOCK 77         | 1.37            | 0.207         |
|                                  | BLOCK 76         | 1.87            | 0.282         |
| PLAZA                            | BLOCK 75         | 1.19            | 0.179         |
|                                  | BLOCK 80         | 8.06            | 1.217         |
|                                  |                  | 4.86            | 0.734         |
|                                  |                  | 5.03            | 0.760         |
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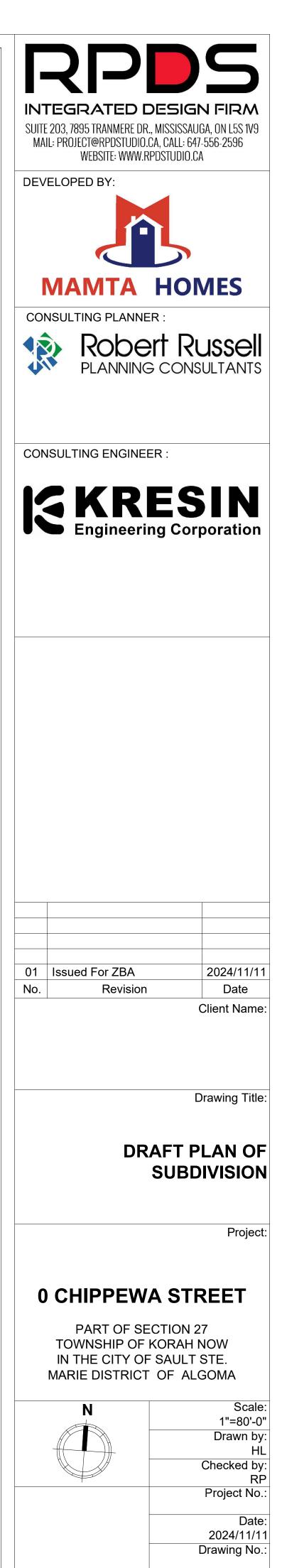


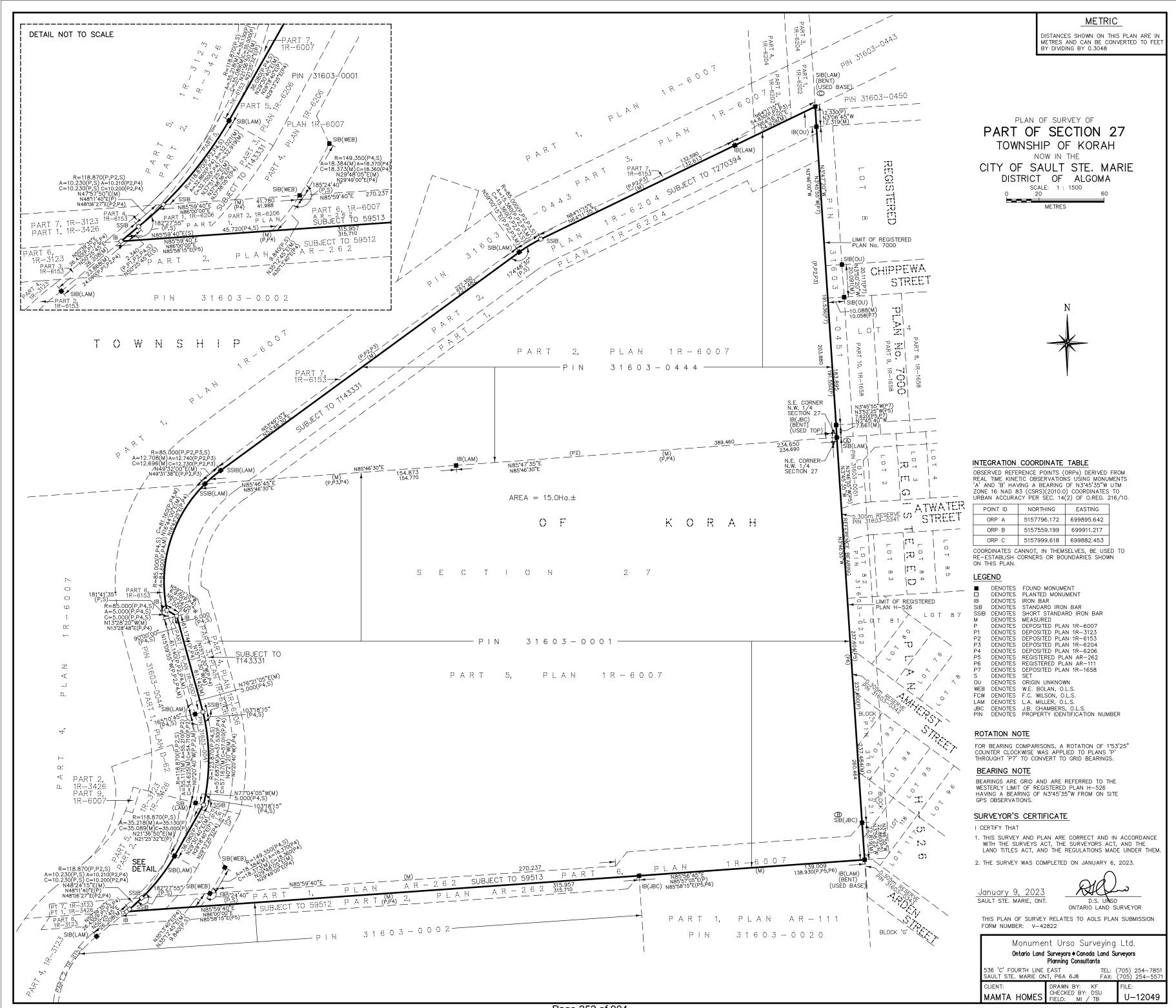


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| LOTS / BLOCK No. | No. OF<br>UNITS                                                                             | AREA<br>(HA.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| BLOCK 76         | 1.87                                                                                        | 0.282                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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### PLANNING JUSTIFICATION REPORT

RESIDENTIAL DEVELOPMENT 0 CHIPPEWA STREET SAULT STE. MARIE

> CLIENT: MAMTA HOMES

PREPARED BY:

ROBERT RUSSELL PLANNING CONSULTANTS INC. 162 GUELPH STREET, #209 GEORGETOWN, ONTARIO L7G 5X7

NOVEMBER 2024





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### **1.0 BACKGROUND**

Robert Russell Planning Consultants Inc. has been retained by Mamta Homes to prepare a Planning Justification Report in support of the proposed residential and commercial development at 0 Chippewa Street in the City of Sault Ste. Marie.

The Subject Site consists of two separate legal parcels Part 2 of Plan 1R-6007 (PIN 316030444) and Parts 5 & 6 of Plan 1R-6007 (PIN 316030001).

The Subject Site is located at the north west corner of the existing settlement area of Sault Ste. Marie (SSM) at the current terminus of Chippewa Street, Atwater Street, Amherst Street and Arden Street. To the north and is the Bennet-West Davignon Creek Flood Control Channel (BWDCC) and beyond that rural lands. To the west the Flood Control Channel merges with the West Davignon Creek beyond which are more rural lands. To the south are a number of properties with existing industrial and commercial uses interspersed with some apparently vacant lands. To the east and south east is an existing residential neighbourhood known as the Broadview Gardens neighborhood.

The Subject Site property is currently vacant and contains mostly scrub and early successional vegetation. There is an existing drainage ditch along the east and south property lines that outlets to the West Davignon Creek at the south west corner of the Subject Property.

The 15.1 hectare development site is generally triangular in shape with a width (north-south) at the east property limit of approximately 470 metres and maximum depth (east-west) of approximately 410 meters, measured at a right angle to the width. The watercourse forms the third side of the rough triangle.

Adjacent to and generally parallel with the watercourse is an easement which contains an Enbridge gas pipeline. The pipeline easement is fully contained within the proposed Open Space block along the creek. Enbridge has advised that this pipeline should have a 20 m physical setback from the pipeline itself to any residential occupied building. At this time, the locates that have been obtained, only identify a the pipeline location in a few specific locations. Due to the curved nature of the watercourse and pipeline easement, we are unsure of the exact pipeline location between these surveyed locations at this time. This will be reviewed in more detail as the application progresses through the review process.

There is very little elevation difference across the Subject Site, which slopes from an approximate elevation of 209 m above sea level along the north west limit to 201 m above sea level at the south east corner.

### 2.0 NEIGHBOURHOOD CONTEXT

Immediately east of the Subject Property is the Broadview Gardens neighbourhood consisting primarily of single detached and semi-detached dwellings, with associated non-residential uses and open spaces.

The pattern of public streets is generally rectangular and grid-like, however, there are a number of streets that diverge from the grid layout on a 45 degree angle.

Lot depths, widths and sizes also vary substantially throughout the adjacent neighbourhood. The majority of these lots have depths in the 30 to 40 metre range, but there are a few that are approximately 80 metres in



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depth. The widest single detached lots are approximately 20 metres wide, and the narrowest semidetached lots are close to 9 metres in width.

There is a similar range in built form style and appearance. Based on a casual neighbourhood survey, informed by in person neighbourhood tours and a Google Streetview desktop review, it appears all dwellings are generally traditional in design, with peaked roofs. Although there is a wide variety of materials and colours used throughout the neighbourhood, some of which trend toward a contemporary colour palette, while others are more traditional brick and siding.

It appears that the majority of the dwellings are single storey bungalows and raised bungalows. Two storey dwelling types appear to be mostly confined to the semi-detached dwellings in the neighbourhood.

### **3.0 DEVELOPMENT CONCEPT**

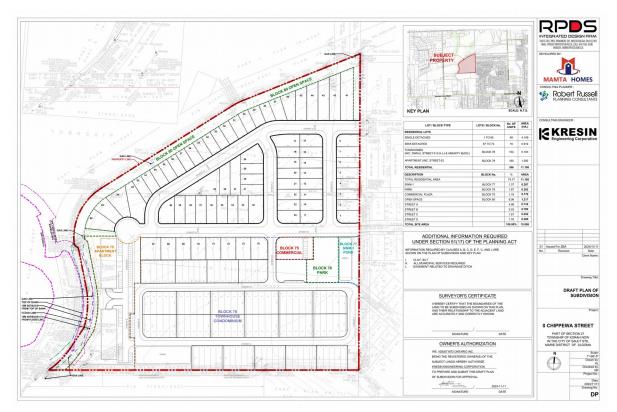


Figure 1: Draft Plan of Subdivision

Mamta Homes proposes to develop the large subject site in phases, with a variety of units types and tenures. The conceptual development plan as shown in Figure 1: Draft Plan of Subdivision includes an area at the north creating extensions of Chippewa Street and Atwater Street, which will be developed as a typical Plan of Subdivision and proposes the construction of public roads, a municipal stormwater

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management pond, a small commercial block and a public park. This area is labeled as Parcel A on the conceptual development plan and includes 66 single detached homes and 16 semi-detached homes.

Parcel B is located directly south of Parcel A, but does not extend all the way to the west boundary. Parcel B is proposed to develop as a common element condominium with 104 freehold townhouses that will be Parcels of Tied Land (PoTLs) associated with the Common Element Condominium Corporation. The Common Element Condominium will also include an amenity building that will function as a community centre for the Condominium residents. Access to the Common Element Condominium will be from Amherst Street and the future public roads that will be constructed as part of the Parcel A Plan of Subdivision.

Parcel C is a smaller block at the south west corner of the Subject Site and is proposed to contain 2 apartment buildings of 5 storeys each. A total of 180 apartment units are proposed. Apartment building parking will be provided partially underground and partially at grade. The apartment buildings will be Standard Condominiums. Access to the apartment site will be from the future public roads to be constructed as part of the Parcel A Plan of Subdivision.

The ultimate tenure of all townhouse and apartment units has not be finalized and there may be an opportunity for purpose built rental units. Given the large size and complex arrangement, the final phasing and ownership strategy are subject to change based on market conditions. Should the condominium strategy or development concept change, additional Planning Act applications may be required to facilitate the revisions. This decision will be based on market conditions close to the time the units are marketed for sale.

The site will be accessed from the terminus of the existing municipal roads in Broadview Gardens to the east. However, the angle and configuration of Arden Street may be difficult to access and it ultimately may provide to not be suitable.

### **4.0 PLANNING POLICY**

### 4.1 PROVINCIAL PLANNING STATEMENT 2024

The Province of Ontario released a new Provincial Planning Statement intended with updated policies, including some that were previously contained within the Growth Plan for the Greater Golden Horseshoe. The general intent of these policies appears generally consistent with the previous 2020 version of the Provincial Policy Statement, and should be familiar to the City of Sault Ste. Marie, however, the newly included policies that were once part of the Growth Plan would be novel to the City. The new 2024 Provincial Planning Statement is to apply to all land use planning decisions after October 20, 2024.

Several policies in the PPS support the proposed development.

- *"2.1.6 Planning authorities should support the achievement of complete communities by:"* 
  - a) accommodating an appropriate range and mix of land uses, housing options,...recreation, parks and open space, and other uses to meet long-term needs;..."

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- "2.2.1 Planning authorities shall provide for an appropriate range and mix of housing options and densities to meet projected needs of current and future residents of the regional market area by:...
  - b) permitting and facilitating:
    - all housing options required to meet the social, health, economic and well being requirements of current and future residents, including additional needs housing and needs arising from demographic changes and employment opportunities;
  - c) promoting densities for new housing which efficiently use land, resources, infrastructure and public service facilities, and support the use of active transportation; and
  - d) requiring transit-supportive development and prioritizing intensification, including potential air rights development, in proximity to transit, including corridors and stations."

The current vision is for an inclusive development that can accommodate any age demographic, or persons of varying physical ability level. The range of units proposed will provide a broad mix of residential types, affordability and tenure. The apartment and condominium units will reduce the property maintenance burden for individuals who are unable to undertake the work themselves. When compared with the current uses on the property the proposed development provides a more efficient use of land, and maximizes the efficiency of the existing services. The proposed development could provide a location for local older persons within the City of Sault Ste. Marie to age in place and maintain ties and social integration with the community in which they are part of. There are existing bus routes within a 5 minute walk of the Subject Property, and it is anticipated that transit routes could be extended in the future onto the Subject Property.

"2.3.1.1 Settlement areas shall be the focus of growth and development...."

The proposed development is within a settlement area in accordance with the above policy.

- "2.3.1.2 Land use patterns within settlement areas should be based on densities and a mix of land uses which:
  - a) efficiently use land and resources;
  - b) optimize existing and planned infrastructure and public service facilities;
  - c) support active transportation;
  - d) are transit-supportive, as appropriate;..."

The proposed density of the townhouses and apartment makes for a more efficient use of land than the surrounding single detached dwellings. Services are already in place and available at the east property line at the terminus of the existing streets within the Broadview Gardens neighbourhood. The property is within the designated growth area. An internal sidewalk network is provided with external connections to support active transportation. Sault Ste. Marie provides public bus transportation within the City with the Steelton R7 route extending into the Broadview Gardens neighbourhood. The additional density provided by the proposed development, as compared with the surrounding neighbourhood of predominantly single detached houses, would improve the efficiency of the existing transit route and any future transit expansion.

- *"2.9.1 Planning authorities shall plan to reduce greenhouse gas emissions and prepare for the impacts of a changing climate through approaches that:* 
  - a) support the achievement of compact, transit-supportive, and complete communities;...

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#### c) support energy conservation and efficiency..."

The proposed development includes a range of densities, include higher density residential building types that will provide a compact and transit supportive community. The inclusion of neighbourhood commercial uses, parkland and open space will contribute to a complete community in accordance with the above.

"3.6.2 Municipal sewage services and municipal water services are the preferred form of servicing for settlement areas to support protection of the environment and minimize potential risks to human health and safety...."

As described in the Municipal Servicing Report prepared by Kresin Engineering Corporation the proposed Plan of Subdivision will be connected to the existing municipal sewer and water services in accordance with this policy.

- *"3.6.8 Planning for stormwater management shall:* 
  - a) be integrated with planning for sewage and water services and ensure that systems are optimized, retrofitted as appropriate, feasible and financially viable over their full life cycle;
  - b) minimize, or, where possible, prevent or reduce increases in stormwater volumes and contaminant loads;
  - c) minimize erosion and changes in water balance including through the use of green infrastructure;
  - d) mitigate risks to human health, safety, property and the environment;
  - e) maximize the extent and function of vegetative and pervious surfaces;
  - f) promote best practices, including stormwater attenuation..."

As described in the Municipal Servicing Report prepared by Kresin Engineering Corporation the proposed Plan of Subdivision there are 2 dry stormwater management ponds proposed within the Plan of Subdivision, which will provide the necessary stormwater control in accordance with the policies above and City of Sault Ste. Marie design criteria. Low Impact Design opportunities can be considered at the time of detailed design. A substantial vegetative buffer will be provided coincident with the Enbridge pipeline easement that will provide further benefit to the stormwater management design.

*"4.1.8 Development and site alteration shall not be permitted on adjacent lands to the natural heritage features and areas identified in policies 4.1.4, 4.1.5, and 4.1.6 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions."* 

Greenstone Environmental Engineering has prepared an Environmental Impact Study for the proposed development that has identified fish habitat as the sole natural heritage feature present on or within proximity of the Subject Property. As further detailed in the EIS, the potential fish habitat will be sufficiently protected by the following features:

- vegetative buffer adjacent to the watercourse (Enbridge pipeline easement);
- grading and drainage design that directs surface flows away from the watercourse; and,
- stormwater management design that provides enhanced water quality controls.

5.2.2 Development shall generally be directed to areas outside of:



- b) hazardous lands adjacent to river, stream and small inland lake systems which are impacted by flooding hazards and/or erosion hazards;..."
- 5.2.3 Development and site alteration shall not be permitted within:
  - c) areas that would be rendered inaccessible to people and vehicles during times of flooding hazards..."

The floodplain related to the BWDCC is shown on the Draft Plan of Subdivision. The proposed development will be located outside of this floodplain in accordance with the above policies.

Given the above examples, and a review of the remaining policies within Chapters 2, 3, 4, 5 and 6 of the 2024 PPS, we are of the opinion that the proposed development is consistent with the policies related to Building Homes, Sustaining Strong and Competitive Communities, Infrastructure and Facilities, Wise Use and Management of Resources and Protecting Public Health and Safety.

### 4.2 CITY OF SAULT STE. MARIE OFFICIAL PLAN

The City of Sault Ste. Marie Official Plan was adopted by City Council on April 22, 1996 and was subsequently approved by the Province September 17, 1996. The amended and consolidated version of the plan dated May 30, 2003 and available on the City's website was utilized in the analysis below.

Schedule B – Hazards, identifies the extent of the Sault Ste. Marie Region Conservation Authority regulated area along the Bennet-West Davignon Creek Flood Control Channel to the north and west, and along the existing ditch on the east and south property lines. This schedule also indicates that the Subject Property contains Lacustrine Clay soils.

Schedule C – Land Use (4.1) designates the Subject Property as Residential and shows the Existing Urban Settlement Area boundary along the north and west limits of the Property.

The following goals and policies in the City of Sault Ste. Marie Official Plan apply to the subject site:

#### Part IV – Social Development

- *"LR.6 Inequalities of access within the parks system should be eliminated. The open space system should be integrated for linear recreational opportunities.*
- *LR.7* The Neighbourhood Parks System shall be reviewed to best service the communities changing population...
- *LR.9* Joint utilization of municipally and other publicly owned open space shall be encouraged."

The conceptual Plan of Subdivision includes a block for a new public park to provide open space recreation opportunities for the existing residents of the adjacent Broadview Gardens community and the future resident's of this proposed development in accordance with the above policies. A linear trail system is proposed within the buffer to the Bennet-West Davignon Creek Flood Control Channel and the proposed public park is located beside the stormwater management pond, which can provide additional options for walking paths and trails. A community centre is proposed to provide indoor amenity space for residents of the condominium blocks.

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The following policies were included in OPA 248 which was approved subsequent to the date of the Official Plan consolidation that is used for the rest of this Planning Report. OPA 248 policies are discussed immediately below and replace Part IV – Section 2.5 of the Official Plan.

Affordable housing is defined as:

- "a. In case of ownership housing, the least expensive of:
  - *i.* Housing for which the purchase price results in annual accommodation costs which do not exceed 30 percent of gross annual household income for low and moderate income households: or,
  - *ii.* Housing for which the purchase price is at least 10 percent below the average purchase price of a resale unit in the regional market area.
- b. In case of rental housing, the least expensive of:
  - *i.* A unit for which the rent does not exceed 30 percent of gross annual household income for low and moderate income households; or,
  - *ii.* A unit for which the rent is at or below the average market rent of a unit in the regional market area.
- c. Low and moderate income households:
  - *i.* In the case of ownership housing, households with incomes in the lowest 60 percent of the income distribution for the regional market area; or
  - *ii.* In the case of rental housing, households with incomes in the lowest 60 percent of the income distribution for renter households for the regional market area."

*"With the overall goal of encouraging and supporting the creation of additional affordable housing units, the City shall ensure that a minimum of 30% of all dwelling units throughout the community are affordable by:...* 

- *b)* Supporting a mixture of housing types, including infill development, residential intensification and higher residential densities.
- c) Supporting increased zoning flexibility, to permit a wider variety of dwelling units in more zones, including the creation of Additional Dwelling Units and up to 4 dwelling units on urban residential lots, subject to zoning provisions.
- d) Supporting innovative housing design, such as smaller units (tiny homes) and alternative development standards such as reduced lot frontages, setbacks and parking requirements....
- g) Prioritizing the review and processing of development proposals that include affordable dwelling units....
- *j)* Giving preference to locating large-scale new residential developments with affordable units within safe walkable distance of amenities such as public transit, grocery stores, parks and other public services."

A mix of housing types is proposed within this singular project, with a minimum of 4 different housing types including higher residential density uses. The Owner intended to market a variety of unit sizes catering to a wide range of residents with different housing needs. Smaller units with a single storey may appeal to those residents with mobility issues who want to limit or avoid stairs. Condominium units will appeal to those who do not want to, or are unable to, undertake their own exterior maintenance. It is anticipated that the smaller units would appeal to those looking for affordable housing, however, prices have not yet been established and it cannot be confirmed if any of the units will meet the definition of affordable housing at this time. Although the Subject Property is on the periphery of the settlement area of Sault Ste. Marie, the following

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community amenities are located within approximately 5 -7 minutes at an average walking pace (1 km or less) of the Site:

- Holy Family Catholic School
- Korah Collegiate and Vocational School
- Northern Community Centre

A slightly longer walk would provide access to convenience retail, financial institutions and restaurants and various commercial businesses along Second Line West. The closest grocery store appears to be a 20 minutes walk (approximately 3 km) from the Subject Property. Please note that the distances noted above are based on walking or driving distance along public roads, and not the straight line, proximity, distance.

### Part V – Physical Development – Natural Environment

Section 1 provides a list of goals related to the physical development of Sault Ste. Marie and includes the following relevant matters:

- To Maximize the environmental, social and economic benefits derived from protecting, maintaining, enhancing and developing natural environmental features and resources
- To maintain, or where necessary, to develop corridors or linkages between natural environmental features to maintain or enhance the natural habitat of the municipality.
- To require where appropriate an Environmental Impact Study (EIS) for proposed development.

The proposed development will, in part, assist the City of Sault Ste. Marie in meeting these stated goals. The existing Bennet-West Davignon Creek Flood Control Channel and West Davignon Creek will be maintained with the required floodplain and buffer. Linear features, such as watercourses inclusive of their buffers and setbacks can provide a valuable linkage between other natural areas, in addition to providing habitat within the linear linkage itself.

An EIS prepared by Greenstone Environmental Engineering dated July 11, 2024 is provided as part of this submission.

The Natural Heritage Feature policies in Section 3.2 reference the Technical Background report to classify the Natural Heritage Features within Sault Ste. Marie as either Category 1 or Category 2. City of Sault Ste. Marie staff have indicated that the Technical Background Report is no longer available for review, and indicated that regardless of whether the Natural Heritage Feature is considered to be Category 1 or 2, the EIS will need to review matters related to fish habitat. The Greenstone EIS meets this requirement.

- "H.2 Development applications within Category 2 Natural Features or Areas, or adjacent to a natural heritage feature or area may require an Environmental Impact Study (EIS). The municipality shall maintain an inventory of these features and areas.
- *H.3* If an Environmental Impact Study (EIS) concludes that the overall impact upon the natural heritage feature or area, or ecological function is negative (IE. detrimental), the development application shall not be approved."

The Greenstone EIS has reviewed the potential impact of the proposed development on the following identified features:



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- The Bennett West Davignon Diversion Channel located north and west of the Subject Property,
- The municipal drainage ditch located south and southeast of the Subject Property,
- The West Davignon Creek west of the Bennett West Davignon Diversion Channel, and
- The tributary that flows south into the Bennett West Davignon Diversion Channel located
- north of the Subject Property.

All of the above features are classified as coldwater aquatic and fisheries habitat. To protect the ecological function of these watercourses, a number of mitigation measures are proposed in the EIS, including the following:

- Provide a 15 m vegetated buffer setback to the top of bank of the Bennet-West Davignon Diversion Channel.
- Consideration should be given to incorporating native grasses, forbs and shrubs
- Design SWM measures to prevent impacts to the creeks.
- Minimum impervious areas within 50 m of the creeks

Additional measures are provided in the EIS including measures to mitigate construction impacts. For additional details please refer to Sections 7 and 8 of the Greenstone EIS.

"CL.1 The development of a domestic sewage system shall not take place in areas of clay soils unless all of the guidelines of the Ministry of Environment and Energy and Algoma Health Unit are met and the approval of the Algoma Health Unit is obtained."

The proposed development will be serviced by an extension of the municipal sanitary sewer system and will not include domestic sewage systems in accordance with the above policy.

Section 3.6 indicates that all waterbodies and watercourses in Sault Ste. Marie are considered to be fish habitat and categorized into Type 1, 2 or 3 in the Technical Background Report. City of Sault Ste. Marie staff have indicated that the Technical Background Report is no longer available for review, and indicated that regardless of whether the watercourse is categorized as Type 1, 2, or 3, the EIS will need to review matters related to fish habitat. The Greenstone EIS meets this requirement.

- *"FI.1 To protect all fish habitat from harmful disruption, alteration or destruction by not permitting development which could result in damage to these areas...*
- *FI.3* To ensure that public access to fishery resource areas is provided or maintained given that the area is suited to human activity...
- FI.5 All fish habitat, excluding areas identified as Type 1, is classified as Type 2 or 3. Applications for development in or adjacent to these areas, or adjacent to Type 1 Areas, may be approved by Council, if accompanied by an Environmental Impact Statement (EIS). The EIS may determine:
  - 1. that the habitat or a portion thereof is Type 1 and subject to policy F1.4 above, or
  - 2. the conditions under which development may take place.
- FI.6 A separate zoning provision shall be used in the Comprehensive Zoning By-law to identify a vegetative buffer adjacent to fish habitat.
- FI.7 Minor adjustments to expand or reduce the limits of the zoning buffer boundaries may be agreed upon by Council or Committee of Adjustment at the time of consideration of adjacent development proposal. Such minor refinements would not necessitate an amendment to this Plan."



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No development is proposed within the area of fish habitat. The EIS prepared by Greenstone has provided a series of recommendations for design and construction that will ensure the protection of the fish habitat in accordance with Policies FI.1 and FI.5 of the Official Plan. It is anticipated that the buffer adjacent to the Bennet-West Davignon Diversion Channel will contain a public trail system and allows for public access to the fishery recourse in accordance with the above policies. The recommended buffer is proposed to be placed in an Environmental Management zone as per the requirements of FI.6 of the Official Plan.

#### Part VI – Physical Development – Built Environment

Section 1 of Part VI includes a number of goals for the built environment and includes the following relevant statements:

- To develop the physical form of the community to be environmentally sustainable, functionally efficient and aesthetically pleasing.
- To plan for the needs of a stable population and its working, living and recreational activities.
- To develop flexible and adaptable land use plans and development procedures that respond rapidly to development opportunities.



Figure 2: Conceptual Semi-Detached Units



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Environmental sustainability, as a concept, consists of a wide range of factors throughout the design, construction and end user operation of a development project. Future Site Plan applications for the condominium blocks will advance the sustainability discussion for those portions of the development. During the Zoning Amendment and Plan of Subdivision application processes, high level sustainability matters can be reviewed. The proposed subdivision includes a grid based street layout that would allow for an efficient use of land, and efficient municipal infrastructure design. Aesthetically pleasing conceptual renderings of the future built form are provided in Figure 2: Conceptual Semi-Detached Units and Figure 3: Conceptual Apartment.



Figure 3: Conceptual Apartment

The proposed development will provide additional housing options, and additional recreation opportunities.

"D.1 The physical form of the community shall be friendly and accessible to all users and development shall respect and reinforce the human scale. New development should be designed to integrate with the existing urban fabric.

Development or redevelopment should replicate and/or respond to existing colour, texture, scale, and massing in order to harmonize with the existing streetscape rhythm and the relationship of uses."



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Public sidewalks are proposed on both sides of all public roads within the Draft Plan of Subdivision. The public sidewalks will reinforce the human scale by providing public space dedicated to pedestrians throughout the development. The existing urban fabric created by the road and block layout of the adjacent Broadview Gardens community will continue, and extend into the proposed development. Conceptual renderings show the proposed built form of the development, these attempt to respect the built form character of the existing neighbourhood, however, the existing neighbourhood has a wide range of building styles and materials without a coherent theme. The architectural style of the proposed development will be further refined through the detailed design phase of the Plan of Subdivision and at the time the application for Site Plan approval is prepared.

"D.3 The maintenance and/or reinforcement of all natural features such as river and creek valleys, ravines, wooded areas, parkland and heritage landscapes located within or next to development sites shall be encouraged."

As noted previously in this report, the Bennet-West Davignon Diversion Channel and West Davignon Creek will be maintained, through the proposed setbacks and mitigation measures recommended in the EIS by Greenstone.

### *"D.4 Views and vistas of built and natural features...shall be preserved and enhanced."*

The proposed walking trail within the setback buffer to the Bennet-West Davignon Diversion Channel will provide views of the creek and the naturalized rural area to the west and north of the Proposed Development. The proposed public park will have positive street frontage, providing a public view into the future recreation and open space. Placing the proposed SWM pond adjacent to the proposed park will provide additional opportunities for views of the quasi-natural and built features in these two blocks.

*"D.7 ...Front yard landscaping and landscaped buffers should be provided to separate and visually screen parking areas from the street and abutting properties."* 

The site layout for the proposed Commercial Block 75 and the proposed Apartment Block 79 shows the parking areas in the side yards rather than in the front yards of these blocks. A landscape plan will be prepared at the time of Site Plan application to further demonstrate how these parking areas will be screening from the street and abutting properties.

#### "D.9 Pedestrian and cycling access to parks, bus stops and schools shall be encouraged."

The proposed park has frontage on a public road with a sidewalk directly abutting it. The proposed park also has frontage on a proposed private condominium road, opposite the public road frontage. The dual frontage of the park provides an elevated level of public access for the future residents of the Proposed Development and the existing residents in the adjacent community. There is existing bus service within the adjacent community to the east, access to this route would be available along Chippewa and Atwater Streets.

"D.10 All uses should provide sufficient parking on site except where alternatives are provided for in the downtown."

All proposed lots and blocks will provide parking at a rate that meets and may exceed the current Zoning By-law requirements. Most of the single detached lots will have sufficient width to accommodate a double

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car garage with a driveway that would also accommodate 2 cars side by side. The ultimate number of parking spaces that are provided will be refined during detailed design of each component of the Proposed Development.

"D.11 'Winter City' design principles which acknowledge the climate of the community shall be considered."

There are a number of resources available for guiding the design of winter cities. The following discussion is based mostly on a review of materials produced by, or other articles that were curated by, The Winter Cities Institute.

A key goal of Winter City design is to encourage people to have access to and enjoy the outdoors during the winter months. In order to do, certain climatic factors must be mitigated to maintain safety and comfort outside. Some of these design strategies relate to building design and configuration and can be addressed at the detailed design phase for the Proposed Development. The Winter City design principles that have been considered in the Proposed Development include the following:

- Wind
  - The orientation of the proposed apartment buildings will create a partial wind block from prevailing westerly winds making the area immediately east of the buildings most hospitable in the winter. The parking areas and primary building entrances will be located on the lee side of the buildings.
  - The proposed commercial plaza and condominium amenity building will also provide some measure of wind reduction for the public park.
- Snow
  - Snow storage areas are provided adjacent to the proposed public stormwater pond and within the condominium blocks.
  - Underground parking at the apartment will eliminate the time and effort needed to clear snow from vehicles. This has safety benefits as windshields will be warm enough to resist freezing, and energy reduction benefits from reduced idling.
- Density
  - Higher densities and the proximity of essential businesses will result in shorter walking distances, and encourage active transportation in the winter months.
- Energy
  - The energy requirements to heat a single detached dwelling in the winter are substantially more than the energy requirements to heat a townhouse or apartment due to the greater heat loss from having 4 walls exposed to the exterior. As half of the proposed units in Development are apartment units, the total heating requirements for the Proposed Development are much less than a similar development consisting only of single or semi-detached dwellings.
  - The modified grid street system will minimize, as much as possible, travel distances for vehicles and pedestrians, reducing transportation related energy expenditure.

Additional Winter City principles that can be considered at the time of detailed design would include:

- Using balconies, irregular facades and stepping back upper storeys of the apartment building to reduce wind speeds and deflect the wind away from the ground amenity area on the windward side of the buildings.
- Steeper roof pitches on ground oriented dwellings to reduce snow loads.



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- Warm colours, lighting and landscaping can offset darkness during winter.
- Heated pedestrian walkways and ramps for the apartment building and commercial plaza.
- Providing dedicated and convenient vehicle block heater plugs for all units.

## *"E.1 The use of energy efficient development standards shall be encourage in all new development."*

Energy efficient strategies are still under consideration for the Proposed Development. The ultimate list of which strategies will be incorporated will be confirmed at the time of detailed design.

## *"E.4 Alternative transportation and energy efficient forms of transportation such as public transit, cycling and walking shall be supported."*

As noted previously in this report, there is an existing bus route within a 3 minute walk of the Proposed Development and all public roads will include sidewalks on both sides to encourage walking and transit usage. Furthermore, the additional population of future residents within the Proposed Development will improve the viability of the existing transit service and potentially support future expansions.

## *"R.1 A mixture of housing types and diversity of ownership and tenure forms shall be encouraged in new development."*

The Proposed Development consists of single detached dwellings, semi-detached dwellings, townhouses and apartment units, which are a wide range of housing types. The single detached and semi-detached dwelling will be freehold, fee simple, ownership.

The tenure of the townhouses has yet to be confirmed, these could be freehold Parcels of Tied Land (PoTLs) associated with a common element condominium, or they could be advanced as a standard condominium. Consideration is also being given to establishing purpose built rental units as part of the townhouse block.

Various options are also being considered for the apartment block. One such option being considered is that one building may be entirely condominium ownership and the other purpose built rental.

# *"R.2 Low and high density development should be integrated and compatible in density, height and building setbacks. Generally, high density development shall be restricted to major arterial streets and areas abutting the downtown core."*

It is appropriate to locate high density apartment uses on the Subject Property as the location of the high density apartments at the south west corner of the Property, with the townhouses interceding as a transitional buffer to the existing residential area will avoid any negative impacts of the apartment buildings on the existing neighborhood. Public Transit will be available to the apartment residents through the adjacent neighbourhood which is already serviced by Public Transit. The proposed commercial plaza within the Proposed Development will serve the future residents of the Proposed Development. As such, although the Subject Property is not on an arterial street or near the downtown core, many of the benefits of those locations already exist in the surrounding community or are being replicated in the Proposed Development.

*"R.7 ...Commercial development of less than 200 sq.m may be permitted on lands designated Residential without an Official Plan amendment."* 

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An Official Plan Amendment is being submitted to permit the proposed 390 m<sup>2</sup> commercial plaza.

"C.17 Commercial activities which are not located in the Downtown or Great Northern Road – Trunk Road areas should be limited to those uses which are intended to serve the needs of the immediate neighbourhood."

The proposed Official Plan Amendment to permit the commercial plan will permit neighbourhood commercial uses only such as convenience and small scale commercial retail, personal service shops, financial institutions and restaurants.

"C.18 Commercial uses of this nature should be grouped together in Neighbourhood malls or at the intersection of arterial streets."

The commercial plaza will function as a small neighborhood mall in accordance with the above policy.

*"P.4 Residential developments shall be required to provide 5% of the land for park purposes or cash in lieu of 5% where the City deems it appropriate. Non-residential developments shall be required to provide up to 2% of the lands for parkland or cash in lieu of parkland...."* 

Total site area is 15.098 hectares, less the commercial plaza of 0.179 hectares provides a residential development area of 14.919 hectares. The residential parkland requirement of 5% equals a residential parkland area of 0.746 hectares.

The commercial plaza parkland requirement of 2% equals a parkland dedication amount of 0.0036 hectares.

The total parkland dedication amount required is 0.75 hectares. The proposed park on the Plan of Subdivision is 0.282 hectares, as such there would be a parkland deficit of 0.468 hectares.

*"P.6 Opportunities for integrated linear park systems at the Neighbourhood level should be developed wherever possible."* 

The 15 metre buffer to the Bennet-West Davignon Diversion Channel will include a pedestrian trail to function as a linear park system on the west and north perimeter of the Proposed Development in accordance with this policy. Consideration should be given to including this trail system as part of the parkland dedication given that it will provide an outdoor public recreation amenity and function as a linear park as per the above policy.

### "TR.2 Street Classification ...

4. Local Streets ... are designed to facilitate the safe movement of traffic within a residential area. The design width of local streets is up to 20m. Individual access from abutting uses is permitted. Local streets shall be designed to discourage through traffic thus, preserving their usage as access to the abutting uses and enhancing safety."

The Proposed Development includes a mix of proposed public rights of way, and private roads within the future condominium blocks. The Plan of Subdivision shows that the public rights of way are 20 m in width, and provide direct access to every single detached and semi-detached lot proposed, along with access to

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the park and commercial block. Given the location of the Subject Property at the periphery of the settlement area, and the adjacent industrial properties to the south, there are no external connections that would allow for through traffic.

#### *"TR.7 Alternative Modes of Transportation"*

- 1. Public Transit use shall be encouraged by the City. The needs of the transit system shall be considered in ... development approvals..."
- 2. Sidewalks and Walkways shall be used to separate pedestrian and vehicular traffic....These policies will be applied to new residential subdivisions when they are developed....
- 4. A Recreational Transportation System shall be developed by a comprehensive system of multi-use, shared trails throughout the City. The trail system will enhance recreational and economic opportunities. The system shall be considered as part of the development approval process for dedication of space, lands or right of ways....
- 5. Alternative Transportation Modes will be considered as part of the development approval process for large scale residential ... projects, and they may include provisions for bicycle storage facilities, locker rooms and shower facilities etc.."

The Proposed Development will contribute to the ridership of the existing transit system in the City. Proposed public roads within the Plan of Subdivision will be connected to the existing road system and allow for the potential future expansion of a bus route into the Proposed Development.

Sidewalks are provided on both sides of the proposed public right of ways, and on one side of the private roads within the condominium blocks.

There is an opportunity for a trail system along the Bennet-West Davignon Diversion Channel buffer, that has the potential to be extended in both upstream and downstream directions as part of a comprehensive trail system. Discussion Paper #3 of the Soo Moves Active Transportation Master Plan has identified this trail location on Figure 24 – Candidate Cycling and Multi-Use Network, and labeled it as a Previously Proposed Off-Road Facility.

All ground oriented residential dwellings, including the single detached, semi-detached, and townhouses dwellings will have private garages with the opportunity for secure and weather protected bicycle storage. Through the detailed design process for the apartment buildings, it is anticipated that secure bicycle parking will be provided for residents and visitors. All dwelling units will have their own private shower facilities and as such, separate facilities specifically for cyclist would be redundant.

"TR.8 In reviewing proposals for major development within the City, consideration of the potential impact on the safety, efficiency and volume of traffic on abutting streets shall be considered...."

A Traffic Impact Study prepared by CIMA+ is provided in Appendix 6 of the Municipal Servicing Report prepared by Kresin Engineering Corporation. The key findings of that report include:

- There are suitable sightlines for the existing driveways on Amherst Street and the proposed connection to the future private condominium road will not present any safety concerns.
- Under full build out conditions, the Goulais Avenue and Second Line West intersection will experience long delays during both the AM and PM peak hours. However, adjusting the signal



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timing would mitigate these delays and ensure that the intersection generally operates at an acceptable level of service. The exception being that during the PM peak hour, the westbound through-right turn lane, northbound through-right turn lane, and southbound left turn lanes will operate at level of service E, which is one grade below acceptable.

 A westbound auxiliary right turn lane could be considered to address the above noted PM peak hour delays, however, it is understood that the City is expected to complete a road diet on Goulais Avenue, and the reconfigured lanes will affect and likely improve the existing and future level of service of the Goulais Avenue and Second Line West intersection.

## "S.5 The impact of any new development on the natural and man made storm drainage systems shall be reviewed..."

Two dry stormwater management ponds to provide stormwater quality and quantity treatment are proposed to service the Plan of Subdivision, including the condominium development blocks. A review of stormwater requirements and functional design of these facilities is included within the Municipal Servicing Report prepared by Kresin Engineering Corporation. Both ponds will outlet to the West Davignon Creek Channel.

"S.6 New lots in the Urban Area shall be serviced by both municipal water and sewer."

Full municipal services are proposed for the Plan of Subdivision and condominium blocks. The Municipal Servicing Report prepared by Kresin Engineering Corporation include a preliminary design for the distribution and sizing of this infrastructure.

*"6.1 Approval of subdivisions assigned to City Council through the provisions of the Planning Act. Council shall evaluate applications for subdivision approval consistent with the objectives and policies of the Province and Official Plan."* 

This Planning Justification provides an analysis of the objective and policies relevant to the proposed Plan of Subdivision for use by City Council when considering the Planning Act applications.

### 3.4 SAULT STE. MARIE ZONING BY-LAW 2005-150

The Sault Ste. Marie Zoning By-law 2005-150 was approved by Council October 2005. The May 2024 consolidation of the Zoning By-law was used in the below analysis.

Schedule A of the Sault Ste. Marie Zoning By-law zones the Subject Property primarily as Rural Area (RA) Zone. Along the east and south property limits there is a narrow strip that is zoned as Environmental Management (EM) Zone associated with the existing drainage ditch.

The RA zone will permit up to 2 dwellings per lot, but the building and use regulations require a minimum lot area of 0.8 hectares and minimum frontage of 45 metres, which would preclude the Proposed Development as shown on the Draft Plan of Subdivision. As such, a Zoning By-law Amendment will be required to facilitate the Proposed Development. Upon review of the various residential zone regulations, none currently appear permit 2 storey single detached dwellings with frontages of 15 metres. Most of the single detached lots in the Proposed Development are approximately 15 to 16 metres in frontage. However, there are a few wider or narrower lots at corners and in locations with irregular lot configurations. As such, site specific exceptions will be required to permit the development of the Plan of Subdivision. The parent zone category used for the site specific zoning was chosen based on the zone that would most closely match the



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requirements of the Proposed Development and thus minimize the number of site specific exceptions. The Low Density Residential Zone (R3) is used for the Single and Semi-detached and the High Density Residential Zone (R5) is used as the basis for the Townhouse and Apartment dwellings.

Reduced minimum rear yards and front yards are proposed, primarily to be applied to the lots backing onto the Enbridge pipeline easement given that there is substantial open space behind these lots that will contribute to the low density residential character without the need for additional space within the lots themselves. The reduction to lot area and increase in coverage is also required primarily for the smallest of the lots that back onto the Enbridge pipeline, the rest of the lots in the Plan of Subdivision are likely to meet the minimum area and maximum coverage requirements.

Please find a zoning conformity analysis below, identifying those parameters that will necessitate a site specific exception. Grey shading in the tables denotes those site specific matters that differ from the by-law requirement for the parent R3 and R5 zones.

| Parameter                                                 | <u>R3 Required</u><br>(Based on 2 storeys) | Provided           |
|-----------------------------------------------------------|--------------------------------------------|--------------------|
| Lot Area                                                  | 460 m <sup>2</sup>                         | 430 m <sup>2</sup> |
| Frontage                                                  | 18 m                                       | 11 m               |
| Front Yard                                                | 7.5 m                                      | 6 m                |
| Exterior Side Yard                                        | 4.5 m                                      | 4.5 m              |
| Interior Side Yard (one side)                             | 1.8 m                                      | 1.5 m              |
| Interior Side Yard (other side)                           | 3 m                                        | 1.5 m              |
| Rear Yard                                                 | 10 m                                       | 6 m                |
| Maximum Lot Coverage                                      | 40%                                        | 50%                |
| Required Front Yard and Exterior Side<br>Yard Landscaping | 50%                                        | 50%                |

Table 1: R3 Zoning Compliance

The apartment block and common element condominium townhouse block will be placed in a site specific R5 zone. Most of the site specific exceptions listed below are required for the apartment block given the narrow configuration and need to exclude the pipeline easement from the development block.

| Parameter                                              | R5 Required                                        | Provided |  |
|--------------------------------------------------------|----------------------------------------------------|----------|--|
| Frontage                                               | 30 m<br>(exempt for condominium per Section 4.3.1) | 35 m     |  |
| Frontage (attached Residential Structures per 4.14.10) | 8 m plus side yard setback                         | 8m       |  |
| Front Yard                                             | 7.5 m                                              | 6 m      |  |
| Exterior Side Yard                                     | 7.5 m                                              | 2.5 m    |  |
| Interior Side Yard (one side)                          | 4.6 m 1.5 m                                        |          |  |



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| Parameter                                              | R5 Required | Provided |
|--------------------------------------------------------|-------------|----------|
| Rear Yard                                              | 10 m        | 6 m      |
| Maximum Lot Coverage                                   | 33%         | 50%      |
| Required Front Yard and Exterior Side Yard Landscaping | 50%         | 35%      |

The EM zone will permit development in accordance with the provisions of the abutting zone, upon determining the appropriate limits of the Natural Resource and Constraint Area in accordance with the provisions of Section 10 (Introduction), 10.2 and 10.3 of the Zoning By-law. Section 10.3 provides the criteria for lifting the holding zone to permit development. As discussed above, the feature that warrants review is the potential for fish habitat within the drainage ditch. This has been addressed in the EIS which has indicated that the current extent of the ditch and top of embankment will be sufficient to protect this feature, provided the grading and drainage design direct surface water away from the ditch.

Given the above examples, and rationale for the site specific zoning amendments which is primarily based on the unique constraints imposed by the site, natural hazards and the Enbridge pipeline, we are of the opinion that the proposed development will be in conformance with Zoning By-law 2005-150 upon implementation of the proposed Zoning By-law Amendment. Furthermore, the proposed Zoning By-law Amendment is consistent with the City of Sault Ste. Marie Official Plan and will facilitate the construction of a development that is compatible with the existing neighbourhood context.

### 4.0 SUMMARY

The proposed applications for a Zoning By-law Amendment and Plan of Subdivision to permit the development of a residential community consisting of single detached, semi-detached, common element townhouses and apartments, meets the policies and objectives of the Province of Ontario as expressed in the 2024 Provincial Planning Statement. The proposed applications also conform with the policies of the City of Sault Ste. Marie Official Plan by providing additional density in a location that is designated for development and can accommodate a measured increase to density without significant adverse impacts to the surrounding community.

It is my opinion that the proposed Zoning By-law Amendment and Plan of Subdivision represents good and sound planning and is appropriate for this property.

Yours Truly,

ROBERT RUSSELL PLANNING CONSULTANTS INC.

Shull

Rob Russell, MCIP, RPP President

## FINAL REPORT



## O CHIPPEWA STREET

SAULT STE. MARIE, ONTARIO

LAND-USE COMPATIBILITY/MITIGATION STUDY (AIR QUALITY AND NOISE) RWDI # 2302983 January 22, 2025

### SUBMITTED TO

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<u>K</u>

#### RWDI #2302983 January 22, 2025

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#### LAND-USE COMPATIBILITY/MITIGATION STUDY (AIR QUALITY AND NOISE) 0 CHIPPEWA STREET

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### LAND-USE COMPATIBILITY/MITIGATION STUDY (AIR QUALITY AND NOISE) 0 CHIPPEWA STREET

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## **1** INTRODUCTION

RWDI was retained by RPD Studio to undertake a land use compatibility study in support of a site-specific Zoning By-law Amendment submission for the proposed 0 Chippewa Street development, located in Sault Ste. Marie, Ontario. The proposed development will consist of 60 detached, 22 semi-detached, 112 townhouse, and 180 apartment units. The location of the subject lands is shown on **Figure 1**. This study was based on architectural drawings dated August 23, 2023. The drawings are provided in **Appendix A**.

The subject lands are currently unused. The surrounding land use consists primarily of residential lands, natural environment and light industry.

The scope of this study was to identify any existing and potential land use compatibility issues, with respect to air quality and noise, and evaluate options to achieve appropriate design, buffering and/or separation distances between the proposed sensitive land uses and nearby employment areas and/or major facilities.

### 2 LAND USE COMPATIBILITY POLICIES AND GUIDELINES

### 2.1 Provincial Policy Statement

Sections 3.5 of the Provincial Policy Statement 2024 (Government of Ontario 2024) state the following:

*"Major facilities* and *sensitive land uses* shall be planned and developed to avoid, or if avoidance is not possible, minimize and mitigate any potential adverse effects from odour, noise and other contaminants, minimize risk to public health and safety, and to ensure the long-term operational and economic viability of *major facilities* in accordance with provincial guidelines, standards and procedures. *"* 

Section 3.3 of the Provincial Policy Statement 2024 further states that "New development proposed on adjacent lands to existing or planned corridors and transportation facilities should be compatible with, and supportive of, the long-term purposes of the corridor and should be designed to avoid, or where avoidance is not possible, minimize and mitigate negative impacts on and *adverse effects* from the corridor and transportation facilities."

### 2.2 Provincial Compatibility Guidelines

The Ministry of Environment, Conservation and Parks' (MECP) D-series guidelines deal with land use compatibility in Ontario. The most relevant guideline in the present case is D-6 Compatibility between Industrial Facilities (MOE 1995). It provides a classification scheme for industries based their potential for emissions that could cause adverse effects. The classification scheme is summarized in **Table 1**.

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#### Table 1: D-6 Industry Classification Scheme

| Class                                                                                                                                                                                                                                                                            | Descriptors                                                                                                                                                                                                                                                                                         |  |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| I                                                                                                                                                                                                                                                                                | <ul> <li>Small scale</li> <li>Self-contained</li> <li>Packaged product</li> <li>Low probability of fugitive emissions</li> <li>Daytime operations only</li> <li>Infrequent and/or low intensity outputs of noise, odour, dust, vibration</li> </ul>                                                 |  |  |
| <ul> <li>Medium scale</li> <li>Outdoor storage of wastes or materials</li> <li>Periodic outputs of minor annoyance</li> <li>Low probability of fugitive emissions</li> <li>Shift operations</li> <li>Frequent movement of products and/or heavy trucks during daytime</li> </ul> |                                                                                                                                                                                                                                                                                                     |  |  |
| ш                                                                                                                                                                                                                                                                                | <ul> <li>Large scale</li> <li>Outside storage of raw and finished products</li> <li>Large production volumes</li> <li>Continuous movement of products and employees during shift operations</li> <li>Frequent outputs of major annoyance</li> <li>High probability of fugitive emissions</li> </ul> |  |  |

For each class of industry, the guideline provides an estimate of potential influence area and a minimum recommended separation distance, which is set out in **Table 2**.

| Class | ass Potential Influence Area (m) Minimum Separation Distance (m) |     |
|-------|------------------------------------------------------------------|-----|
| I     | 70                                                               | 20  |
| П     | 300                                                              | 70  |
| Ш     | 1000                                                             | 300 |

#### **Table 2: D-6 Separation Distances**

Guideline D-6 recommends the following:

- "...no sensitive land uses shall be permitted within the actual or potential influence areas of Class I, II or III industrial land uses, without evidence to substantiate the absence of a problem." (Sec. 4.5.1 of Guideline D-6).
- 2. "No incompatible development other than that identified in Section 4.10, *Redevelopment, Infilling and Mixed-Use Areas* should occur [within the recommended minimum separation distances]" (Sec. 4.3 of Guideline D-6)
- 3. "When a change in land use is proposed [in an area of urban redevelopment, infilling or transition to mixed use] for either industrial or sensitive land use, less than the minimum separation distance ... may be acceptable subject to either the municipality or the proponent providing a justifying impact assessment (i.e., a use specific evaluation of the industrial processes and the potential for off-site impacts on existing and proposed sensitive land uses). Mitigation is the key to dealing with less than the minimum to the greatest extent possible." (Sec. 4.10.3 of Guideline D-6).

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4. With respect to how separation distance should be measured, the guideline states that "measurement shall normally be from the closest existing, committed and proposed property/lot line of the industrial land use to the property/lot line of the closest existing, committed or proposed sensitive land use." However, it does allow the measurement to include areas within the lot lines (on-site buffers) where site-specific zoning or site plan control precludes the use of the area for a sensitive use in the case of the sensitive land use, and for an activity that could create an adverse effect in the case of the industrial land use.

When dealing with vacant industrial lands, the guideline states that "determination of the potential influence area shall be based upon a hypothetical worst-case scenario for which the zone area is committed".

### 2.3 Environmental Noise Guideline NPC-300

The MECP Environmental Noise Guideline NPC-300, Stationary and Transportation Sources – Approval and Planning (MOE, 2013) sets out requirements for noise and vibration modelling, monitoring, and reporting that must be completed when applying for an Environmental Compliance Approval (ECA). The guideline also supports land use applications made under the Planning Act. Guidance from NPC-300 was used to assess environmental sound from industrial sources and nearby transportation corridors. NPC-300 also specifies that industry and road traffic noise are to be assessed separately.

NPC-300 noise criteria applicable to an industry vary depending on the character of ambient noise in the surrounding area. Class 1 is an urban area with an acoustic environment that is continuously dominated by the sounds of human activity, as would be found in a major urban centre. Class 2 areas are suburban or semi-rural areas where sounds of human activity drop off earlier in the evening. Class 3 areas are rural where the acoustic environment is dominated by natural sounds. The acoustic environment surrounding the study area would be classified as a Class 1 area.

### 2.3.1 Stationary Sources

Stationary sources could be grouped into two categories: Those that have a permit with the MECP through an ECA or Environmental Activity and Sector Registry (EASR); and those that are exempt from ECA or EASR permit requirements.

In the case where a stationary source has an ECA or EASR permit with the MECP and would be put in a position where it is no longer in compliance with the applicable sound level criteria due to the encroachment of the proposed new development, source specific mitigation and/or formal classification of the proposed development lands as a "Class 4 Area" (refer to C.4.4.2 "Class 4 Area" in NPC-300) would be required. In this case, coordination and agreements between the stationary source owner, proposed new development owner, the land-use planning authority and potentially the MECP would be needed.

In the case where a stationary source is exempt from ECA or EASR permit requirements with the MECP, the noise provisions of the applicable Municipal Code and guidance from NPC-300 would be applicable. In this case, mitigation of sound levels due to stationary sources would be from a due diligence perspective to avoid nuisance complaints from future occupants of the proposed new development. Mitigation could be in the form of mitigation at the source (with agreement from the stationary source owner) and/or mitigation at the receptor through site and building element design (building orientation, acoustical barriers, façade sound insulation design).

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For assessing sound originating from industry, NPC-300 defines sound level criteria for Points of Reception (PORs). Outdoor amenity areas and windows/doors leading to sensitive indoor spaces are both defined as PORs. There are distinct assessment criteria for outdoor PORs, and PORs on building façade.

Outdoor PORs such as front, side or back yards and large balconies are assessed based on the worst-case one-hour equivalent sound level for daytime (0700 to 1900h), and evening (1900 to 2300h). Outdoor PORs are not assessed during the nighttime (23:00 to 07:00h). The sound level criteria for stationary sources associated with industry are summarized in **Table 3**.

Façade PORs, such as windows/doors leading to sensitive indoor spaces, are also based on worst-case one-hour equivalent sound level for daytime, evening, and nighttime. The assessment of sound at façade PORs assumes that all windows and doors are open to the environment. The sound level criteria for stationary sources associated with industry are summarized in **Table 3**.

#### Table 3: NPC-300 Limits for Industrial Sources

| Time of<br>Day | Time Period  |        | Exclusion Limit for Plane of<br>Window of Noise Sensitive Spaces<br>Class 1, L <sub>EQ-1hr</sub> |  |
|----------------|--------------|--------|--------------------------------------------------------------------------------------------------|--|
| Daytime        | 07:00-19:00h | 50 dBA | 50 dBA                                                                                           |  |
| Evening        | 19:00-23:00h | 50 dBA | 50 dBA                                                                                           |  |
| Nighttime      | 23:00-7:00h  | N/A    | 45 dBA                                                                                           |  |

## 3 METHODOLOGY

The tasks for this study consisted of reviewing the following items:

- The official plan and zoning by-laws for the surrounding area;
- Published satellite imagery and street-based photography;
- MECP Environmental Compliance Approval (ECA) and Environmental Sector and Activity Registry (EASR) permits for existing industries within 1000 m of the subject lands;
- Pending applications for amendment to ECAs of any major facilities, posted on the Environmental Registry;
- Guidelines D-1 (Land Use Compatibility) and D-6 (Compatibility between Industrial Uses) from the MECP;
- Meteorological data for the study area.

RWDI reviewed wind data from Sault Ste. Marie, Michigan Municipal Airport, the nearest meteorological station to the subject lands with current available data, to assist in the assessment. A summary of the directional distribution of winds over a period from 2002-2020 is shown in **Figure 2**. The wind directions in the figure refer to the direction from which the wind blows, while the annual frequency of a given wind direction is shown as a distance radially from the centre. The most frequent winds originate from the northwest as well as east and east-southeast with winds from the south and northeast less frequent.

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It is our understanding that the MECP is unable to provide complaint-related information directly and such inquiries are to be directed via the Ministry's Freedom of Information (FOI) office. While complaint history for the area is a helpful tool in the initial screening of industries, due to the length of time to complete the process as well as the existing character of the study area, we did not consider this task to be essential in completing the assessment for this site. An online search was conducted for complaints in the area, but no such articles or reports were found.

## 4 RESULTS

The review considered the influence of the conversion request and potential future residential development on industrial uses in the surrounding industrial areas, including any proposed expansions or intensifications that are known. Potential future industrial uses in the industrial areas that are not currently proposed are also considered. Transportation routes in the area are not expected to be a cause of significant air or noise emissions at the subject lands so were not assessed. The results of the review are outlined below.

### 4.1 Existing and Proposed Industrial Uses

**Table B-1** in **Appendix B** lists all identified Class I, II, and III industries within 1000 m. In addition, non-industrial sites that have the potential for significant air or noise emission impacts on the subject lands are noted. **Figure 3** shows all facilities within 300 m and any facilities beyond 300 m that have potential zones of influence large enough to affect the subject lands.

There were no Class II or Class III facilities identified within 1000 m of the subject lands. Class I industries without a MECP ECA or EASR located beyond 300 m were not documented as their potential influence areas fall far short of the subject lands. Facilities of that nature are considered low-risk and have small areas of influence. In addition to a review of available permits, a review of satellite images was conducted to verify there are no significant small industrial facilities that are not subject to environmental permits. **Table 4** lists the permitted facilities that were identified within close proximity of the subject lands and reviewed to ensure the activity at the site would not impact the proposed development.

### Table 4: Facilities with Potential to Impact the Subject Lands

| Industry Class             | Industry | Potential Influence Area | Actual<br>Separation Distance <sup>[1]</sup> |
|----------------------------|----------|--------------------------|----------------------------------------------|
| Avery Construction Limited |          | 70 m                     | 0 m (adjacent)                               |

1. Unless stated in the above table, separation distance is from the property line of the subject lands to the property line of the industry.

### 4.1.1 Avery Construction Limited – 940 and 948 Second Line West

The site is the location of a construction company that provides a variety of services such as forest access road building, land clearing and grubbing, industrial land development, commercial land development, municipal road construction, demolition, earth works and pipe works. The facility also provides transportation services for the haulage of materials such as logs from harvested areas and steel from the local mill as well as haulage of heavy

#### LAND-USE COMPATIBILITY/MITIGATION STUDY (AIR QUALITY AND NOISE) 0 CHIPPEWA STREET RWDI #2302983

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equipment to various sites. The main operation at this site includes the storage of vehicles and a general outdoor storage area of bulk materials for civil construction industry and associated facilities (i.e. metal piping, tires, concrete civil works, etc.). Site buildings include an office and a maintenance shop. The facility does not have an ECA for air or noise emissions. The facility's Industrial Sewage Works ECA is for the proper containment and stormwater management for the general outdoor storage area.

The facility's Waste Management ECA indicates that there are no hazardous, liquid industrial, biomedical or asbestos wastes at the site with wood waste as the only waste indicated as transported by the approved waste management system. The outdoor general storage area appears to be solid bulk materials with no significant potential for fugitive dust or odour. The storage yard does have unpaved travelled areas that could potentially contribute to fugitive dust. However, the site was contacted, and it was indicated that the drop off and pick-up of material in the rear of the site is rare and therefore the potential impact of fugitive dust from the activity is not expected to be significant. Therefore, the impact of the operation on air quality at the subject lands is expected to be insignificant.

RWDI contacted the facility on Wednesday, April 19, 2023. Per site staff, the main activity occurring on-site is truck activity when drivers pick up their trucks to go to their respective work sites. Nighttime truck activities, due primarily to logging trucks, are at a maximum of three per hour. Daytime truck activities, due primarily to haul trucks, are a maximum of five per hour. On rare occasions, there is a drop-off or pick-up of material in the rear of the site, where material stockpiles are located. The truck activities are significant sources of noise. Detailed modelling of the truck movements was completed to evaluate the potential for incompatibility as discussed further below.

Sound from the truck movements was modelled in Cadna/A, a commercially available sound propagation model, to predict sound level effects from the Avery Construction ltd. identified through the D-6 assessment. RWDI proxy data were used to define the sound power level of truck movements at the facility. The predicted power level is presented in **Table 5**. The assumed truck routes are illustrated in **Figure 6**.

|                                | rce        |                            | Worst-Case Number of Trucks Per Hour   |                              |
|--------------------------------|------------|----------------------------|----------------------------------------|------------------------------|
| Source                         |            | Sound Power<br>Level (dBA) | Daytime and Evening<br>(0700h – 2300h) | Nighttime<br>(2300h – 0700h) |
| Truck Route North <sup>1</sup> | Proxy Data | 104                        | 1                                      | 1                            |
| Truck Route South              | Proxy Data | 104                        | 5                                      | 3                            |

#### **Table 5: Truck Sound Power Level Assumptions**

1. One truck movement per hour along the north truck route in the rear of the site represents the worst-case scenario.

Stationary source noise modelling was carried out using the Cadna/A implementation of the ISO 9613 (ISO, 1994 and ISO, 1996) algorithms. The predicted sound levels are assessed against the Class 1 Area limits as presented in **Table 6**.

| POR     | Time Period                | Predicted<br>1-hour L <sub>EQ</sub> | Sound Level Limit  |                 |
|---------|----------------------------|-------------------------------------|--------------------|-----------------|
|         |                            |                                     | Class 1<br>Leq-1hr | Meets Criteria? |
| Facade  | Daytime-Evening 0700-2300h | 42 dBA                              | 50 dBA             | Yes             |
|         | Nighttime 2300-0700h       | 42 dBA                              | 45 dBA             | Yes             |
| Outdoor | Daytime-Evening 0700-2300h | 39 dBA                              | 50 dBA             | Yes             |

#### Table 6: Predicted Sound Levels at Worst-case Receptor Locations - Truck

As shown in **Table 6**, the daytime-evening and nighttime continuous sound levels meet the Class 1 sound level criteria.

### 4.2 Future Industrial Uses

The zoning map (SSM 2019) for the surrounding area is provided in **Figure 4**. Medium industrial and institutional zones can be found to the south of the subject lands. Residential zones are located to the east of the subject lands. Environmental management and rural area zones are to the north and west of the subject lands.

The subject lands are currently zoned Rural Area, with current permitted uses allowing the construction of sensitive receptors such as single detached dwellings, group homes, and places of worship. Therefore, construction of the proposed development on the subject lands would not place any additional air or noise restrictions on surrounding facilities beyond what is already applicable.

Therefore, the future development on the subject lands is not expected to have a significant effect on the ability of new or intensified industrial uses to be located in the surrounding industrial zones.

The Sault Ste. Marie official plan shows the subject lands as residential land use (**Figure 5**) surrounded by mainly residential, institutional, parks, and rural land uses. Industrial areas are also shown in this figure and these appear to be relatively small in size and are surrounded by residential and rural land uses. This provides further indication that significant industrial expansion is not expected in the area in the future.

### 4.3 Transportation Facilities

The subject lands are located in an area where significant transportation corridors are distant or not significant emitters of air and noise emissions. There are also no rail corridors within 1000 m of the subject lands. Therefore, transportation facilities are not considered to be a concern for air, noise or vibration impacts at the subject lands.

## 5 CONCLUSIONS

The proposed residential development on the subject lands is compatible with surrounding employment uses and the transportation corridors.

#### LAND-USE COMPATIBILITY/MITIGATION STUDY (AIR QUALITY AND NOISE) 0 CHIPPEWA STREET

RWDI #2302983 January 22, 2025



## 6 REFERENCES

- Government of Ontario 2024, Provincial Policy Statement, 2024, Government of Ontario, Toronto, viewed 22
  January 2025, <<u>https://www.ontario.ca/files/2024-10/mmah-provincial-planning-statement-en-2024-10-23.pdf</u>>.
- 2. International Organization for Standardization (ISO), 1994, International Standard ISO 9613-1:1994, Acoustics Attenuation of Sound during propagation outdoors. Part 1: Calculation of the absorption of sound by the atmosphere.
- 3. International Organization for Standardization (ISO), 1996, International Standard ISO 9613-2:1996, Acoustics Attenuation of sound during propagation outdoors Part 2: General method of calculation.
- 4. MOE—See Ministry of the Environment.
- 5. Ontario Ministry of the Environment (MOE), August 2013, Publication NPC-300, Environmental Noise Guideline Stationary and Transportation Sources Approval and Planning.
- Ministry of the Environment 1995, Guideline D-6: Compatibility Between Industrial Facilities and Sensitive Land Uses, Ministry of the Environment, Toronto, viewed 20 January 2023, <<u>https://www.ontario.ca/page/d-6-compatibility-between-industrial-facilities</u>>.
- 7. SSM—See City of Sault Ste. Marie.
- City of Sault Ste. Marie 2019, Zoning By-Law 2005-150: Text Office Consolidation April 2019, City of Sault Ste. Marie, Sault Ste. Marie, viewed 11 April 2023, <<u>https://saultstemarie.ca/Cityweb/media/Legal/BL/2005-150-(Zoning).pdf</u>>.

#### LAND-USE COMPATIBILITY/MITIGATION STUDY (AIR QUALITY AND NOISE) 0 CHIPPEWA STREET

RWDI #2302983 January 22, 2025



## 7 STATEMENT OF LIMITATIONS

This report entitled 0 Chippewa Street – Land-Use Compatibility/Mitigation Study (Air Quality and Noise) was prepared by Rowan Williams Davies & Irwin Inc. ("RWDI") for RPD Studio ("Client"). The findings and conclusions presented in this report have been prepared for the Client and are specific to the project described herein ("Project"). The conclusions and recommendations contained in this report are based on the information available to RWDI when this report was prepared. Because the contents of this report may not reflect the final design of the Project or subsequent changes made after the date of this report, RWDI recommends that it be retained by Client during the final stages of the project to verify that the results and recommendations provided in this report have been correctly interpreted in the final design of the Project.

The conclusions and recommendations contained in this report have also been made for the specific purpose(s) set out herein. Should the Client or any other third party utilize the report and/or implement the conclusions and recommendations contained therein for any other purpose or project without the involvement of RWDI, the Client or such third party assumes any and all risk of any and all consequences arising from such use and RWDI accepts no responsibility for any liability, loss, or damage of any kind suffered by Client or any other third party arising therefrom.

Finally, it is imperative that the Client and/or any party relying on the conclusions and recommendations in this report carefully review the stated assumptions contained herein and to understand the different factors which may impact the conclusions and recommendations provided.



## SCOPED ENVIRONMENTAL IMPACT STUDY REPORT SITE: 0 CHIPPEWA STREET, SAULT STE. MARIE

### **MAMTA HOMES**

Attention: Mr. Harjinder Kang 54 Howell Street Brampton, Ontario, L6Y 3H7

Revised July 11, 2024

Project Reference Number: 24115

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### **EXECUTIVE SUMMARY**

The Subject Property is located at 0 Chippewa Street, Sault Ste. Marie, Ontario and is approximately 15.3 ha in size. It is gently sloping with an elevation change of 5 meters (m) across the property. The dominant vegetation is grasses with some shrubs and small trees. The bedrock is comprised of sandstone, shale, and conglomerate from the Jacobsville and Oronto Group. The soils are imperfectly drained Albany sands originating from glaciolacustrine and shallow water lacustrine deposits.

The Subject Property is currently vacant land. Its land use designation is residential. The zoning is primarily Rural Area Zone (RA), with a Parks and Recreation (PR) Zone as well as an Environmental Management Zone (EM) along the perimeter.

The natural heritage feature of interest for this Environmental Impact Statement is fish habitat. Fish habitat on and adjacent to the Subject Property is found in:

- The Bennett West Davignon Diversion Channel located north and west of the Subject Property,
- The municipal drainage ditch located south and southeast of the Subject Property,
- The West Davignon Creek west of the Bennett West Davignon Diversion Channel, and
- The tributary that flows south into the Bennett West Davignon Diversion Channel located north of the Subject Property.

These streams are classified as coldwater. They support communities of sport fish including Brook Trout, Brown Trout, Coho Salmon, and Rainbow Trout, and a variety of bait fish species (e.g. minnows).

The property is currently vacant and undeveloped. The current development proposal is the creation of a Condominium Plan comprised of 3 Parcels: Parcel A containing 66 detached homes and 16 semidetached homes; Parcel B containing 104 Townhomes; and Parcel C containing two 90-unit apartment buildings. Property development is proposed to be staged and start with Parcel B.

The condominium complex will be accessed, and municipal sewer and water services will be extended from Chippewa Street, Atwater Street, and Amherst Street. Connecting the Subject Property with Atwater Street, and Amherst Street will require the installation of a culvert at each crossing of the municipal drainage ditch. The homes will be located on either side of several of the proposed condominium roads. The apartment buildings will be located at the western side of the Subject Property and accessed from western end several condominium roads.

The proposed development has the potential to negatively impact fish habitat in the following ways:



- Death or injury to fish and other aquatic life.
- Changes in the thermal regime of the watercourses from coldwater to coolwater or warmwater resulting in changes in fish and aquatic invertebrate species composition and abundance
- Changes in fish and aquatic invertebrate species composition and abundance not caused by a change in the thermal regime of the creeks.
- Changes in the relative abundance of species within the fish community.
- Loss of general fish habitat.
- Loss of or change in local spawning and/or nursery areas. Spawning and nursery areas have not been identified, however, they may exist.
- Habitat fragmentation.
- Loss and fragmentation of habitat for native fish species and other aquatic species due to competition with and predation by non-native species.
- Water crossings may become barriers to fish movement.
- Drying up of refugia due to increased evaporation

The recommended mitigation measures to protect these fish habitat include:

- Prohibit development and site alteration within 15 m of the top of the bank of the BWDCC located west of Parcel C.
- This 15 m buffer zone must remain vegetated, however, due to the type of vegetation currently located within the buffer zone (i.e. long grass), the Client may wish to remediate parts. Native grasses, forbs and shrubs should be used during remediation where practical.
- The use of herbicides, pesticides and fertilizers within the buffer area should be prohibited. Additionally, the use of herbicides, pesticides and fertilizers throughout the Subject Property is not recommended.
- Develop a stormwater management plan to ensure that there will be no direct impacts on the creeks.
- Minimize the creation of impervious surfaces to the greatest extent possible especially within 50 m of the creeks. Implement low-impact development principles.



- Minimize the area disturbed to the greatest degree possible during construct by staging the development.
- Develop and implement an Erosion and Sediment Control Plan to prevent sediment and other substances from entering the creeks.
- Machinery must arrive on site a clean, and well-maintained condition, free of fluid leaks, invasive species and noxious weeds. Wash, refuel and service machinery, and store fuel and other materials more than 30 m from the creeks, and in a manner that will prevent deleterious substances from entering the groundwater or surface water.
- Develop a spill response plan that will be implemented in case of a spill of a deleterious substance or sediment is released.
- Access to the Subject Property is proposed to be from Chippewa Street, Atwater Street, and Amherst Street possibly Arden Street. Connecting the Subject Property with Atwater Street, Amherst Street and Arden Street will require the construction of 2 water crossings of the municipal drainage ditch. The City of Sault Ste. Marie has instructed the Client to install culverts. Water crossings can have deleterious effects on fish habitat. A permit from the Sault Ste. Marie Region Conservation Authority will be required. A project review or authorization from Fisheries and Oceans Canada will likely be required.
- When installing the culverts implement the measures in the interim standard for in-water isolation developed by Fisheries and Oceans Canada (2023a) (Appendix F).
- When working in and around the creeks, implement the measures to protect fish and fish habitat described by Fisheries and Oceans Canada (Appendix G).

The following monitoring is required:

- Ensure that the 15 m vegetated buffer along the BWDDC on the west side of the Subject Property is clearly identified in the field. The adequacy of the identification methods needs to be checked on a regular basis during any development or site alteration activities. It is anticipated that development will be phased, as a result, the adequacy of the buffer identifiers should be checked periodically between development phases.
- The buffer needs to remain intact following development. The buffers should be monitored on a regular basis to ensure that they remain undeveloped. The area adjacent to the municipal drain should remain vegetated to the extent possible.
- Prior to site alteration, adequate erosion and sediment control measures should be established and maintained until the disturbed area is revegetated. During active construction inspections should take place on a weekly basis in the snow-free season, after every rainfall event, after significant snowmelt events and daily during extended rain or snowmelt periods. During inactive construction periods, where the site is left alone for 30 days or longer, a monthly inspection should be conducted. Repairs to the erosion and sediment control measures should be done within 48 hours (Toronto and Region Conservation Authority, 2019).



• Site stabilization should occur during or immediately following construction to reduce the potential of erosion and sedimentation.

In conclusion, it is anticipated that these mitigation features and monitoring will be adequate to protect fish habitat in the creeks that are adjacent to the Subject Property.



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# **1 INTRODUCTION**

Greenstone Engineering Ltd. ("Greenstone") was commissioned by Mr. Harjinder Kang of Mamta Homes (the "Client") to complete a Scoped Environmental Impact Study (EIS) focused on Fish Habitat, as per the Client's request and Greenstone's proposal dated May 16, 2024, as revised. This Scoped EIS was conducted for the property located at 0 Chippewa Street, Sault Ste Marie, Ontario (referred to as the "Subject Property"). The Subject Property is access from the western end of Chippewa Street. The Subject Property is currently vacant and undeveloped. Maps showing the location and condition of the Subject Property are provided in Appendix A as Figure 1 and Figure 2, respectively.

The Client is proposing to develop a residential subdivision at 0 Chippewa Street, Sault Ste. Marie, Ontario. The proposed subdivision requires the approval of the City of Sault Ste. Marie ("the City"). During pre-consultation, the City indicated that a scoped Environmental Impact Study (EIS) is required to address potential impacts on fish habitat in the West Davignon Creek and its tributaries.

The purpose of an EIS is to identify potential negative impacts of a proposed development or site alteration activities on natural heritage features and areas and their ecological functions and proposes measures to reduce or eliminate those impacts. A scoped EIS focuses the impact assessment on one or more specific natural heritage features or areas and its or their ecological functions. The Scoped EIS for this project will only assess potential negative impacts of the proposed residential subdivision on the fish habitat adjacent to the Subject Property.

## 2 REGULATORY FRAMEWORK

The following legislation, regulations, policies, and guidance documents provide the foundation for this EIS:

### 2.1 PLANNING ACT, R.S.O. 1990, C. P.13

The *Planning Act* is the overarching legislation that regulates land use and guides land use planning in the Province of Ontario. Its is designed to promote sustainable economic development in a healthy natural environment and ensure that matters of provincial interest are integrated in provincial and municipal land use planning decisions. The matter of provincial interest most relevant when completing an EIS is *"the protection of ecological systems, including natural areas, features and functions."* 

Additionally, Section 3 of the Planning Act provides the legislative authority to issue policy statements regarding municipal planning matters that are of Provincial interest.



#### 2.1.1 PROVINCIAL POLICY STATEMENT, 2020

The Provincial Policy Statement, 2020 (PPS) contains the policy statements regarding matters of Provincial interest. The Natural Heritage policy statements, found in Section 2.1, are:

- 2.1.1 Natural features and areas shall be protected for the long term.
- 2.1.2 The diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems, should be maintained, restored or, where possible, improved, recognizing linkages between and among natural heritage features and areas, surface water features and ground water features.
- 2.1.3 Natural heritage systems shall be identified in Ecoregions 6E & 7E1, recognizing that natural heritage systems will vary in size and form in settlement areas, rural areas, and prime agricultural areas.
- 2.1.4 Development and site alteration shall not be permitted in:
  - a) significant wetlands in Ecoregions 5E, 6E and 7E1; and
  - b) significant coastal wetlands.
- 2.1.5 Development and site alteration shall not be permitted in:
  - a) significant wetlands in the Canadian Shield north of Ecoregions 5E, 6E and 7E1;
  - *b)* significant woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River);
  - c) significant valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River);
  - *d) significant wildlife habitat;*
  - e) significant areas of natural and scientific interest; and
  - f) coastal wetlands in Ecoregions 5E, 6E and 7E1 that are not subject to policy 2.1.4(b)

unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.



- 2.1.6 Development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements.
- 2.1.7 Development and site alteration shall not be permitted in habitat of endangered species and threatened species, except in accordance with provincial and federal requirements.
- 2.1.8 Development and site alteration shall not be permitted on adjacent lands to the natural heritage features and areas identified in policies 2.1.4, 2.1.5, and 2.1.6 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions.
- 2.1.9 Nothing in policy 2.1 is intended to limit the ability of agricultural uses to continue.

The Ministry of Natural Resources and Forestry (MNRF) developed the Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005. Second Edition in 2010. It is designed to provide technical guidance for implementing the Natural Heritage Policy in the PPS.

An EIS identifies the natural heritage features and areas listed above that are located on or adjacent to (i.e., within 120 metres [m] of) the Subject Property. The focus of this EIS is fish habitat.

### 2.2 CITY OF SAULT STE. MARIE OFFICIAL PLAN

The City of Sault Ste. Marie Official Plan (OP) was first approved in 1996. It provides guidance and direction regarding "the physical change and development of" land and land use in Sault Ste. Marie. It provides the policy framework to address impacts of change on the local people, the local economy and the natural environment within City limits. It is designed to meet current and future needs (City of Sault Ste. Marie, revised 2024).

Part V. of the OP outlines the goals and policies regarding the Natural Environment. The Natural Environment goals include identifying, protecting, conserving, restoring and developing provincially, regionally and locally significant natural environmental features and resources, to ensure that the City has naturally sustainable environment. Additionally, the City encourages the protection of natural environmental features which are located on both public and private land to maintain or develop corridors and linkages between natural environmental features to maintain and enhance SSM's natural habitats. Natural heritage features are identified on Schedule A to the OP and the City's SooMaps website.

The OP policies that relate directly to fish habitat are found in Section 3.6 of Part V. This section acknowledges that fish and quality fish habitat provide significant economic benefits through fishing related tourism. The Fish Habitat policies are:



- FI.1. To protect all fish habitat from harmful disruption, alteration or destruction by not permitting development which could result in damage to these areas.
- FI.2. To encourage the restoration, enhancement and creation of fish habitat.
- FI.3. To ensure that public access to fishery resource areas is provided or maintained given that the area is suited to human activity.
- FI.4. No development is permitted in Type 1 fish habitat. This currently includes:
  - 1. St. Mary's River Rapids; and
  - 2. Crystal Creek from Case Road to Minnehaha Falls.
- FI.5. All fish habitat, excluding areas identified as Type 1, is classified as Type 2 or 3. Applications for developments in or adjacent to these areas, or adjacent to Type 1 Areas, may be approved by Council, if accompanied by an Environmental Impact Statement (EIS).

The EIS may determine:

- 1. that the habitat or a portion thereof is Type 1 and subject to policy F1.4 above, or
- 2. the conditions under which development may take place.
- FI.6. A separate zoning provision shall be used in the Comprehensive Zoning By-law to identify a vegetative buffer adjacent to fish habitat.
- FI.7. Minor adjustments to expand or reduce the limits of the zoning buffer boundaries may be agreed upon by Council or the Committee of Adjustment at the time of consideration of an adjacent development proposal. Such minor refinements do not require an amendment to this Plan.

Policy FI.5 has been superseded by Section 2.1.6 of the PPS, 2020 that prohibits development and site alteration in fish habitat except in accordance with provincial and federal requirements (Government of Ontario, 2020). Section 2.1.8 prohibits development and site alteration within adjacent lands (i.e., 120 m) of fish habitat unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on fish habitat or on its ecological functions (Ontario Ministry of Natural Resources, 2010; Government of Ontario, 2020). An EIS is the usual document that demonstrates no negative impacts on natural heritage features including fish habitat and their ecological functions.

The City's requirements for an EIS are contained in Section 2 of Part VIII of the OP. This section states the following:



- 1. An EIS must be prepared by a qualified professional to the satisfaction of City Council, with the technical advice of an appropriate agency;
- 2. Council, with the technical advice of an appropriate agency, may permit an applicant to present a Scoped EIS for smaller scale projects and projects where potential impact are less likely;
- 3. An EIS will include:
  - a) a description of the existing natural environment that will be affected or that might reasonably be expected to be affected, either directly or indirectly,
  - b) the environmental effects that might reasonably be expected to occur;
  - c) alternative methods and measures for mitigation of potential environmental effects of the proposed development; and
  - d) a monitoring plan to measure the potential effects on the environment; and
- 4. The preparation of an EIS does not mean that an applicant's proposed development or redevelopment will be approved.

### 2.3 FISHERIES ACT

The Fisheries Act "provides a framework for the proper management and control of fisheries, and the conservation and protection of fish and fish habitat, including by preventing pollution" in Canada. The term fish includes all parts of fish, shellfish, crustaceans, marine animals and any parts of shellfish, crustaceans or marine animals including all life stages from the eggs and sperm to adults. Fish habitat includes all waters that fish frequent and all other areas on which fish depend directly or indirectly to carry out their life processes. These areas include spawning grounds, nursery and rearing areas, areas that provide a food supply, and migration areas.

# **3 STUDY APPROACH**

### 3.1 BACKGROUND DATA REVIEW

The background data review included contacting relevant agencies and reviewing publicly available background material.

The following agencies were consulted:



| Agency                        | Date(s)        | Information Requested/Obtained               |
|-------------------------------|----------------|----------------------------------------------|
| Sault Ste. Marie Region       | May 28, 2024 - | Fish & Fish Habitat information was          |
| Conservation Authority        |                | requested. Ms. Ropeter responded that they   |
| (SSMRCA) – Christine Ropeter, |                | do not have a biologist on staff and         |
| Assistant Manager &           |                | recommended that we contact the OMNRF.       |
| Communications                |                |                                              |
| Ontario Ministry of Natural   | June 3, 2024   | Fish & Fish Habitat, Species at Risk         |
| Resources and Forestry        |                | information was requested. Mr. Goertz        |
| (OMNRF), Sault Ste. Marie and |                | indicated that all fish and fish habitat     |
| Blind River District – Derek  |                | information about creeks in Sault Ste. Marie |
| Goertz, Management Biologist  |                | is uploaded to the Aquatic Resources Area    |
|                               |                | and Fish Activity Area layers in the Ontario |
|                               |                | Geohub.                                      |

The following sources of information were reviewed:

- Topographic mapping (OBM, NTS);
- Aerial photography;
- Natural Heritage Information Centre (NHIC) data;
- Fish and Fish Habitat related Datasets from the Ontario Geohub website including:
  - Aquatic resource area line segment;
  - Aquatic resource area polygon segment;
  - Fish Activity layer;
  - Ontario Hydro Network (OHN) Waterbody; and
  - Ontario Hydro Network (OHN) Watercourse;
- iNaturalist;
- Ontario Species at Risk website; and
- Fisheries Oceans Canada Aquatic Species at Risk.



# **4** EXISTING CONDITIONS

### 4.1 PAST AND PRESENT LAND USES

The Subject Property is undeveloped vacant land (Figure 2) that was once used as an agricultural field, likely as pastureland.

The Bennett-West Davignon Diversion Channel (BWDDC) is located along the northern, northwestern, and western sides of the Subject Property as shown in the Sault Ste. Marie Region Conservation Authority (SSMRCA) Bennett-West Davignon Creek Flood Control Channel Map in Appendix B. The BWDDC, completed in 1979, was constructed to reduce flooding west of Goulais Avenue between Third Line and the St. Marys River (SSMRCA, n.d.). It diverts water from the Bennett Creek into the West Davignon Creek immediately west of the Subject Property. The BWDCC west of the Subject Property south of its confluence with the West Davignon Creek has the characteristic of a natural creek. The rest of the BWDDC appears to be a drainage ditch. It does not appear that it has been maintained for a long time because there is wetland vegetation growing in parts of the channel and well-established vegetation on its banks. The BWDDC continues flowing south eventually emptying into the St. Marys River.

A tributary of the West Davignon Creek flows into the BWDDC from the north approximately halfway between the northeast and northwest corners of the Subject Property.

A municipal drainage ditch is located along the southern and southeastern property boundaries. It flows into the BWDDC just south of the southwestern corner of the Subject Property. The City of Sault Ste. Marie identified it as a source of public concern and complaints. During discussions with the Client, they stated that "The City may work with the developer to improve the drain to alleviate upstream issues." Additionally, City staff mentioned that this drainage ditch may eventually be dredged/regraded or possibly replaced with a buried pipe. The properties to the north and northwest of the BWDDC are vacant and appear to have been used for agriculture in the past. The property to the west of the Subject Property contains a single-family dwelling and several accessory buildings. It appears to have formerly been a farm. The properties to the south of the Subject Property include an industrial property in the west and vacant land in the west. Finally, the properties to the east of the Subject Property are residential.

#### 4.1.1 LAND USE DESIGNATIONS

Schedule C of the OP shows the designated land uses for properties within the City (City of Sault Ste. Marie, revised 2024). The Subject Property, the properties to the east and the property south of the eastern part of the Subject Property are designated residential as shown in Figure 3 (City of Sault Ste.



Marie, 2019). The property south of the western part of the Subject Property is designated industrial. The remaining adjacent properties are designated rural area.

### 4.1.2 ZONING

The majority of the Subject Property and the property west of the BWDDC are zoned Rural Area (RA) as shown in Figure 4 (City of Sault Ste. Marie, April 2019; City of Sault Ste. Marie, 2019). The permitted uses in this zone are single detached dwellings, accessory uses including second units, solar power installations and wind turbines, agricultural uses, bed and breakfast, campground, commercial solar power installations and wind generating systems, conservation use, elementary schools, golf course, group home, home-based business, parks and playgrounds, pet care services including veterinary clinic, place of worship, recreational facilities, and similar uses.

The area surrounding the municipal drainage ditch located along southern and southeastern boundaries of the Subject Property and the properties north and northwest of the creeks are zoned Environmental Management (EM). All creeks, ravines and wetlands that are designated as Natural Resource and Constraint Areas in the OP are zoned EM because the main purpose of this zone is to protect the natural environment. The top of the embankments in which the rivers and creeks are located, and the identified boundaries of a wetland and their abutting areas determine the zone boundaries. The permitted uses within EM Zones are limited to conservation uses and uses permitted and regulations pertaining to the zoning of abutting areas, subject to the removal of a holding provision. A holding provision can be removed if the developer or property owner addresses the applicable OP policies pertaining to fish habitat, slope stabilization, flood lands, wetlands, and/or the areas regulated by the SSMCRA that affect the lot in question.

There BWDDC plus the 15 m flooding hazard setback are zoned Parks and Recreation (PR) (Figure 4). The permitted uses in the PR zone are accessory uses including solar power installations and wind turbines, campgrounds, care facilities, caretaker dwellings, conservation uses, day care facilities, golf courses, marinas, parks and playgrounds, recreational facilities, schools, and similar uses.

The properties to the east of the Subject Property are residential subdivisions with Single Detached Residential (R2) and Low Density Residential (R3) zoning (Figure 5). The R2 zone is designed for the majority of the single dwelling neighbourhoods within the City (City of Sault Ste. Marie 2012). The Permitted Uses in the R2 zone are single detached dwellings, bed and breakfasts, day care facilities, elementary schools, group homes, home based businesses (accessory to a dwelling unit), parks, playgrounds, places of worship, and second units, wind turbines and solar power installations as accessory uses. The R3 zone is first residential zone allows a greater density than single detached. It is designed to provide for a mixture of single-family dwellings and higher density residential dwellings. The permitted use in the R3 zone include all the uses permitted in an R2 zone and semi-detached, duplex, triplex, and multiple attached dwellings, and group residence, and rooming house.



### 4.2 PHYSIOGRAPY AND GEOLOGY

The Sault Ste. Marie is located in the Ontario Shield Ecozone, the Georgian Bay Ecoregion (5E) and the Thessalon Ecodistrict (5E-1) (Crins, Gray, Uhlig, & Wester, 2009; Wester, Uhlig, Bakowsky, & Banton, 2015). The climate of this Ecoregion is cool-temperate and humid. The average mean temperature of the Sault Ste. Marie area is 4.27 °C with a high temperature mean of 24 °C in July and a low temperature mean of -15.5 °C in January (Environment and Natural Resources Canada, 2024). On average the Sault Ste. Marie area receives 888.7 mm of precipitation annually, of which an average of 634.3 mm is as rainfall and 302.9 mm is as snowfall. The average growing season length is 183 to 219 days (Crins, Gray, Uhlig, & Wester, 2009).

The Subject Property is located at the western end of Chippewa Street, Atwater Street, Amherst Street, and Arden Street in Sault Ste. Marie, Ontario. The civic address is currently 0 Chippewa Street. The property is approximately 15.3 ha in size. The BWDDC runs along the northern and western perimeter of the Subject Property. A municipal drainage ditch is located along the southern and southeastern boundaries of the Subject Property (Figure 2).

This property is gently sloping, ranging in elevation from 193 m above sea level (masl) at the southwest corner to 198 masl along the northern perimeter (Figure 2). The bedrock underlying the Subject Property is sandstone, shale, conglomerate from the Upper Keweenawan Supergroup (<1086 Ma); Jacobsville Group; and Oronto Group (Ontario Geological Survey, 2011). The underlying landform is a glaciolacustrine clay-silt raised or abandoned beach (Ontario Geological Survey and Ontario Ministry of Natural Resources, Northeast Science and Information Section, 2005). The soils on the majority of the Subject Property are imperfectly drained Albany Clay Loam. The soils on the northern part are described as well drained Delamere Clay Loam.

### 4.3 HYDROGEOLOGY

The specific area of concern for this scoped EIS are the watercourses located along the Subject Property boundaries. These are the BWDDC to the north and west, its tributary to the north of the Subject Property, and the municipal drainage ditch to the south and southeast. The municipal drainage ditch flows into the BWDDC at the southwest corner of the Subject Property.

These watercourses are part of the Sault Ste Marie-St. Marys River Quaternary Watershed. It is within St. Marys River Tertiary Watershed, the Northern Lake Huron Secondary Watershed, the Great Lakes-St. Lawrence River Primary Watershed (Ontario Ministry of the Environment, Conservation and Parks, 2023).



### 4.4 VEGETATION

The Subject Property was previously utilized for agricultural purposes, presumably pastureland because it was seeded with various tall growing grass species that require minimal maintenance. Some native vegetation, including several shrub and small tree species, has begun to invade within the creek beds and along the banks as well as in sparse pockets across the Subject Property (Figure 2).

### 4.5 FISH HABITAT

Fish and fish habitat are protected in Canada by the *Fisheries Act* and in Ontario through the PPS, 2020. Fish habitat includes all waters that fish frequent and all other areas on which fish depend directly or indirectly to carry out their life processes. These areas include spawning grounds, nursery and rearing areas, areas that provide a food supply, and migration areas.

PPS, 2020 states that development and site alteration in fish habitat are prohibited except in accordance with provincial and federal requirements (Government of Ontario, 2020). Additionally, development and site alteration are not permitted on adjacent lands to fish habitat unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on fish habitat and its ecological functions. Adjacent lands are defined as the lands within 120 m of fish habitat (Ontario Ministry of Natural Resources, 2010).

Fish habitat on the Subject Property and within 120 m is provided by:

- The BWDDC located along the northern and western property boundaries and extending south of the Subject Property,
- The municipal drainage ditch located along the southern and southeast property boundaries,
- The tributary of the West Davignon Creek that flows into the BWDDC from north Subject Property, and
- The West Davignon Creek west of its confluence with the BWDDC located south of the northwestern corner of the Subject Property (Ontario Ministry of Natural Resources and Forestry, 2022b).

Direct fish habitat is provided by the tributary from north of the Subject Property, BWDDC west of that tributary, the West Davignon Creek and the municipal drainage ditch. All of these watercourses are identified as permanent coldwater streams (Ontario Ministry of Natural Resources and Forestry, 2022b; Ontario Ministry of Natural Resources and Forestry, 2024a). They also support a variety of coolwater species and two warmwater species (Ontario Ministry of Natural Resources and Forestry, 2024a). The following fish species found in these watercourses:



| Warmwater Fish Species |                    | Coolwater            | Coolwater Fish Species |                                | Fish Species           |
|------------------------|--------------------|----------------------|------------------------|--------------------------------|------------------------|
| Name                   | Spawning<br>Period | Name                 | Spawning<br>Period     | Name                           | Spawning<br>Period     |
| Bluntnose<br>Minnow    | June-August        | Blacknose<br>Dace    | May-July               | Brook<br>(Speckled)<br>Trout * | September-<br>November |
| Fathead<br>Minnow      | May-August         | Blacknose<br>Shiner  | June-July              | Brown Trout *                  | October-<br>November   |
|                        |                    | Bluntnose<br>Minnow  | June-August            | Coho Salmon *                  | October-<br>November   |
|                        |                    | Brassy<br>Minnow     | May-July               | Rainbow Trout<br>(Steelhead) * | March-May              |
|                        |                    | Brook<br>Stickleback | May-July               |                                |                        |
|                        |                    | Common<br>Shiner     | May-June               |                                |                        |
|                        |                    | Creek Chub           | May-June               |                                |                        |
|                        |                    | Johnny Darter        | May-June               |                                |                        |
|                        |                    | Longnose<br>Dace *   | May-July               |                                |                        |
|                        |                    | Mottled<br>Sculpin * | April-May              |                                |                        |
|                        |                    | White Sucker         | April-June             |                                |                        |

(Eakins, 2024)

None of these species are at risk in Ontario or in Canada (Fisheries and Oceans Canada, 2023d; Ontario Ministry of the Environment, Conservation and Parks, 2024). However, the species identified by a \* in the list above are considered sensitive fish species when determining the classification of a drainage ditch (Kavanagh, Wren, & Hoggarth, Guidance for Maintaining and Repairing Municipal Drains in Ontario, 2017).

The BWDDC east of its intersection with the tributary from the north flows intermittently. This channel currently has wetland type vegetation including cattails. It likely provides indirect fish habitat.

# **5 PROPOSED DEVELOPMENT**

The proposed development involves the creation of a Plan of Condominium comprised of 3 Parcels as shown in Figure 7: Site Plan.

Parcel A, located in the northern part of the Subject Property, is proposed to contain 66 detached homes and 16 semi-detached homes. It is proposed to be accessed via extensions of Chippewa Street



and Atwater Street. The detached homes will be located north and south of the proposed extension of Chippewa Street, east and west of two proposed condominium roads, and north of the proposed extension of Atwater Street. The 16 semi-detached homes will be located south of the proposed extension of Atwater Street. The proposed extensions of Chippewa Street and Atwater Street with terminate in a cul-de-sac in the northwestern part of the Subject Property.

Parcel B is located in the southern part of the Subject Property adjacent to the municipal drainage ditch. It is proposed to be an Adult Community Lifestyle area containing 104 townhomes. The townhomes will be located north and south of the proposed extension of Amherst Street and a proposed crescent condominium road south of the proposed extension of Amherst Street. At the eastern side of Parcel B, between the proposed extension of Atwater Street and Amherst Street, the applicant proposes to develop a park, plaza, and amenities building including a stormwater management pond and a snow storage area. A second stormwater management pond is to be located in the southwest corner of Parcel B.

Parcel C is proposed to be a Seniors' community containing two 90-unit apartment buildings. Parcel C is located along the western side of the Subject Property adjacent to the BWDDC and its floodplain. Parcel C is located east of the 15 m flooding hazard area. The parking area for the apartment buildings and visitor parking for Parcel B is located between the apartment buildings and Parcel B. Access to Parcel C will be south from the cul-du-sac at the western end of the proposed extensions of Chippewa Street and Atwater Street, and east from the proposed Parcel B crescent condominium road.

The proposed condominium development will be serviced with water and sewer by the municipality.

An overall site grading plan and a stormwater management plan (SWMP) have been developed to comply with City of Sault Ste. Marie requirements. The site will be graded to ensure that all surface drainage will be directed toward the two stormwater management ponds in Parcel B. Stormwater will not flow directly towards the BWDDC, the existing creeks, or the municipal drainage ditch.

The SWMP addresses the quantity, quality and treatment of stormwater discharge. The stormwater collected in the stormwater management ponds in Parcel B will be treated to remove at least 80% the total suspended solid prior to being discharged into the municipal drainage ditch. Each stormwater management pond will have a single discharge point.

Additionally, the Client will be implementing a Low Impact Development (LID) approach as much as possible. This approach utilizes permeable landscape components to promote absorption of precipitation into the soil which reduces the quantity of surface water run-off.

The Subject Property is currently designated Residential in the OP (City of Sault Ste. Marie, revised 2024; City of Sault Ste. Marie, 2019). It is zoned Rural Area (RA), except for the creek and creek banks along



the southern and southeastern boundaries. As part of the Plan of Condominium application, site specific zoning based on the low and medium density residential zones is proposed.

# 6 POTENTIAL IMPACTS

The natural heritage feature of concern for this proposed development is fish habitat. Direct fish habitat located on and adjacent (i.e., within 120 m) to the Subject Property that could be impacted are:

- The unnamed tributary of the BWDDC located north of the Subject Property.
- The part of the BWDDC from where the unnamed tributary from north of the Subject Property flows in along the northern property boundary west to the northwestern corner then south along the western property boundary and continues south of the Subject Property,
- The BWDDC downstream (i.e., south) of the Subject Property,
- The municipal drainage ditch located along the southern and southeastern property boundaries including upstream (east) of the Subject Property,
- The West Davignon Creek located west of the BWDDC, and

Indirect fish habitat is provided by the part of the BWDDC along the northern property boundary east of its confluence with the unnamed tributary that flows intermittently and has wetland type vegetation. This habitat is often important during flooding events.

The potential negative impacts of the proposed condominium development on the direct and indirect fish habitat on and adjacent to the Subject Property include:

| Potential Impacts on Fish Habitat and Its Ecological Functions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| tation from and grubbing in riparian areas                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <ul> <li>Eliminate or relocate spawning and/or nursery areas</li> <li>Reduce or change in food supply</li> <li>Drying up of refugia due to increased evaporation</li> <li>Changes in habitat structure and cover leading to a restriction in habitat connectivity and the opportunities for aquatic organisms to use, colonize and move between existing aquatic environments</li> <li>Removal of cover and in-stream structure resulting in a loss of protection from predators and physical disturbances</li> <li>Changes in the availability of diverse and stable habitats</li> </ul> |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |



| Potential Physical Impacts                                                                                                                                                                     | Potential Impacts on Fish Habitat and Its Ecological Functions                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Increased water temperatures                                                                                                                                                                   | <ul> <li>Change the thermal regime of the watercourses from<br/>coldwater to coolwater or warmwater resulting in direct<br/>or egg mortality and reduced reproduction in coldwater<br/>fish species</li> <li>Changes in fish species composition and abundance</li> <li>Increased microbial breakdown of organic matter and a<br/>resultant depletion of dissolved oxygen in a waterbody</li> <li>Blocks the light needed by aquatic organisms and can</li> </ul> |
| nitrogen, phosphorus, nitrogen<br>containing compounds may result in<br>eutrophication of a waterbody which<br>leads to increased algal growth and<br>growth of other aquatic plant<br>species | <ul> <li>cause clouding of the water column</li> <li>Once the algae die, they sink to the bottom and start to decompose, a process that requires oxygen, resulting in lower dissolved oxygen concentrations in the bottoms of waterbodies.</li> <li>Low dissolved oxygen levels cause fish to move away from their previously preferred habit and can cause fish and other aquatic organisms to die</li> <li>Changes in food supply</li> </ul>                    |
| Increased contaminant<br>concentrations in water and the<br>sediment                                                                                                                           | <ul> <li>Death or injury to fish and other aquatic life</li> <li>Changes in the abundance, composition, and diversity of communities</li> <li>Loss of habitat</li> <li>Contaminants persisting in the water column, sediment, and biological tissue can cause deformities to organisms, changes in growth, reduced reproductive success, and impede the competitive abilities of affected organisms</li> </ul>                                                    |
| Reduced stream bank stability and<br>its ability to trap sediment from<br>upland sources leading to increased<br>erosion, sedimentation, and/or<br>turbidity                                   | <ul> <li>Decreased photosynthesis leading to a loss of productivity</li> <li>Loss of local spawning and/or nursery areas</li> <li>Loss of food supply</li> <li>Loss of habitat due to fish avoiding certain areas</li> <li>Changes in fish and aquatic invertebrate species composition and abundance</li> </ul>                                                                                                                                                  |
| Development Activity: Grading                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Changes in natural drainage pattern<br>leading to changes in surface runoff<br>and stream flows                                                                                                | <ul> <li>Reduced food supply</li> <li>Changes in fish and aquatic invertebrate species composition and abundance</li> </ul>                                                                                                                                                                                                                                                                                                                                       |
| Addition or removal of in-stream organic structure                                                                                                                                             | <ul> <li>Changes in habitat structure and cover leading to a restriction in habitat connectivity and the opportunities for aquatic organisms to use, colonize and move between existing aquatic environments</li> <li>Removal of cover and in-stream structure resulting in a loss of protection from predators and physical disturbances</li> </ul>                                                                                                              |



| <ul> <li>Changes in the availability of diverse and stable habitats</li> <li>Development Activity: Excavation         Alteration of groundwater flows to surface waters resulting in changes to the baseflows in the creeks and a change in water temperature         Increased erosion, sedimentation,         Changes in the availability of diverse and stable habitats         Changes in the availability of diverse and stable habitats         Change the thermal regime of the watercourses from coldwater to coolwater or warmwater resulting in reduced reproductive activity or mortality of coldwater fish species         Changes in fish species composition and abundance         Increased erosion, sedimentation,         Decreased photosynthesis leading to a loss of productivity     </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                     |                                                                |
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| Development Activity: Excavation           Alteration of groundwater flows to<br>surface waters resulting in changes<br>to the baseflows in the creeks and a<br>change in water temperature <ul> <li>Change the thermal regime of the watercourses from<br/>coldwater to coolwater or warmwater resulting in<br/>reduced reproductive activity or mortality of coldwater<br/>fish species</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Potential Physical Impacts          | Potential Impacts on Fish Habitat and Its Ecological Functions |
| Alteration of groundwater flows to       •       Change the thermal regime of the watercourses from         surface waters resulting in changes       •       Change the thermal regime of the watercourses from         coldwater to coolwater or warmwater resulting in       reduced reproductive activity or mortality of coldwater         fish species       •       Changes in fish species composition and abundance         Increased erosion, sedimentation,       •       Decreased photosynthesis leading to a loss of productivity         Loss of local spawning and/or nursery areas       •       Reduced food supply         •       Changes in fish and aquatic invertebrate species         composition and abundance       •       Decreased photosynthesis leading to a loss of productivity         Loss of local spawning and/or nursery areas       •       Decreased photosynthesis leading to a loss of productivity         Loss of local spawning and/or nursery areas       •       Decreased photosynthesis leading to a loss of productivity         Loss of local spawning and/or nursery areas       •       Decreased photosynthesis leading to a loss of productivity         Increased erosion, sedimentation,       •       Decreased photosynthesis leading to a loss of productivity         Increased inputs of nutrients and       •       Decreased photosynthesis leading to a loss of productivity         Increased inputs of nutrients and       •                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                     | Changes in the availability of diverse and stable habitats     |
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| decreased groundwater discharge,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                     |                                                                |
| composition and abundance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | -                                   |                                                                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                     | composition and abundance                                      |



| Potential Physical Impacts                                                | Potential Impacts on Fish Habitat and Its Ecological Functions                                                            |
|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| upwellings, and loss of vegetation                                        | Loss of local spawning and/or nursery areas                                                                               |
| resulting in increased water<br>temperatures                              | Reduced food supply                                                                                                       |
| ·                                                                         |                                                                                                                           |
| Development Activity: Construction o                                      |                                                                                                                           |
| Use of industrial equipment in-<br>stream or in riparian areas            | <ul> <li>Potential injury or mortality of fish, their eggs and ova,<br/>aquatic invertebrates and their larvae</li> </ul> |
| Realignment of stream channels with                                       | Barriers to fish movement                                                                                                 |
| or without changes in water velocity                                      | <ul> <li>Habitat fragmentation</li> </ul>                                                                                 |
| potentially causing downstream                                            | <ul> <li>Decreased photosynthesis leading to a loss of productivity</li> </ul>                                            |
| erosion or sedimentation and/or                                           | <ul> <li>Loss of habitat due to fish avoiding certain areas</li> </ul>                                                    |
| separating the realigned stream<br>from its floodplain                    |                                                                                                                           |
|                                                                           | <ul> <li>Loss of local spawning and/or nursery areas</li> <li>Reduced food supply</li> </ul>                              |
|                                                                           |                                                                                                                           |
|                                                                           | <ul> <li>Changes in fish and aquatic invertebrate species<br/>composition and abundance</li> </ul>                        |
| Loss of riparian vogetation which                                         | · · ·                                                                                                                     |
| Loss of riparian vegetation which<br>may result in a loss of shade and/or | Eliminate or relocate spawning and/or nursery areas                                                                       |
| an increase in water temperatures                                         | Reduce or change in food supply                                                                                           |
|                                                                           | Drying up of refugia due to increased evaporation                                                                         |
|                                                                           | Change the thermal regime of the watercourses from                                                                        |
|                                                                           | coldwater to coolwater or warmwater                                                                                       |
| Dellutents from roads ontering                                            | Changes in fish species composition and abundance                                                                         |
| Pollutants from roads entering<br>waterbodies including heavy metals,     | Death or injury to fish and other aquatic life                                                                            |
| oils, and grease from vehicles and salt                                   | Changes in the abundance, composition, and diversity of                                                                   |
| from winter road maintenance                                              | communities                                                                                                               |
|                                                                           | Loss of habitat                                                                                                           |
|                                                                           | Contaminants persisting in the water column, sediment,                                                                    |
|                                                                           | and biological tissue can cause deformities to organisms,                                                                 |
|                                                                           | changes in growth, reduced reproductive success, and                                                                      |
|                                                                           | impede the competitive abilities of affected organisms                                                                    |
| Increase in imperious surfaces<br>leading to increased surface runoff,    | Change the thermal regime of the watercourses from                                                                        |
| decreased ground infiltration,                                            | coldwater to coolwater or warmwater resulting in                                                                          |
| decreased groundwater discharge,                                          | changes in fish and aquatic invertebrate species                                                                          |
| decreased stream baseflows and                                            | composition and abundance                                                                                                 |
| upwellings, and loss of vegetation<br>resulting in increased water        | <ul> <li>Loss of local spawning and/or nursery areas</li> <li>Boduced food supply</li> </ul>                              |
| temperatures                                                              | Reduced food supply                                                                                                       |
| Change in thermal cues or                                                 | • Temperature often serves as a behavioural cue for fish.                                                                 |
| temperature barriers                                                      | Some fish need a particular temperature to trigger                                                                        |
|                                                                           | reproductive behaviour.                                                                                                   |



| Potential Physical Impacts                                                                                                                                                                                                                                                                                                                                 | Potential Impacts on Fish Habitat and Its Ecological Functions                                                                                                                                                                                                                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Changes in stream morphology                                                                                                                                                                                                                                                                                                                               | <ul> <li>Thermal pollution resulting in higher temperatures can<br/>cause a shift in the timing of reproduction and changes in<br/>the community structure.</li> <li>Fish can get trapped or stranded resulting in injury or</li> </ul>                                                                          |
| resulting from poorly designed water<br>crossings                                                                                                                                                                                                                                                                                                          | <ul> <li>death</li> <li>Disruption in access to fish habitats that are essential for one or more life process including spawning and rearing causing a decrease in fish populations</li> <li>Fish can no longer access historic migration routes</li> </ul>                                                      |
| Development Activity: Taking Ground                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                  |
| Decreased groundwater discharge,<br>decreased stream baseflows and<br>upwellings resulting increased water<br>temperatures, decreased water<br>quality, and/or an anoxic stream<br>environment                                                                                                                                                             | <ul> <li>Loss of fish habitat</li> <li>Changes in migration patterns</li> <li>Reduced food supply</li> <li>Changes in fish and aquatic invertebrate species composition and abundance</li> <li>Death of fish and other aquatic life</li> </ul>                                                                   |
| · · · · · · · · · · · · · · · · · · ·                                                                                                                                                                                                                                                                                                                      | an use near streams including increased residential occupation hing, use of all terrain vehicles and snowmobiles)                                                                                                                                                                                                |
| Increased inputs of nutrients and<br>contaminants to waterbodies due to<br>the use of fertilizers, pesticides,<br>dumping of debris and compost in<br>areas in or adjacent to streams, and<br>discharge of swimming pool water<br>etc. resulting in increased<br>productivity, algal growth, and<br>reduced oxygen levels<br>Trampling of vegetation, soil | <ul> <li>Death or injury to fish and other aquatic life</li> <li>Loss of habitat</li> <li>Reduced food supply</li> <li>Changes in fish and aquatic invertebrate species composition and abundance</li> <li>Loss of habitat</li> </ul>                                                                            |
| compaction                                                                                                                                                                                                                                                                                                                                                 | <ul> <li>Reduced food supply</li> <li>Changes in fish and aquatic invertebrate species composition and abundance</li> </ul>                                                                                                                                                                                      |
| Increased erosion, sedimentation and turbidity                                                                                                                                                                                                                                                                                                             | <ul> <li>Decreased photosynthesis leading to a loss of productivity</li> <li>Loss of habitat due to fish avoiding certain areas</li> <li>Loss of local spawning and/or nursery areas</li> <li>Reduced food supply</li> <li>Changes in fish and aquatic invertebrate species composition and abundance</li> </ul> |
| Introduction of non-native and<br>invasive plant species potentially<br>resulting in changes in productivity,<br>algal growth, reduced oxygen levels,<br>and changes in water temperature                                                                                                                                                                  | <ul> <li>Death or injury to fish and other aquatic life</li> <li>Loss of habitat due to fish avoiding certain areas</li> <li>Loss of local spawning and/or nursery areas</li> <li>Reduced food supply</li> </ul>                                                                                                 |



| Potential Physical Impacts              | Potential Impacts on Fish Habitat and Its Ecological Functions                    |
|-----------------------------------------|-----------------------------------------------------------------------------------|
| decreased water quality, and/or an      | Changes in fish and aquatic invertebrate species                                  |
| anoxic stream environment               | composition and abundance                                                         |
| Introduction of non-native aquatic      | Death or injury to native fish and aquatic organisms                              |
| animal species into streams             | • Loss and fragmentation of habitat for native fish species                       |
|                                         | due to competition with and predation by non-native                               |
|                                         | species                                                                           |
|                                         | Loss of local spawning and/or nursery areas                                       |
|                                         | <ul> <li>Reduced food supply</li> </ul>                                           |
|                                         | <ul> <li>Changes in fish and aquatic invertebrate species</li> </ul>              |
|                                         | composition and abundance                                                         |
| Damage to stream banks and bed          | Loss of habitat                                                                   |
| resulting from fording creeks with      | Reduced food supply                                                               |
| vehicles causing increased erosion      | <ul> <li>Changes in fish and aquatic invertebrate species</li> </ul>              |
| and sedimentation, removal of           | composition and abundance                                                         |
| aquatic vegetation and stream           |                                                                                   |
| structure (e.g. logs, rocks, etc.), and |                                                                                   |
| alteration of substrates                | Reduction in the abundance of fish                                                |
| Increased fishing pressure              |                                                                                   |
|                                         | Change in the relative abundance of species within the fish community             |
| Development Activity: Improvement.      | Repair and Maintenance of Municipal Drains or Diversion                           |
| Channels                                |                                                                                   |
| Channelization of the watercourse       | Increased velocity at high flows                                                  |
| through deepening, straightening,       | Loss of riffle and pool habitat                                                   |
| widening, or smoothing out the          | Shallower thalweg (main channel) during low flows                                 |
| bottom                                  | Increased temperature                                                             |
|                                         | Decreased bank stability                                                          |
|                                         | Increased erosion and sedimentation of bank and bed                               |
|                                         | Changes to flow regime (especially baseflows)                                     |
|                                         | Lowering of the water table in adjacent wetlands                                  |
| Narrowing or blocking of                | <ul> <li>Loss of substrate (e.g. gravel)</li> <li>Loss of fish passage</li> </ul> |
| watercourse                             |                                                                                   |
| Removal of instream aquatic             | Loss of cover                                                                     |
| vegetation                              | <ul> <li>Loss of vegetation for spawning</li> </ul>                               |
|                                         | • Loss of nutrients, food, and habitat for aquatic insects                        |
|                                         | Decreased channel/bank stability to the receiving                                 |
|                                         | watercourse                                                                       |
|                                         | Increased erosion and sedimentation in the drain                                  |
| Removal of riparian vegetation          | • Decreased photosynthesis leading to a loss of productivity                      |
|                                         | Loss of habitat due to fish avoiding certain areas                                |
|                                         | Loss of local spawning and/or nursery areas                                       |
|                                         | Reduced food supply                                                               |
|                                         |                                                                                   |



| Potential Physical Impacts                      | Potential Impacts on Fish Habitat and Its Ecological Functions                                                         |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
|                                                 | Changes in fish and aquatic invertebrate species                                                                       |
|                                                 | composition and abundance                                                                                              |
| Removal of substrate                            | <ul> <li>Loss of spawning substrate (e.g. gravel)</li> </ul>                                                           |
|                                                 | Loss of riffle and pool habitat                                                                                        |
|                                                 | Loss of aquatic insects                                                                                                |
|                                                 | Disturbance to the banks and the bottom of ditches from                                                                |
|                                                 | the use of equipment                                                                                                   |
|                                                 | <ul> <li>Decreased channel/bank stability to the receiving</li> </ul>                                                  |
|                                                 | watercourse                                                                                                            |
|                                                 | <ul> <li>Increased erosion and sedimentation in the drain</li> </ul>                                                   |
|                                                 | Mortality of eggs, juveniles, and adult fish                                                                           |
| Removal of woody debris                         | Loss of cover                                                                                                          |
|                                                 | <ul> <li>Loss of woody debris for spawning</li> </ul>                                                                  |
|                                                 | Increased velocity in the drain                                                                                        |
|                                                 | <ul> <li>Decreased channel/bank stability to the receiving</li> </ul>                                                  |
|                                                 | watercourse                                                                                                            |
|                                                 | Increased erosion and sedimentation in the drain                                                                       |
| Sedimentation of the work and/or<br>impact zone | <ul> <li>Changes in fish behavior including blocking migration or<br/>forcing them out of preferred habitat</li> </ul> |
|                                                 | • Causes clogging of fish gills, which impacts breathing                                                               |
|                                                 | Affects the ability of fish to resist parasites and disease                                                            |
|                                                 | Fish mortality                                                                                                         |
|                                                 | • Sediment that settles out can smother fish eggs or larvae,                                                           |
|                                                 | cover spawning substrate, cover boulders and other types                                                               |
|                                                 | of cover habitat, cover or smother important fish food                                                                 |
|                                                 | such as insects and algae;                                                                                             |
|                                                 | • High sediment loads can bury riffles and reduce the size of                                                          |
|                                                 | pools or fill them in completely (pools are important                                                                  |
|                                                 | refuges in the summer and winter); and                                                                                 |
|                                                 | • Decrease in dissolved oxygen if the bottom substrate is                                                              |
| ///                                             | very rich in organic matter                                                                                            |

(Kavanagh, Wren, & Hoggarth, Guidance for Maintaining and Repairing Municipal Drains in Ontario, 2017; Fisheries and Oceans Canada, 2018; Ontario Ministry of Agriculture and Rural Affairs, 2004; Fischer & Fischenich, 2000; Ontario Ministry of Natural Resources, 2010; Toronto and Region Conservation Authority, 2019; Wang, Lyons, Kanehl, & Bannermann, 2001)

# 7 MITIGATION MEASURES

Approximately three-quarters of the perimeter of the Subject Property is occupied by the BWDDC and the municipal drainage ditch. Additionally, the West Davignon Creek and an unnamed tributary flow into the BWDDC near the northwest corner of the Subject Property.



The BWDDC west and south of its confluence with the unnamed tributary of the West Davignon Creek and the municipal drainage ditch located along the southern and southeastern boundaries of the Subject Property are classified as permanent coldwater streams (Ontario Ministry of Natural Resources and Forestry, 2022b; Ontario Ministry of Natural Resources and Forestry, 2024a). These streams provide direct fish habitat (Ontario Ministry of Natural Resources and Forestry, 2024a; Ontario Ministry of Natural Resources and Forestry, 2024c). The remainder of the BWDCC appears to flow intermittently and would likely provide indirect fish habitat

The most effective method of protecting fish habitat is to maintain waterbodies and watercourses in their natural state and provide undisturbed vegetated buffers around them. The recommended mitigation measures during the development and site alteration of the Subject Property include:

1. Establishing a 15 m vegetated buffer from the BWDDC on the west side of Parcel C. The buffer is to be measured from the normal highwater mark (i.e. top of the bank).

The Natural Heritage Reference Manual recommends a minimum of a 30 vegetated buffer adjacent to coldwater streams (Ontario Ministry of Natural Resources, 2010). However, a 15 m vegetated buffer should be sufficient to protect fish habitat because the Client will also be implementing the following mitigation measures:

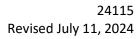
- A LID approach to reduce the quantity of run-off within the development (Davis, 2005),
- The overall site grading plan to direct stormwater and surface water run-off away from the BWDDC and the municipal drainage ditches, and
- The stormwater management plan collects the stormwater and other surface run-off in two stormwater management ponds. The water is then treated to remove a minimum of 80 % of the Total Suspended Solids prior to being released into the municipal drainage ditch. Each stormwater management pond will release the treated effluent at a single location.

Please note that a permit from the Sault Ste. Marie Conservation Authority will be required to disturb the land adjacent to (generally within 15 m) the BWDDC and municipal drainage ditch. Pre-consultation to discuss the landscaping plan and vegetation types is recommended.

- 2. The fish habitat in the municipal drainage ditch is protected because the banks along it is at a higher elevation than the Subject Property and the site will be graded so stormwater and surface water are directed into the stormwater management plans. should be considered. Although not legally required, a narrow vegetation buffer along the ditch is recommended as this will provide additional protection for fish habitat. When construction on the along the southern boundary of the Subject Property is completed, the buildings will be the following distances from the top of the bank of the ditch:
  - The apartment buildings in Parcel C will have a vegetated side-yard setback of approximately 15 m, and



- The townhouses in Parcel B will be have a vegetated backyard setback as required by the City of Sault Ste. Marie Zoning By-law.
- 3. The grading plan requires site alteration to occur close to the top of the bank of the municipal drainage ditch. Along most the municipal drainage ditch the top of the bank is higher than the Subject Property as shown in the photo of the southern boundary of the Subject Property in Appendix B. As a result, overland surface waterflow is directed away from the municipal drainage ditch protecting fish and fish habitat. Additionally, erosion and sedimentation mitigation measures will be implemented prior to soil disturbance and remain in place until vegetation has been re-established.
- 4. When landscaping within the 15 m of the BWDCC and the municipal drainage ditch, exposure of soil must be minimized to the greatest degree possible. Reducing the area disturbed at any one time should be minimized to the greatest degree possible. The development should be staged to keep the disturbed area as small as possible.
- 5. Naturalizing the area by planting perennial native species of local provenance is recommended within 15 m of fish habitat, where practical (Carolinian Canada, 2003). Because the BWDDC is a flood diversion channel, during heavy rainfall events and during the spring freshet, the water level will likely rise to bank full levels or greater. The species chosen should be grasses, forbs and small shrubs, rather than trees. Planting a heterogeneous pattern of cool-season and warmseason grasses was recommended in Fischer & Fischenich (2000). Recommended native wildflower, shrub and tree species for the Sault Ste. Marie Area can be found at <a href="https://www.cleannorth.org/sault-algoma-grow-me-instead-guide/">https://www.cleannorth.org/sault-algoma-grow-me-instead-guide/</a>. A list of native grasses, rushes and sedges can be found at <a href="https://www.aleonnorth.org/sault-algoma-grow-me-instead-guide/">https://www.aleonnorth.org/sault-algoma-grow-me-instead-guide/</a>. A list of native grasses, rushes and sedges can be found at <a href="https://www.aleonnorth.org/sault-algoma-grow-me-instead-guide/">https://www.aleonnorth.org/sault-algoma-grow-me-instead-guide/</a>. A list of native grasses, rushes and sedges can be found at <a href="https://www.aleonnorth.org/sault-algoma-grow-me-instead-guide/">https://www.aleonnorth.org/sault-algoma-grow-me-instead-guide/</a>. A list of native grasses, rushes and sedges can be found at <a href="https://www.aleonnorth.org/sault-algoma-grow-me-instead-guide/">https://www.aleonnorth.org/sault-algoma-grow-me-instead-guide/</a>. A list of native grasses, rushes and sedges can be found at <a href="https://www.aleonnorth.org/sault-algoma-grow-me-instead-guide/">https://www.aleonnorth.org/sault-algoma-grow-me-instead-guide/</a>. A list of native grasses, rushes and sedges can be found at <a href="https://www.aleonnorth.org/sault-algoma-grow-me-instead-guide/">https://www.aleonnorth.org/sault-algoma-grow-me-instead-guide/</a>. A list of native sedges can be found at <a href="https
- 6. An Erosion and Sediment Control Plan must be developed and implemented. The plan should include the following:
  - a. Ensure that appropriate erosion and sediment control measures are established prior to disturbing the soil and remain in place until the new vegetation is fully established.
  - b. Erosion and sediment control measures need to be established as close to the edge of the area to be disturbed as possible.
  - c. Consider using biodegradable erosion and sediment control materials whenever possible.
  - d. The erosion and sediment control measures must be established before any development or site alteration occurs and must be maintained until all disturbed ground has been permanently stabilized, any suspended sediment has resettled in a settling basin, and run off is clear (Kavanagh & Hoggarth, Rehabilitation and Enhancement of Aquatic Habitat Guide v. 1.0, n.d.).
  - e. If soil must be stockpiled, ensure that the stockpiles are a minimum of 30 m from the creeks, covered to prevent issues with dust and surrounded by silt curtains to prevent erosion and sedimentation.





- f. Dispose of and stabilize all excavated material a minimum of 15 m from fish habitat to ensure that sediment does not enter or re-enter a creek.
- g. Measures to ensure that sediment is filtered out of the water flowing on to the development site and water being pumped or diverted off the site before it enters a creek. Examples of applicable measures include pumping or divert the water to a vegetated area or dewatering bag filters, constructing a settling basin, use of silt fence enclosures, and sediment traps.
- h. The erosion and sediment control measures and structures must be inspected regularly, properly maintained, and when damaged, repaired quickly. The creeks should be monitored for signs of sedimentation on a regular basis. If sedimentation is observed, work near the creek or creeks affected must stop, and measures to prevent dispersing sediment-laden water must be implemented immediately (Fisheries and Oceans Canada, 2023c).
- 7. To the degree possible, machinery should not operate within 15 m of fish habitat The following measures are recommended to protect fish habitat and/or the environment in general:
  - a. When machinery arrives on site it should be in a clean, and well-maintained condition, free of fluid leaks, invasive species and noxious weeds (Kavanagh & Hoggarth, Rehabilitation and Enhancement of Aquatic Habitat Guide v. 1.0, n.d.).
  - b. Wash, refuel and service machinery, and store fuel and other material more than 30 m from the watercourses, and in a manner that will prevent deleterious substances from entering the groundwater or surface water.
  - c. Keep an emergency spill kit on site.
- 8. Develop a spill response plan that will be implemented in case of a spill of a deleterious substance or sediment is released. Deleterious substances include but are not limited to oil, gasoline, diesel, hydraulic fluid, pesticides, herbicides, concrete, treated building supplies, etc.
- 9. Developments such as the one currently propose often result in the creation of new impervious surfaces. They result in a change in the amount of water than infiltrates into the ground and that which runs off. Additionally, the increase of an impervious surface often results in run-off with higher pollutant loads than prior to development (Davis, 2005). A study analyzing the impacts of urbanization on stream habitat and fish found that the amount of connected imperviousness was the best single indicator of urbanization effects on stream fish communities (Wang, Lyons, Kanehl, & Bannermann, 2001). Additionally, they found that the degree of connected imperviousness within 50 m of a creek had more influence on stream fish and base flow than comparable amount of imperviousness further away. As a result, the creation of impervious surfaces should be minimized to the extent possible within 50 m of the creek. The low impact design proposed by the Client will reduce the degree to which new impervious surfaces are created and protect fish habitat.
- 10. The use of herbicides, pesticides and fertilizers within the 15 m of the BWDCC and municipal drain should be prohibited. Additionally, the use of herbicides, pesticides and fertilizers



throughout the Subject Property is not recommended. Using perennial native species of local provenance to create meadows rather than lawns should be considered.

Using native species will reduce the need for herbicides and fertilizers, the volume of water necessary during droughts, and amount of maintenance required (i.e., mowing) (Carolinian Canada, 2003). Additionally, native plant species will attract native pollinators, birds, and other wildlife because these insects (e.g., bees, butterflies, dragonflies, etc.) and animals evolved with and are adapted to them.

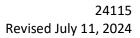
The species chosen should be grasses, forbs and small shrubs, rather than trees because of the potential for flooding adjacent to the BWDDC and municipal drainage ditch. Planting a heterogeneous pattern of cool-season and warm-season grasses was recommended in Fischer & Fischenich (2000). Warm season grass species mainly grow in from June to early September because they are adapted to hot, dry weather (Natural Resources Conservation Service, 2004). Also, they remain green in July and August. Cool season grasses grow best in the spring and fall when temperatures are lower. Native grasses will also provide long-term erosion control, protect water quality, and improve wildlife habitat.

Recommended native wildflower, shrub and tree species for the Sault Ste. Marie Area can be found at <u>https://www.cleannorth.org/sault-algoma-grow-me-instead-guide/</u>. A list of Ontario's native grass-like species can be found at <u>https://ontariograsses.com/main/alien\_native.php?type=N</u>.

11. The proposed access to the development will be from Chippewa Street, Atwater Street, and Amherst Street. Connecting the Subject Property with Atwater Street, and Amherst Street will require the construction of water crossings across the municipal drainage ditch. Water crossings can have deleterious effects on fish habitat. The City of Sault Ste. Marie has decided that these water crossings will be culverts.

The siting of water crossings must include the following considerations (Ontario Ministry of Transportation, 2009):

- a. Avoid crossings near areas of critical fish habitat (i.e., nursery and spawning areas). To date, critical fish habitat has not been identified at or near any of the proposed crossing locations.
- b. Ensure the crossings are designed to maintain the current stream characteristics (e.g., width, depth, slope) to ensure that fish passage is not impeded.
- c. Water crossings should be oriented to avoid or minimize re-alignment of channel sections through the structure and upstream or downstream of it. Water crossings should be at as close to 90° to the waterbody as possible.
- d. Water crossing siting must include geotechnical considerations to ensure that the crossing design includes measures to minimize impacts to sensitive fish habitat, and the structure is built in stable materials to ensure that differential settlement, and related changes will not develop over time.





In addition to a permit from the Sault Ste. Marie Region Conservation Authority, the installation of new culverts in the municipal drain will likely require a review or an authorization of Fisheries and Oceans Canada. The process to request a review of a project is outlined on the Fisheries and Oceans website at starting at the following link: <u>Request a review of your project near water</u>. Because of the sensitive fish species reported to be found in this this municipal drainage ditch and that they spawn in both the spring and fall, it is classified as a Class D drain in Kavanagh, Wren, & Hoggarth's 2017 document Guidance for Maintaining and Repairing Municipal Drains in Ontario.

- 12. To protect fish and fish habitat from impacts resulting from activities conducted in and around water and ensure compliance with the fish and fish habitat provisions of the Fisheries Act the following measures should be implemented (Fisheries and Oceans Canada, 2023c):
  - a. Comply with the restricted <u>timing windows</u> established by the OMNRF (Ontario Ministry of Natural Resources, 2013). The timing windows are designed to avoid working during times when fish are migrating to spawn, spawning and other critical life stages. The creeks adjacent to the Subject Property are occupied by spring, summer and fall spawning species. As a result, all work below the high water mark of these watercourses must be completed between July 16<sup>th</sup> and August 31<sup>st</sup> of any year.
  - b. Minimize to the greatest extent possible the disturbance to riparian vegetation by using existing trails or roads, avoiding tree removal, and preventing soil compaction.
  - c. Avoid disturbing or removing materials including sand, rocks, aquatic vegetation, and natural wood debris from the creek beds and banks.
  - d. Avoid working in or adjacent to the creeks when wet, windy and rainy periods are forecast because it may result in higher water levels, faster flowing water, flooding, and/or increased erosion and sedimentation.
  - e. Implement the methods outlined in Fisheries and Oceans Canada's interim standard for in-water isolation to isolate the work area when in-water work is required. (Fisheries and Oceans Canada, 2023b).
  - f. Maintain fish passage by avoiding changing water flow and water levels within the creeks and obstructing or interfering with the movement of fish.
  - g. Prevent deleterious substances from entering the water by:
    - i. Developing a response plan to be implemented immediately in the event of a spill of a deleterious substance. Items that should be addressed in the response plan include:
      - 1. An emergency spill kit must be kept on site.
      - 2. Work in the area of the spill must stop and the spill must be contained it as soon as a spill occurs or is discovered.



- 3. Spills of sewage, oil, fuel or other deleterious material whether near or directly into a water body must be reported to MECP.
- 4. Ensure clean-up measures are suitably applied so as not to result in further alteration of the bed and/or banks of the watercourse.
- 5. Ensure the spill is cleaned up appropriately and the deleterious substances are properly disposed of.
- 6. Storing all waste materials a minimum of 30 m from the top of the bank of the creeks to prevent them from entering the creeks. All waste materials shall be disposed of at appropriate waste disposal sites.
- ii. Ensure all building materials used adjacent to or in a creek are handled and treated in a manner to prevent the release or leaching of substances into the water that may be deleterious to fish.
- b. Following installation of the culverts, the following rehabilitation measures should be implemented (Ontario Ministry of Transportation, 2009):
  - i. Any areas that where exposed soils or other surfaces have been disturbed need to be stabilized and revegetated.
  - ii. Vegetation that is removed from the banks should be replaced as expeditiously as possible. Revegetation with native species is preferred.
  - iii. If in-stream cover (e.g. woody debris, boulders, overhanging vegetation) was disturbed, it should be re-installed.

# 8 MONITORING

An important part of ensuring that mitigation measures are effective is monitoring. The following monitoring is required:

- 1. Ensure that the 15 m vegetated buffer along the BWDDC on the west side of Parcel C is clearly identified in the field prior to any development or site alteration on Parcel C. The adequacy of the identification methods needs to be checked on a regular basis during any development or site alteration activities.
- 2. Prior to site alteration, adequate erosion and sediment control measures must be established and maintained until the disturbed area is revegetated. During active construction inspections should take place on a weekly basis in the snow-free season, after every rainfall event, after significant snowmelt events and daily during extended rain or snowmelt periods. During inactive construction periods, where the site is left alone for 30 days or longer, a monthly inspection should be conducted until vegetation is well established. Repairs to the erosion and sediment control measures should be done within 48 hours (Toronto and Region Conservation Authority, 2019).



- 3. Site stabilization should occur during or immediately following construction to reduce the potential of erosion and sedimentation.
- 4. The vegetated buffer adjacent to Parcel Cneeds to remain intact following development. For 5 years following the development of Parcel C, the buffer should be monitored on a regular basis to ensure that it remains undeveloped. The area adjacent to the municipal drain should remain vegetated to the extent possible.

# 9 CONCLUSIONS AND RECOMMEDATIONS

This Scoped EIS was developed to address the fish habitat provided by the fish habitat provided by:

- The BWDDC located north and west of the Subject Property,
- The municipal drainage ditch located south and southeast of the Subject Property,
- The West Davignon Creek west of the BWDDC, and
- The tributary that flows south into the BWDDC located north of the Subject Property.

The proposed development has the potential to negatively impact fish habitat in the following ways:

- Death or injury to fish and other aquatic life.
- Changes in the thermal regime of the watercourses from coldwater to coolwater or warmwater resulting in changes in fish and aquatic invertebrate species composition and abundance
- Changes in fish and aquatic invertebrate species composition and abundance not caused by a change in the thermal regime of the creeks.
- Changes in the relative abundance of species within the fish community.
- Loss of general fish habitat.
- Loss of or change in local spawning and/or nursery areas. Spawning and nursery areas have not been identified, however, they may exist.
- Habitat fragmentation.
- Loss and fragmentation of habitat for native fish species and other aquatic species due to competition with and predation by non-native species.
- Water crossings may become barriers to fish movement.



• Drying up of refugia due to increased evaporation

The recommended mitigation measures to protect these fish habitat include:

- Prohibit development and site alteration within 15 m of the top of the bank of the BWDCC located west of Parcel C.
- This 15 m buffer zone must remain vegetated, however, due to the type of vegetation currently located within the buffer zone (i.e. long grass), the Client may wish to remediate parts. Native grasses, forbs and shrubs should be used during remediation where practical.
- The use of herbicides, pesticides and fertilizers within the buffer area should be prohibited. Additionally, the use of herbicides, pesticides and fertilizers throughout the Subject Property is not recommended.
- Develop a stormwater management plan to ensure that there will be no direct impacts on the creeks.
- Minimize the creation of impervious surfaces to the greatest extent possible especially within 50 m of the creeks. Implement low-impact development principles.
- Minimize the area disturbed to the greatest degree possible during construct by staging the development.
- Develop and implement an Erosion and Sediment Control Plan to prevent sediment and other substances from entering the creeks.
- Machinery must arrive on site a clean, and well-maintained condition, free of fluid leaks, invasive species and noxious weeds. Wash, refuel and service machinery, and store fuel and other materials more than 30 m from the creeks, and in a manner that will prevent deleterious substances from entering the groundwater or surface water.
- Develop a spill response plan that will be implemented in case of a spill of a deleterious substance or sediment is released.
- Access to the Subject Property is proposed to be from Chippewa Street, Atwater Street, and Amherst Street possibly Arden Street. Connecting the Subject Property with Atwater Street, Amherst Street and Arden Street will require the construction of 2 water crossings of the municipal drainage ditch. The City of Sault Ste. Marie has instructed the Client to install culverts. Water crossings can have deleterious effects on fish habitat. A permit from the Sault Ste. Marie Region Conservation Authority will be required. A project review or authorization from Fisheries and Oceans Canada will likely be required.
- When installing the culverts implement the measures in the interim standard for in-water isolation developed by Fisheries and Oceans Canada (2023a) (Appendix F).



• When working in and around the creeks, implement the measures to protect fish and fish habitat described by Fisheries and Oceans Canada (Appendix G).

The following monitoring is required:

- Ensure that the 15 m vegetated buffer along the BWDDC on the west side of the Subject Property is clearly identified in the field. The adequacy of the identification methods needs to be checked on a regular basis during any development or site alteration activities. It is anticipated that development will be phased, as a result, the adequacy of the buffer identifiers should be checked periodically between development phases.
- The buffer needs to remain intact following development. The buffers should be monitored on a regular basis to ensure that they remain undeveloped. The area adjacent to the municipal drain should remain vegetated to the extent possible.
- Prior to site alteration, adequate erosion and sediment control measures should be established and maintained until the disturbed area is revegetated. During active construction inspections should take place on a weekly basis in the snow-free season, after every rainfall event, after significant snowmelt events and daily during extended rain or snowmelt periods. During inactive construction periods, where the site is left alone for 30 days or longer, a monthly inspection should be conducted. Repairs to the erosion and sediment control measures should be done within 48 hours (Toronto and Region Conservation Authority, 2019).
- Site stabilization should occur during or immediately following construction to reduce the potential of erosion and sedimentation.

In conclusion, it is anticipated that these mitigation features and monitoring will be adequate to protect fish habitat in the creeks that are adjacent to the Subject Property.

## **10 CLOSING AND STATEMENT OF QUALIFICATIONS**

This EIS was prepared by Greenstone biologists Ms. Hannah Trainor, B. Sc. and Ms. Janice Christian, M. Sc. The resumes of these key staff are provided as Appendix H.

Ms. Trainor is a Junior Biologist with Greenstone Engineering Inc. Her experience in the field of biology includes field and laboratory research focused on invasive pests in Ontario, including Swede Midge and Colorado Potato Beetle. She also participated in field research evaluating the success of habitat remediation as it applied to Spotted Gar, a species at risk in Ontario. She has a B.Sc. and a B.BRM. in environmental management from the University of Guelph; and has finished her first year of the Forestry Technician program at Sault College.

Ms. Christian is a Senior Biologist with Greenstone Engineering Inc. She has worked in the environmental sector for more than 30 years Her extensive experience includes environmental consulting, land and resource use planning, and natural resource management. Her expertise covers a wide range of



environmental topics including Terrestrial and Wetland Ecology, Forestry, Fisheries Environmental Assessment (EA), Environmental Impact Assessment, Land-Use Planning, Land Management, Waste Management, and On-site Wastewater Treatment. Ms. Christian has worked in the public sector, with environmental non-governmental organizations, quasi-municipal organizations, as a consultant and in private industry. She has worked in Ontario, Saskatchewan, and Alberta. Janice holds a Bachelor of Science in Biology and Chemistry from Trent University and a Master of Science in Biology from the University of Regina. She is a member of the Canadian Society of Environmental Biologists.

To discuss any aspect of this work, please contact the undersigned at the coordinates below.

Sincerely yours,

Trainor

Hannah Trainor, B.Sc. Project Technologist hannah@greenstoneengineering.ca

Janie Christian

Janice Christian, M.Sc. Senior Project Manager janice@greenstoneengineering.ca



# **11 REFERENCES**

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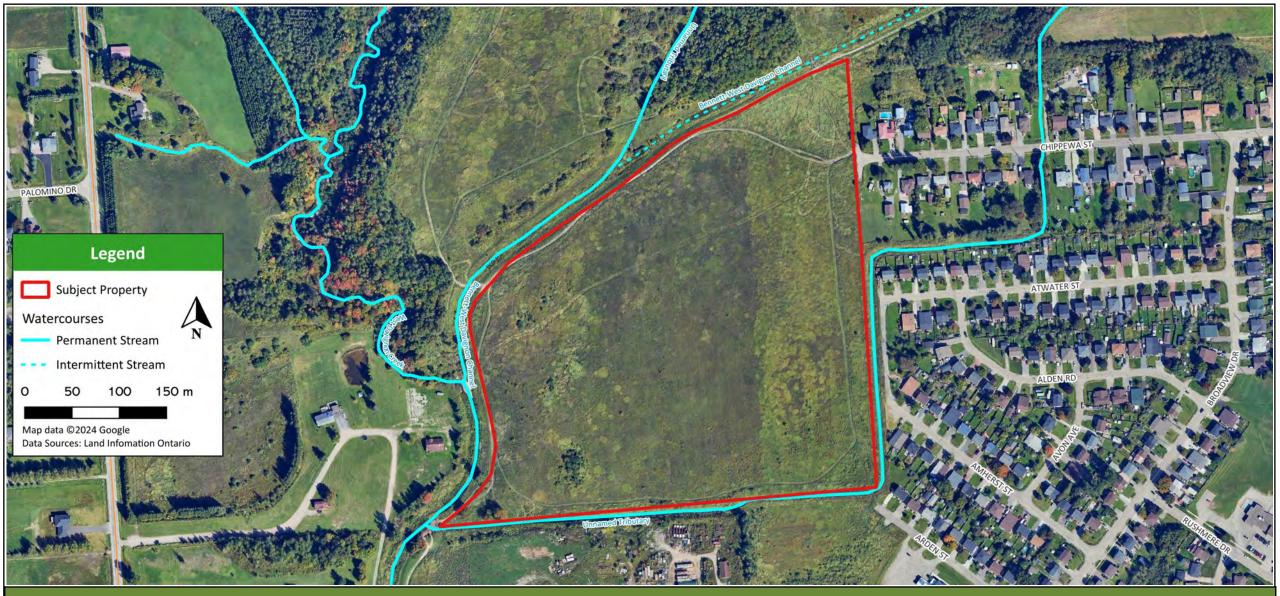




#### FIGURE 1: LOCATION MAP



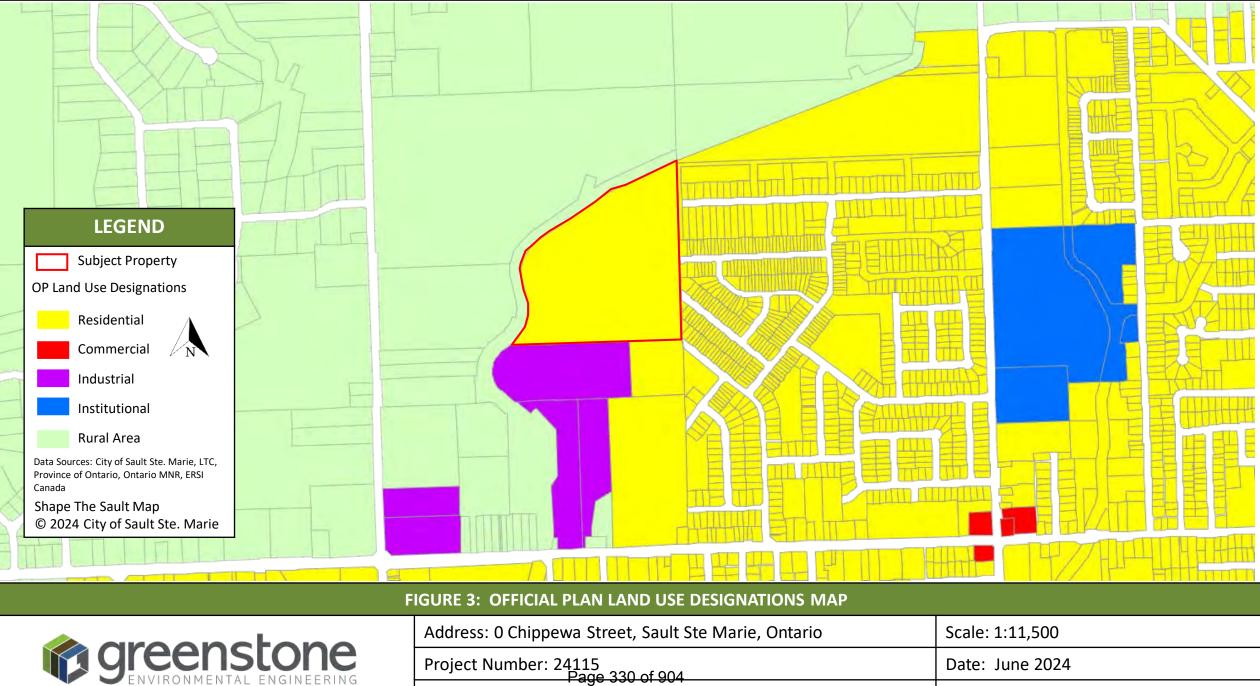
| Address: 0 Chippewa Street, Sault Ste Marie, Ontario | Scale: 1:200,000    |
|------------------------------------------------------|---------------------|
| Project Number: 24115<br>Page 328 of 904             | Date: June 2024     |
| Report Name: Scoped EIS                              | Client: Mamta Homes |



#### FIGURE 2: SUBJECT PROPERTY MAP



|      | Address: 0 Chippewa Street, Sault Ste Marie, Ontario | Scale: 1:4,000      |
|------|------------------------------------------------------|---------------------|
|      | Project Number: 24115<br>Page 329 of 904             | Date: June 2024     |
| TN G | Report Name: Scoped EIS                              | Client: Mamta Homes |



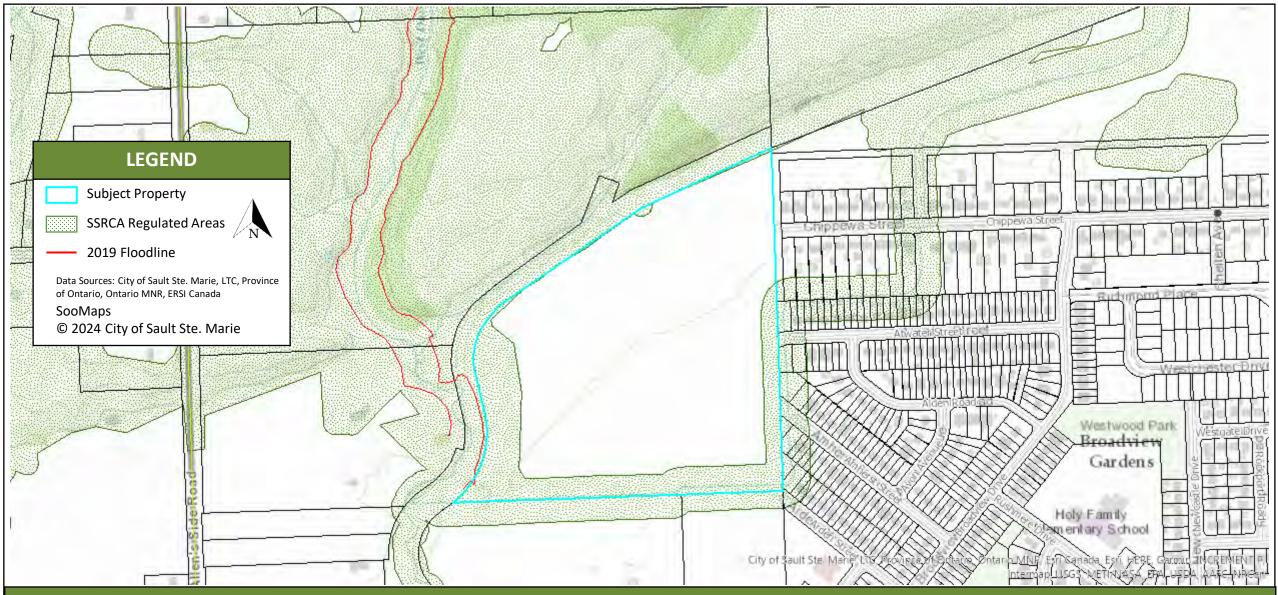
| Project Number: 24115<br>Page 330 of 904 |
|------------------------------------------|
| Page 330 of 904                          |
| 1 490 000 01 00 1                        |
| Report Name: Scoped EIS                  |

**Client: Mamta Homes** 



**Report Name: Scoped EIS** 

**Client: Mamta Homes** 



#### FIGURE 5: SAULT STE. MARIE REGION CONSERVATION AUTHORITY REGULATED AREAS MAP



| Address: 0 Chippewa Street, Sault Ste Marie, Ontario | Scale: 1:7,500      |
|------------------------------------------------------|---------------------|
| Project Number: 24115<br>Page 332 of 904             | Date: June 2024     |
| Report Name: Scoped EIS                              | Client: Mamta Homes |



#### **APPENDIX B: SUBJECT PROPERTY PHOTOGRAPHS**





Photograph 1: View of Subject Property facing westward taken from end of Chippewa Street.



Photograph 2: View of Subject Property facing southward taken from end of Chippewa Street.





Photograph 3: View of Subject Property facing northward taken from end of Chippewa Street.



Photograph 4: View of eastern part of the Bennett-West Davignon Diversion Channel facing northward taken from northern boundary of the Subject Property.





Photograph 5: View of ford across the Bennett-West Davignon Diversion Channel near the northeastern corner of the Subject Property facing northwestward.



Photograph 6: View of the Bennett-West Davignon Diversion Channel at the northeastern corner of the Subject Property facing westward.



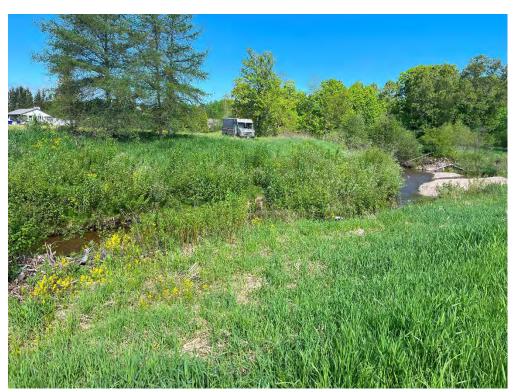


Photograph 7: View of the intersection of the West Davignon Creek and the Bennett-West Davignon Diversion Channel facing westward taken.



Photograph 8: View of the southwestern part of the Subject Property and the Bennett-West Davignon Diversion Channel facing southward.





Photograph 9: View of the southwestern corner of the Subject Property facing southeastward.



Photograph 10: View of the southern tributary on the southern boundary of the Subject Property facing westward (Photo Credit: Micheal Kresin, Kresin Engineering Corporation).

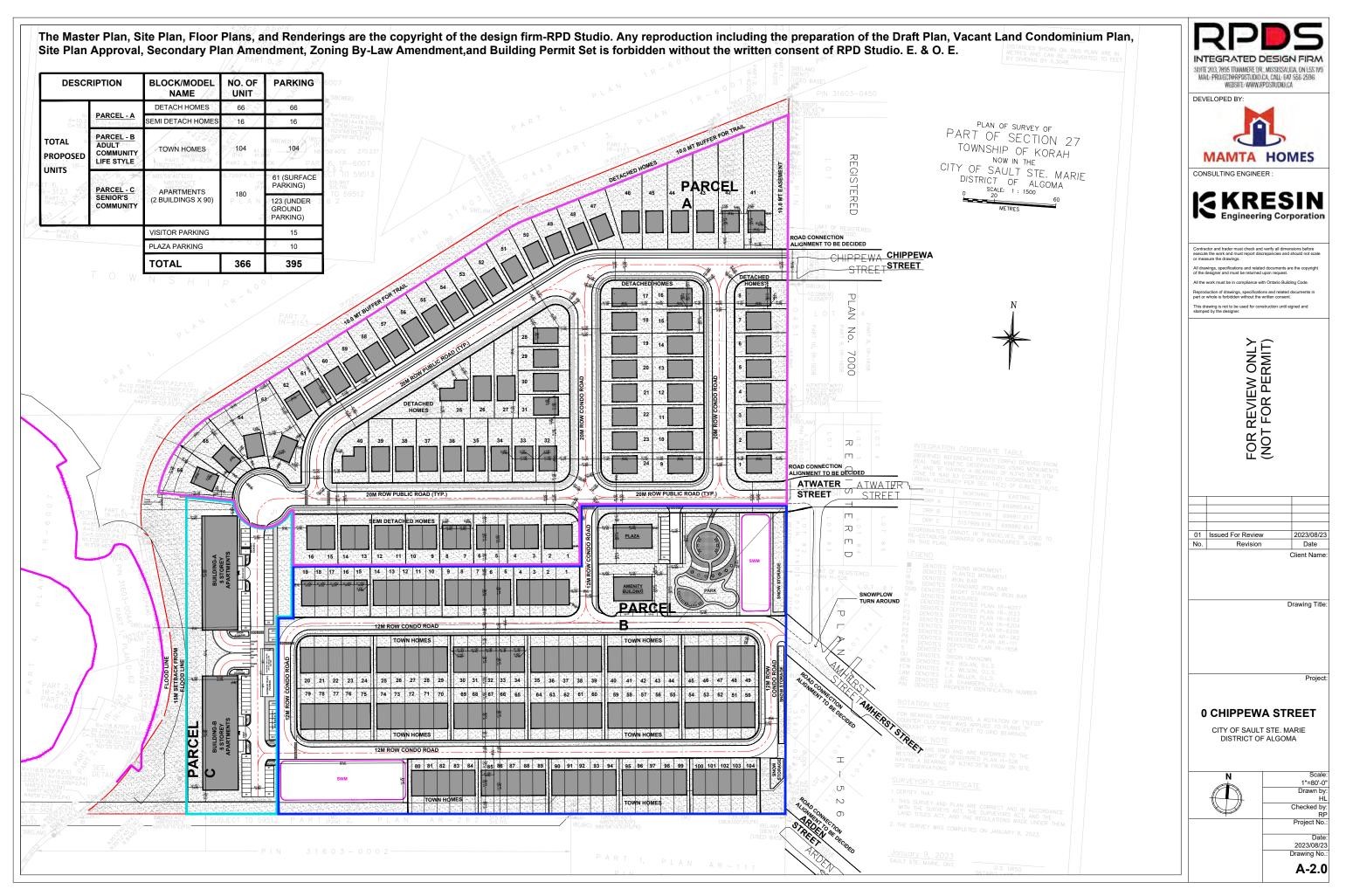




Photograph 11: View of the ford at the southeastern corner of the Subject Property facing northward taken from the end of Arden Road.



#### **APPENDIX C: 0 CHIPPEWA STREET SITE PLAN**





#### **APPENDIX D: AGENCY CORRESPONDENCE**

| From:        | Christine Ropeter                                   |
|--------------|-----------------------------------------------------|
| То:          | Hannah Trainor                                      |
| Cc:          | Janice Christian; Marlene McKinnon; Corrina Barrett |
| Subject:     | RE: Fish habitat and potential SAR                  |
| Date:        | May 28, 2024 1:14:21 PM                             |
| Attachments: | image001.png<br>image002.png<br>image003.png        |

Good Afternoon Hannah

Thank you for contacting the Sault Ste. Marie Region Conservation Authority (SSMRCA). The SSMRCA has no biologist on staff and has no fish and fish habitat information. You may want to contact the Ministry of Natural Resources and Forestry district office in the Sault. You can send them an email at their general address <u>mnrf.ssm.district@ontario.ca</u> and someone should reply to your request.

If I can answer any other questions, please feel free to contact me.

Sincerely,

#### **Christine Ropeter**

Assistant Manager/Communications Sault Ste. Marie Region Conservation Authority 1100 Fifth Line East Sault Ste. Marie, ON P6A 6J8 705-946-8530 ext.# 1001 cropeter@ssmrca.ca www.ssmrca.ca

|         | ?       |  |
|---------|---------|--|
| @ssmrca | @SSMRCA |  |

"Protecting wildlife and biodiversity is a responsibility we all share."

From: Hannah Trainor <hannah@greenstoneengineering.ca>
Sent: Tuesday, May 28, 2024 11:19 AM
To: Christine Ropeter <cropeter@ssmrca.ca>
Cc: Janice Christian <janice@greenstoneengineering.ca>
Subject: Fish habitat and potential SAR

Hello Christine,

My name is Hannah Trainor and I am writing a Scoped Environmental Impact Study for Greenstone Engineering. I was given your contact information by Janice Christian, as she mentioned you may be able to help. I am looking for any information you have regarding fish and fish habitat, as well as the potential presence of any species at risk noted on the following address: 0 Chippewa Street, Sault Ste. Marie, Ontario.

Thank you for your help! Hannah

| From:        | Goertz, Derek (MNRF)                                                                |
|--------------|-------------------------------------------------------------------------------------|
| To:          | Janice Christian                                                                    |
| Cc:          | Hannah Trainor                                                                      |
| Subject:     | RE: Request for fisheries information for the West Davignon Creek & two tributaries |
| Date:        | June 3, 2024 2:57:13 PM                                                             |
| Attachments: | image002.png                                                                        |
|              | image003.jpg                                                                        |

Hi Janice,

It's good to hear from you! The info in the *Aquatic Resources Area* layer in Geohub will be the most up-to-date information we have on the fish community. The other layer that will help you out is the *Fish Activity Area* layer. This layer contains any known critical habitats (i.e. spawning areas, nurseries, etc.). I'm quick to update these layers as we receive additional data so they should both have the most up-to-date information (recognizing that there are probably numerous habitats that we haven't documented yet).

Let me know if you have any questions. Good luck with the project!

Cheers,

#### Derek Goertz

Management Biologist | Sault Ste. Marie District | Regional Operations Division Ontario Ministry of Natural Resources and Forestry | Ontario Public Service 705-992-4775 | derek.goertz@ontario.ca

?

Taking pride in strengthening Ontario, its places and its people

From: Janice Christian <janice@greenstoneengineering.ca>

Sent: Monday, June 3, 2024 1:13 PM

To: Goertz, Derek (MNRF) <Derek.Goertz@ontario.ca>

Cc: Hannah Trainor <hannah@greenstoneengineering.ca>

Subject: Request for fisheries information for the West Davignon Creek & two tributaries

## CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Hi Derek,

It's been a long time since we spoke. I'm glad to see that you are still at the District.

I'm working as the biologist, environmental planner, and senior project manager at Greenstone Engineering. Chris Tenaglia owns the company.

Currently, I am working on a Fish Habitat Scoped EIS for the property at the west end of

Chippewa St. The West Davignon Creek abuts the property on the west, a tributary that flows east and south of the property and a trib that abuts the property to the northwest. (see the attached map)

We checked the Aquatic Resources layers from Ontario GeoHub and discovered that all three creeks are Cold water streams, with fish species summaries for each. Do you have any additional fish or fish habitat information that you can share?

Thanks,

#### Janice Christian, <u>M.Sc</u>.

Senior Project Manager Unit 1, 67 Elgin St., Sault Ste. Marie, ON P6A 2Y4 705-946-8975 janice@greenstoneengineering.ca



APPENDIX E: BENNETT-WEST DAVIGNON CREEK FLOOD CONTROL CHANNEL MAP (SSMRCA, N.D.)





APPENDIX F: INTERIM STANDARD: IN-WATER SITE ISOLATION (FISHERIES AND OCEANS CANADA, 2023B)

# Interim standard: in-water site isolation

## On this page

- <u>About standards</u>
- <u>User guide</u>
- <u>Methods</u>
- <u>Glossary</u>

## 1.0 About standards

Standards are 1 of a suite of tools used by the Fish and Fish Habitat Protection Program (FFHPP) to manage the risk of harmful impacts to fish and fish habitat from projects occurring in or near water. A standard specifies how to implement a specific mitigation measure (e.g., conduct all operations in isolation of open or flowing water) to achieve its objective.

Standards are not considered stand-alone documents. The conditions under which a standard can be applied, and any other applicable management measure (e.g., project must adhere to <u>timing windows</u>), are dictated by the regulatory or non-regulatory instrument (e.g., Codes of Practice, Regulations, Letters of Advice or Authorizations) within which it is referenced. <sup>6/24/24, 11:48 AM</sup> standard cannot be implemented due to site-specific conditions or other reasons, the standard does not apply. If you are uncertain about whether you can meet a standard, it is recommended that you consult a <u>qualified</u> <u>environmental professional</u>.

Standards do not remove nor replace the obligation to comply with all applicable statutory and regulatory requirements of the *Fisheries Act*, the *Species at Risk Act* or other federal, provincial, territorial or municipal legislation and policy including guidance regarding species and habitats managed by these jurisdictions.

## 2.0 User guide

This standard provides national guidance for isolating a work site when it is located in a watercourse or water body. In-water site isolation may be required to support the construction of new infrastructure or to support maintenance or removal activities associated with existing infrastructure. Some examples of projects that typically involve in-water site isolation include:

- cast-in-place concrete works associated with water intake / outfall structures, boat ramp construction and other works
- bridge and culvert installation, maintenance, replacement or removal activities
- linear infrastructure (e.g., pipeline and telecommunication lines) installation, maintenance, integrity assessment, replacement or removal activities

#### 6/24/24, 11:48 AM **3.0 Methods**

This in-water site isolation standard includes guidance related to the following 5 methods:

- 1. <u>cofferdams</u>
- 2. <u>turbidity curtains</u>
- 3. <u>pump arounds</u>
- 4. <u>flumes</u>
- 5. diversion channels

## 3.1 Cofferdams

A cofferdam is an in-water site isolation method that is typically used along the margins of a water body or watercourse and does not impede downstream flow. A cofferdam can also be installed across a watercourse upstream and downstream of the work area. In this case, water from upstream is either pumped downstream (see Section 2.3) or directed into a temporary pipe (see Section 2.4) or temporary diversion channel (see Section 2.5). A cofferdam can be constructed using a variety of materials including rock, steel sheet pile, sandbags, concrete blocks, poly or inflatable barrier. If a dry working environment is required within the isolation area, the cofferdam materials will need to be able to create a water-tight seal. Water from within the isolation area is pumped outside of the isolation area.

## 3.1.1 Installation

select appropriate materials to create a water-tight seal around in the
 <sup>6/24/24, 11:48 AM</sup> isolation area accounting for bank and substrate morphology and type;
 do not use grout

- install the cofferdam from upstream to downstream, to direct flow away from the in-water work area
- design the cofferdam to accommodate the <u>peak seasonal flows</u> or highest water level expected for the duration of the in-water work
- if ice is present, remove it carefully to reduce scour of the bed and banks

### 3.1.2 Dewatering

- safely relocate fish trapped within the site isolation work area to an appropriate location in the same watercourse or water body
  - dewater gradually to reduce the potential for stranding fish
  - capture and relocate any fish as per applicable permits
- screen intake pipes during all phases of the project
  - follow <u>Interim code of practice: End of pipe fish protection screens</u> for small water intakes in freshwater
- dewater the isolation area using appropriately sized pumps for the flows and seepage anticipated during construction
- pump sediment laden water into a vegetated area or a filtration system (e.g., settling basin, straw bales, filter fabric/bags)
- release filtered water gradually to reduce risk of erosion
- return water downstream, within the same watercourse or water body
- continue dewatering for the duration of in-water works or for as long as water continues to enter the isolation area

repair, as needed, deficiencies observed with the cofferdam and/or
 6/24/24, 11:48 AM
 Interim standard: in-water site isolation
 dewatering system during in-water works

- regularly monitor the watercourse or water body for signs of suspended sediment during all phases of the project and take corrective action when and where required
- conduct additional relocation of fish if a breach to the isolation occurs during construction or the dewatering process

### 3.1.4 Removal

- remove the cofferdam following completion of in-water works
  - remove the cofferdam from downstream to upstream, to maintain water flow away from the in-water work area while allowing equalization of water levels inside and outside of the isolation area
  - remove all cofferdam materials from the watercourse or water body following completion of in-water works
- restore the bed and banks, gradient and contour affected by the project

## 3.2 Turbidity curtain

A turbidity curtain is an in-water site isolation method that is typically used along the margins of a water body or watercourse and does not impede downstream flow. This method is also used in the <u>marine environment</u>. A turbidity curtain is used in areas of low or no current that are not prone to high winds and waves. A turbidity curtain generally has a floating headline to keep the top of the curtain above the water level and a weighted bottom/anchor line/ballast chain to maintain contact with the bottom

## 3.2.1 Installation

- install the turbidity curtain around the in-water work area in a manner that prevents disturbance to the bed and banks
- deploy the turbidity curtain in a manner that excludes fish from the isolation area and/or safely relocate any fish within the work area to an appropriate location in the same watercourse or water body
  - relocate any fish as per applicable permits for capturing and relocating fish
- size the turbidity curtain to manage anticipated water levels during construction

## 3.2.2 Maintenance and monitoring

- regularly inspect the turbidity curtain during in-water works
- repair, as needed, deficiencies observed with the turbidity curtain during in-water works
- monitor for the presence of fish within the isolation area
  - relocate any fish as per applicable permits for capturing and relocating fish
- regularly monitor the watercourse for signs of sedimentation during all phases of on-land or in-water activities and take corrective action when and where required

## 3.2.3 Removal

• remove the turbidity curtain from the watercourse or water body following completion of in-water works and only after suspended

A pump around is an in-water site isolation method that is used when it is <sup>6/24/24, 11:48 AM</sup> necessary to block the watercourse from 1 bank to the other to undertake work in the dry. Downstream flow is maintained using pumps. A cofferdam (e.g., rock, steel sheet pile, sandbags, concrete blocks, poly, inflatable barrier) is installed at the upstream and downstream ends of the work site. Water is pumped from upstream of the isolation area to a location immediately downstream of the isolation area.

## 3.3.1 Installation

#### 3.3.1.1 Pumps

- install a water pumping system to transfer the natural water flow directly downstream of the in-water work site
  - install pump intakes upstream of the in-water work area with sufficient space to install the upstream cofferdam
  - install pump outlet hoses downstream of the in-water work area with sufficient space to install the downstream cofferdam
- size the pumping system to accommodate the <u>peak seasonal flows</u> for the duration of the in-water work
  - have back-up pumps available on-site in the event of unanticipated precipitation events or if the primary pump(s) fail
- install and operate the pump intakes and outlet hoses in a manner that prevents disturbance to the channel bed
  - follow <u>Interim code of practice: End of pipe fish protection screens</u> for small water intakes in freshwater
  - install energy dissipating materials (e.g., filter fabric) at the hose outlet to reduce scour and erosion of the channel substrate and

#### maintain downstream flow quantity and quality at all times

6/24/24, 11:48 AM

#### 3.3.1.2 Cofferdam

Installation

 install cofferdam using materials appropriate for the site conditions (e.g., rock, steel sheet pile, sandbags, concrete blocks, poly or an inflatable barrier); do not use earthen material (e.g., soil)

Interim standard: in-water site isolation

- select appropriate materials to create a water-tight seal around in the isolation area accounting for bank and substrate morphology and type; do not use grout
- install the cofferdam from upstream to downstream, to direct flow away from the in-water work area
- design cofferdam to accommodate the <u>peak seasonal flows</u> or highest water level expected for the duration of the in-water work
- if ice is present, remove it carefully to reduce scour of the bed and banks

#### Dewatering

- safely relocate fish trapped within the site isolation work area to an appropriate location in the same watercourse or water body
  - dewater gradually to reduce the potential for stranding fish
  - capture and relocate any fish as per applicable permits
- screen intake pipes during all phases of the project
  - follow <u>Interim code of practice: End of pipe fish protection screens</u> for small water intakes in freshwater
- dewater the isolation area using appropriately sized pumps for the flows and seepage anticipated during construction

return water downstream, within the same watercourse or water body
 <sup>6/24/24, 11:48 AM</sup>
 <sup>6/24/24, 11:48 AM</sup>
 <sup>6</sup> continue dewatering for the duration of in-water works or for as long

as water continues to enter the isolation area

### 3.3.2 Maintenance and monitoring

- regularly inspect the water pumping system, cofferdam and dewatering system during in-water works
- repair, as needed, deficiencies observed with the cofferdam and/or dewatering system during in-water works
- regularly monitor the watercourse or water body for signs of suspended sediment during all phases of the project and take corrective action when and where required
- conduct additional relocation of fish if a breach to the isolation occurs during construction or the dewatering process

### 3.3.3 Removal

- remove the pumping system and cofferdams following completion of in-water works
  - remove the cofferdam from downstream to upstream, to maintain water flow away from the in-water work area while allowing equalization of water levels inside and outside of the isolation area
  - remove all cofferdam materials from the watercourse or water body following completion of in-water works
- restore the bed and banks, gradient and contour affected by the project

undertake work in the dry. Downstream flow is maintained using a pipe, <sup>6/24/24, 11:48 AM</sup> and water is conveyed downstream by force of gravity. A cofferdam (e.g., rock, steel sheet pile, sandbags, concrete blocks, poly, inflatable barrier) is installed at the upstream and downstream ends of the work site.

### 3.4.1 Installation

#### 3.4.1.1 Flume

- design a flume or elevated pipe system to accommodate the <u>peak</u> <u>seasonal flows</u> for the duration of the in-water work
- install the flume in a manner that prevents disturbance to the channel bed
  - install flume intake upstream of the in-water work area with sufficient space to install the upstream cofferdam
  - install flume outlet downstream of the in-water work area with sufficient space to install the downstream cofferdam

#### 3.4.1.2 Cofferdam

Installation

- install cofferdam using materials appropriate for the site conditions (e.g., rock, steel sheet pile, sandbags, concrete blocks, poly or an inflatable barrier); do not use earthen material (e.g., soil)
- select appropriate materials to create a water-tight seal around in the isolation area accounting for bank and substrate morphology and type; do not use grout
- install the cofferdam from upstream to downstream, to direct flow away from the in-water work area

Dewatering

- safely relocate fish trapped within the site isolation work area to an appropriate location in the same watercourse or water body
  - dewater gradually to reduce the potential for stranding fish
  - capture and relocate any fish as per applicable permits
  - screen intake pipes during all phases of the project
  - follow <u>Interim code of practice: End of pipe fish protection screens</u> for small water intakes in freshwater
- dewater the isolation area using appropriately sized pumps for the flows and seepage anticipated during construction
- pump sediment laden water into a vegetated area or a filtration system (e.g., settling basin, straw bales, filter fabric/bags)
- release filtered water gradually to reduce risk of erosion
- return water downstream, within the same watercourse or water body
- continue dewatering for the duration of in-water works or for as long as water continues to enter the isolation area

#### 3.4.2 Maintenance and monitoring

- regularly inspect the flume, cofferdam and dewatering system during in-water works
- repair, as needed, deficiencies observed with the flume, cofferdam and/or dewatering system during in-water works
- regularly monitor the watercourse or water body for signs of suspended sediment during all phases of the project and take corrective action when and where required

# <sup>6/24/24, 11:48 AM</sup> nove the flume and cofferdams following completion of in-water works

- remove the cofferdam from downstream to upstream to maintain water flow away from the in-water work area while allowing equalization of water levels inside and outside of the isolation area
- remove all cofferdam materials from the watercourse or water body following completion of in-water works
- restore the bed and banks, gradient and contour affected by the project

# 3.5 Diversion channel

A diversion channel is an in-water isolation method that uses a temporary channel constructed to convey water around the in-water isolation area and does not impede downstream flow. Use of this method is usually limited by the availability of space within which to construct a diversion channel. A cofferdam (e.g., rock, steel sheet pile, sandbags, concrete blocks, poly or an inflatable barrier) is installed at the upstream end of the work site. This method is often used in order to maintain fish passage.

# 3.5.1 Installation

## 3.5.1.1 Diversion channel

 excavate a temporary channel parallel to, and as close as possible to the existing channel, working from the downstream end to the upstream point of diversion 6/24/24, 11:48 AM

## 3.5.1.2 Cofferdam

### Installation

 install the cofferdam using materials appropriate for the site conditions (e.g., rock, steel sheet pile, sandbags, concrete blocks, poly or an inflatable barrier); do not use earthen material (e.g., soil)

Interim standard: in-water site isolation

- select appropriate materials to create a water-tight seal around in the isolation area accounting for bank and substrate morphology and type; do not use grout
- install the cofferdam from upstream to downstream, to direct flow away from the in-water work area
- design the cofferdam to accommodate the <u>peak seasonal flows</u> expected for the duration of the in-water work
- if ice is present, remove it carefully to reduce scour of the bed and banks

## Dewatering

- safely relocate fish trapped within the site isolation work area to an appropriate location in the same watercourse or water body
  - dewater gradually to reduce the potential for stranding fish
  - capture and relocate any fish as per applicable permits
- screen intake pipes during all phases of the project
  - follow <u>Interim code of practice: End of pipe fish protection screens</u> for small water intakes in freshwater
- dewater the isolation area using appropriately sized pumps for the flows and seepage anticipated during construction

return water downstream, within the same watercourse or water body
 <sup>6/24/24, 11:48 AM</sup>
 <sup>6/24/</sup>

as water continues to enter the isolation area

# 3.5.2 Maintenance and monitoring

- regularly inspect the water pumping system, cofferdam, diversion channel and dewatering (if applicable), during in-water works
- repair, as needed, deficiencies observed with the water pumping system, cofferdam, diversion channel and/or dewatering during inwater works
- regularly monitor the watercourse for signs of suspended sediment during all phases of the project and take corrective action when and where required
- conduct additional relocation of fish if a breach to the isolation occurs during construction or the dewatering process

## 3.5.3 Removal

- remove the cofferdams, reinstall the banks and fill in and stabilize the diversion channel to reduce erosion when no longer in use following completion of in-water works
  - remove the cofferdam from downstream to upstream to maintain water flow away from the in-water work area while allowing equalization of water levels inside and outside of the isolation area
  - remove all cofferdam materials from the watercourse or water body following completion of in-water works



### **Marine environment**

Comprises all ocean, coastal waters and estuaries, including intertidal zones and salt water marshes, and extending, in the case of watercourses, up to the freshwater limit.

### **Qualified Environmental Professional (QEP)**

A person who is experienced in identifying and assessing potential impacts to fish and fish habitat generated from various works, undertakings or activities conducted in or near water, and implementing management measures to avoid and mitigate them. QEPs possess a post-secondary degree or diploma in biological, geophysical or environmental sciences and are often referred to as:

- aquatic biologist
- fisheries biologist
- fluvial geomorphologist
- applied scientist
- fisheries technician
- environmental consultant
- natural resource consultant

### Peak seasonal flow

Highest instantaneous discharge expected within the given season.

#### Date modified:

2023-11-06



APPENDIX G: MEASURES TO PROTECT FISH AND FISH HABITAT (FISHERIES AND OCEANS CANADA, 2023C)



Government of Canada

<u>Canada.ca</u> > <u>Fisheries and Oceans Canada</u> > <u>Aquatic ecosystems</u>

> <u>Projects near water</u>

# Measures to protect fish and fish habitat

Comply with the fish and fish habitat protection provisions of the *Fisheries Act* by incorporating measures to avoid:

- causing the death of fish
- harmful alteration, disruption or destruction of fish habitat in your work, undertaking or activity

Works, undertaking or activities where impacts to fish and fish habitat can be avoided if you can follow the measures to protect fish and fish habitat include:

- clear span bridges
- bridge maintenance
- on-land mineral exploration activities
- decking repairs for docks, piers, wharves and bridges

You're responsible for reviewing the complete list of measures and implementing those that are applicable to your work, undertaking or activity. If you can't completely implement the protection measures, <u>check if your project needs a review</u>.

# Prevent the death of fish

You can prevent the death of fish by:

• avoiding killing fish by means other than fishing

- avoiding using explosives in or near water
- planning in water work, undertaking or activity to respect <u>timing</u> <u>windows</u> to protect fish, including:
  - their eggs
  - juveniles
  - spawning adults
  - the organisms upon which they feed and migrate

# Maintain riparian vegetation

Measures to maintain riparian vegetation include:

- maintaining an undisturbed vegetated buffer zone between areas of on-land activity and the high water mark of any water body
- using existing trails, roads or cut lines wherever possible
- avoiding tree removal
- using methods to prevent soil compaction, such as swamp mats or pads

# Carry out works, undertakings and activities on land

You can prevent the harmful alteration, disruption or destruction of fish habitat by avoiding:

- conducting any work, undertaking or activity in water
- placing fill or other temporary or permanent structures below the high water mark
- fording of the watercourse
- disturbing or removing materials from the banks, shoreline or waterbody bed, such as:

- sand
- rocks
- aquatic vegetation
- natural wood debris
- building structures in areas that:
  - may result in erosion and/or scouring of the stream bed or banks
  - are inherently unstable, like:
    - bends
    - meanders
    - floodplains
    - alluvial fans
    - braided streams

# Maintain fish passage

Maintain fish passage by avoiding:

- changing flow or water level
- obstructing or interfering with the movement and migration of fish

# **Ensure proper sediment control**

Ensure proper sediment control by:

- avoiding introducing sediment in the water, like:
  - silts
  - clays
  - sands
- developing and implementing an erosion and sediment control plan
  - installing effective erosion and sediment control measures to stabilize all erodible and exposed areas

- regularly inspecting and maintaining the erosion and sediment control measures during all phases of the project
- keeping the erosion and sediment control measures in place until all disturbed ground has been permanently stabilized
- installing settling basin and/or filtration system for water flowing onto the site and water being pumped or diverted from the site, including:
  - holding back runoff water until suspended sediment has resettled in the settling basin and runoff water is clear
  - dewatering gradually to prevent sediment resuspension and bank destabilization
- disposing of and stabilizing all excavated material above the high water mark or top of bank of nearby waterbodies and ensuring sediment reentry to the watercourse is prevented
- heeding weather advisories and scheduling work to avoid wet, windy and rainy periods that may result in high flow volumes and/ or increase erosion and sedimentation
- regularly monitoring the watercourse for signs of sedimentation during all phases of the work, undertaking or activity and taking corrective action if required
- using biodegradable erosion and sediment control materials whenever possible and removing all exposed non-biodegradable erosion and sediment control materials once site is stabilized
- operating machinery on land in stable dry areas
- stopping work and containing sediment-laden water to prevent dispersal
- installing temporary clear span bridges to accommodate expected high water flows and to not damage erodible banks
- limiting the impacts to stream or shoreline banks

# Prevent entry of deleterious substances in water

Prevent entry of deleterious substances in water by:

- avoiding depositing any deleterious substances in the watercourse
- developing a response plan to be implemented immediately in the event of a spill of a deleterious substance
- keeping an emergency spill kit on site
- stopping work and containing deleterious substances to prevent dispersal
- reporting any spills of sewage, oil, fuel or other deleterious material whether near or directly into a water body
- ensuring clean-up measures are suitably applied so as not to result in further alteration of the bed and/or banks of the watercourse
- cleaning up and appropriately disposing of the deleterious substances
- planning activities near water such that materials and chemicals don't enter the watercourse, including:
  - grout
  - paint
  - primers
  - degreasers
  - rust solvents
  - poured concrete
  - blasting abrasives
  - or other chemicals
- maintaining all machinery on site in a clean condition and free of fluid leaks to prevent any deleterious substances from entering the water
- washing, refueling and servicing machinery and store fuel and other materials for the machinery in such a way as to prevent any deleterious

substances from entering the water

- disposing all waste materials (including construction, demolition, excavation, commercial logging) above the high water mark of nearby waterbodies to prevent entry
- ensuring that building material used in a watercourse is handled and treated in a manner to prevent the release or leaching of substances into the water that may be deleterious to fish

# **Related links**

- 2019 changes to the Fisheries Act
- <u>Request a review of your project near water</u>
- Standards and codes of practice

Date modified:

2019-08-28



### **APPENDIX H: RESUMES OF KEY STAFF**



# HANNAH TRAINOR, B.SC.

#### **PROJECT TECHNOGIST**

hannah@greenstoneengineering.ca

#### **PROFESSIONAL SUMMARY**

Hannha holds a Bachelor of Science and Bachelor of Bioresource Management from the University of Guelph. Her technical experience has included research projects of invasive pests in Ontario such as Swede Midge and the Colorado Potato Beetle and the Spotted Gar, a species at risk in Ontario. She has experience completing verification soil sampling programs, Phase I Environmental Site Assessments, as well as groundwater monitoring programs. Hannah also has first aid and CPR level training.

#### **EDUCATION**

- Bachelor of Bioresource Management, University of Guelph 2022
- Bachelor of Science, University of Guelph 2022

#### **PROFESSIONAL EXPERIENCE**

#### PROJECT TECHNOLOGIST, GREENSTONE ENGINEERING LTD., 2024 - PRESENT

- Execution of groundwater and verification soil sampling programs adhering to standard operating procedures and MECP technical documents.
- Preparation of Phase I Environmental Site Assessment reports.
- Preparation of supporting figures and test pit logs.

#### RESEARCH ASSISTANT, UNIVERSITY OF TORONTO, SUMMER 2023

- Tagged and tracked Spotted Gar using GPS.
- Assessed habitat and water quality analysis using YSI technology.
- Clipped and preserved juvenile fin samples.
- Set and monitored hoop nets recording identity of fish species captured.

#### RESEARCH ASSISTANT, UNIVERSITY OF GUELPH, 2021 - 2023

- Travelled to multiple study sites throughout Southern Ontario.
- Maintained sticky card pheromone traps and live captured specimens in the field.
- Gathered, transported, and dissected canola samples to find insect larvae.
- Recorded data and maintained laboratory notes.

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## JANICE CHRISTIAN, M.SC.

#### 705-946-8975

janice@greenstoneengineering.ca

#### **PROFESSIONAL SUMMARY**

Janice has worked in the environmental sector for more than 30 years. She has extensive experience in environmental consulting, land and resource use planning, and natural resource management. Her expertise covers a wide range of environmental topics including Environmental Assessment, Environmental Impact Assessment, Land-Use Planning, Land Management, Waste Management, On-site Wastewater Treatment, Terrestrial and Wetland Ecology, Forestry, and Fisheries. Janice has worked in the public sector, with environmental non-governmental organizations, quasi-municipal organizations, as a consultant and in private industry. She has worked in Ontario, Saskatchewan, and Alberta. Janice holds a Bachelor of Science in Biology and Chemistry from Trent University and a Master of Science in Biology from the University of Regina. She is a member of the Canadian Society of Environmental Biologists.

#### **EDUCATION**

- Master of Science, University of Regina, 1996
- Bachelor of Science, Trent University, 1994

#### PROFESSIONAL DEVELOPMENT

- Workplace Hazardous Information Management System
- Transportation of Dangerous Goods
- Septic System Design Self-Study Course
- Introduction to the Canadian Environmental Assessment Act, 2012 Training
- How to Conduct Cumulative Effects Assessment and Management Studies More Effectively Webinar
- Provincial Policy Statement 2014 Training
- Ontario Wetland Evaluation Certification
- Ecological Land Classification Certification, Southern Manual and the Provincial ELC
- Primer on Planning, Ontario Association of Committees of Adjustment & Consent Authorities
- Northeastern Ontario Land Use Planning Technical Workshops

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- Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005 Second Edition Training
- Municipal Class Environmental Assessment Training
- Ministry of Natural Resources' Class Environmental Assessment for Resource Stewardship and Facilities Development, and Class Environmental Assessment for Provincial Parks and Conservation Reserves Training

#### **PROFESSIONAL ASSOCIATIONS**

• Canadian Society of Environmental Biologists

#### PROFESSIONAL EXPERIENCE

#### SENIOR PROJECT MANAGER, GREENSTONE ENGINEERING LTD., 2022 - PRESENT

- Complete land use planning applications, natural environment assessments, environmental monitoring plans, environmental impact assessments, class environmental assessments, Canadian Environmental Assessment Act Section 67 determinations, aggregate application natural environment level 1 and level 2 studies, and other reports or plans that advise Clients on the potential impacts of their projects/facilities on the natural environment and recommend preventative, mitigation and monitoring features.
- Complete Phase 1 Environmental Site Assessment Reports, Excess Soil Assessments
- Complete excess clean soil management site applications (O. Reg 406)
- Review environmental plans on behalf of Indigenous communities.
- Review for plans and reports written by other staff.

#### ENGLISH AS A FOREIGN LANGUAGE AND SCIENCE TEACHER, SELF-EMPLOYED, 2018 - 2022

- Create courses to teach
- Develop course outlines and prepare lessons
- Teach up to 1-6 children at a time.

#### ENVIRONMENTAL AND PLANNING SPECIALIST, KARHI CONTRACTING INC., 2017 - 2018

- Prepared severance applications.
- Completed Permit applications and rehabilitation plans for work on shorelands, water crossings, and Crown land roads.
- Used GIS to produce drawings and maps.
- Completed Hauled sewage lagoons and drying bed environmental compliance approval applications and closure plans.

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- Worked with Indigenous communities to site hauled sewage lagoons and drying beds
- Completed Ministry of Transportation entrance and building permit applications.
- Wrote a waste management hauling driver's handbook for Karhi Contracting Inc. in compliance with Guideline C-12 under O. Reg. 347 of the Ontario Environmental Protection Act.

#### SENIOR ENVIRONMENTAL SCIENTIST, ENVIRONMENTAL SCIENCE, PINCHIN LTD., 2015 – 2017

- Completed environmental monitoring plans, environmental impact assessments, class environmental assessments, Canadian Environmental Assessment Act Section 67 determinations, natural environment assessments, aggregate application natural environment level 1 and level 2 studies, and other reports or plans that advise Clients on the potential impacts of their projects/facilities on the natural environment and recommend preventative, mitigation and monitoring features.
- Acted as senior technical reviewer for plans and reports written by other members of the environmental science service line.
- Assisted with the development and coordination of the environmental natural science service line
- Prepared design and operations plans and annual monitoring plans for landfill sites and closed mine sites.
- Prepared a Signs Manual for the Ministry of Natural Resources and Forestry that consolidated existing policies and procedures and provided recommendations on policy and procedural changes

#### PRINCIPAL CONSULTANT, JANICE CHRISTIAN ENVIRONMENTAL & PLANNING CONSULTING, 2012 – 2016

- Liaised with clients and regulatory agencies as a sub-consultant for larger Environmental Consulting Firms.
- Prepared and peer reviewed Environmental Impact Assessments and Environmental Protection Plans.
- Prepared Planning Act Applications including subdivision plans; consent applications and zoning by-law amendment applications.
- Acted on behalf of clients with conservancy organizations, planning authorities, government ministries.
- Provided project management and coordination services for an Environmental Not-for-Profit Organization including facilitating meetings, pursuing funding opportunities, managing funded projects, providing leadership to sub-committees, interns and other staff/contractors, making presentations at public and committee meetings.

# GENERAL MANAGER/ PLANNER/ SECRETARY TREASURER, SAULT STE. MARIE NORTH PLANNING BOARD, 2011 – 2012

- Administered all land use planning functions for this quasi-municipal Planning Board.
- Conducted site inspections.
- Reviewed all Planning Act applications for compliance with Provincial and local policies and provided the Board with approval recommendations.



- Provided the residents of the Planning Area with assistance and advice on planning matters.
- Managed one staff, an office and the budget.
- Managed the five-year review of the Official Plan for the area.

#### DISTRICT PLANNER, SAULT STE. MARIE DISTRICT, ONTARIO MINISTRY OF NATURAL RESOURCES, 2010-2011

- Led the Municipal Planning portfolio which included preparing input packages for and reviewing Municipal Official Plans and Official Plan Amendments, commented on Municipal Planning Act applications, providing advice to other staff on the Planning Act and the Provincial Policy Statement.
- Led the Protected Areas Planning portfolio which included providing advice to other staff on the management of in Conservation Reserves; preparing a Conservation Reserves Strategy for the District; providing leadership to protected areas technicians and preparing Land use policy amendments proposals.
- Provided advice to other staff including with interpretation and implementation of the Environmental Assessment Act, the Environmental Bill of Rights, and MNR's Statement of Environmental Values.

# INTEGRATED RESOURCE MANAGEMENT TECHNICAL SPECIALIST, SAULT STE. MARIE DISTRICT, ONTARIO MINISTRY OF NATURAL RESOURCES., 2003 – 2010

- Managed the Waste management program including working with the local and regional Ministry of the Environment staff regarding compliance issues and Environmental Assessment Act requirements.
- Provided advice to Senior MNR staff regarding waste management at a local and regional level.
- Developed and worked extensively with a Public Advisory Council to work on the waste management issues (lack of remaining capacity for a population of approximately 5000 and an area of 2400 km2, lack of recycling services, etc) in the municipally unincorporated area located just north of Sault Ste. Marie.
- Managed permitting for work proposed on Crown land, on shorelines and in the water (Public Lands Act permits and Lakes and Rivers Improvement Act approvals.
- Conducted Class Environmental Assessments (Resource Stewardship and Facility Development Class EA, Provincial Parks and Conservation Reserves Class EA) including public consultation and aboriginal engagement.
- Reviewed and commented on Class EAs and Environmental Assessments (renewable energy and waste projects).
- Provided advice to the public and agencies regarding MNR administered legislation.

# INTEGRATED RESOURCE MANAGEMENT TECHNICAL SPECIALIST, SIOUX LOOKOUT DISTRICT, ONTARIO MINISTRY OF NATURAL RESOURCES, 2000-2003

- Managed the budget for the Lac Seul Area.
- Recruited and supervised seasonal staff.
- Managed the Land stewardship and Waste management programs.

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- Managed the Nuisance Bear program including acting as the local media contact, serving on the provincial nuisance bear service provider authorization committee; negotiated nuisance bear removal services with the Municipality of Sioux Lookout and the local OPP detachment.
- Represented MNR's on the Fisheries Advisory Committees that were developing fisheries management plans. This role involved extensive negotiation and facilitation skills.

# PROJECT ASSISTANT, NORTHERN EAST SLOPES REGIONAL INTEGRATED RESOURCE MANAGEMENT PROJECT, ALBERTA ENVIRONMENT

• Assisted in the preparation of a regional pilot Integrated Resource Management (IRM) Project for the Northern East Slopes Region by managing the project, investigating IRM approaches from other jurisdictions, developing a terms of reference for the project, communications products, a public consultation process.

#### AREA BIOLOGIST, UPPER HAY AREA, LANDS AND FOREST SERVICE, ALBERTA ENVIRONMENT, 1996-1999

- Managed the silviculture program by planning and contracting silviculture activities and auditing local forest industries' silviculture programs.
- Acted as area specialist in ecological management.
- Developed and provided advice on the use of native plant guidelines for northwestern Alberta.

#### **PROJECT EXPERIENCE**

#### **PROJECT MANAGEMENT**

- Managed a \$3.2 M, 7 million tree silviculture program by planning and contracting silviculture activities.
- Owner/Operator of Janice Christian Environmental and Planning Consulting including soliciting work, writing proposals, carrying out all required studies, completing reports to clients' satisfaction, and all administrative work associated with owning a business.
- Project Manager for a local environmental not-for-profit organization, including providing direction to interns, developing grant proposals and reporting on projects to funders' requirements, research, compiling and presenting information on waste management practices to the Council Members, support agencies and the public, developing communication products, and managing budgets. The Council was comprised of interested and influential community members and was supported by representatives of provincial government ministries.
- General Manager for the Sault Ste. Marie North Planning Board, a quasi-municipal land use planning board for a 2400 km<sup>2</sup> municipally unincorporated planning area located north of Sault Ste. Marie, Ontario. Duties included managing a small staff, managing the annual budget including submission of Board approved budget proposals to the Ontario



Ministry of Municipal Affairs and Housing, reviewing and providing advice to the Board regarding land use planning applications.

- Led the Ontario Ministry of Natural Resources, Sault Ste. Marie District, Municipal Planning portfolio which included preparing input packages for and reviewing Municipal Official Plans and Official Plan Amendments, commented on Municipal Planning Act applications, providing advice to other staff on the Planning Act and the Provincial Policy Statement.
- Team Leader for Protected Areas Technicians conducting studies in Conservation Reserves.
- Sault North Waste Management Project lead for the Sault Ste. Marie District of the Ontario Ministry of Natural Resources.
- Lands portfolio lead for the Sioux Lookout District, Ministry of Natural Resources; Partnership Coordinator for the Sioux Lookout District, Ministry of Natural Resources.
- Managed the Northern East Slopes Integrated Resource Management Region Planning Pilot Project for Alberta Environment.
- Managed the Silviculture program for the Upper Hay Forest District, Lands and Forest Service, Alberta Environment.

#### ENVIRONMENTAL ASSESSMENT

- Prepared and provided senior technical review of Class Environmental Assessment reports; Prepared *Canadian Environmental Assessment Act, 2012* Section 67 Determination reports for projects on federal land.
- Prepared Category A, B reports and used emergency provisions under the MNR's Resource Stewardship and Facilities Development and Provincial Parks and Conservation Reserves Class Environmental Assessments.
- Reviewed and recommended approval of proponent-led Class Environmental Assessment Reports.
- Reviewed and commented on Individual Environmental Assessment Reports for renewable energy projects and waste management projects.
- Reviewed and provided advice to colleagues regarding Environmental Assessment Act, Environmental Bill of Rights and MNR's Statement of Environmental Values.

#### **ENVIRONMENTAL IMPACT ASSESSMENT**

- Prepared and provided senior technical review of Environmental Impact Studies to support *Planning Act* applications and applications to Conservation Authorities; Natural Environment Property Assessments as well as the *Aggregate Resources Act* Natural Environment Studies Level 1 and Level 2; and other Natural Heritage Reports.
- Responsible for recommending approval of Environmental Impact Studies.



#### LAND USE PLANNING

- Prepared subdivision, severance, and zoning by-law amendment applications.
- Provided recommendations to Sault Ste. Marie North Planning Board concerning proposed severances, zoning by-law amendments, and subdivisions applications.
- Contributed to the five-year Reviews of the Official Plans.
- Provided environmental input into Official Plans and Zoning By-laws.

#### ENVIRONMENTAL PERMITTING, COMPLIANCE AND MONITORING

- Prepared Ministry of Natural Resources and Forestry Work Permit applications and Ministry of Transportation entrance and building permit applications for clients.
- Prepared Ministry of the Environment, Parks and Conservation Hauled Sewage Environmental Compliance Approval applications.
- Prepared, reviewed and peer reviewed Environmental Management Plans; Stormwater Management studies; Design and Operations Plans, and Annual Monitoring Reports for landfill sites.
- Issued Public Lands Act Work Permits for work on Crown land and work around water for the Ministry of Natural Resources and Forestry.
- Reviewed applications and prepared the documents to issue location approval under the Lakes and Rivers Improvement Act.
- Improved compliance with Environmental Compliance Approvals for waste management sites.
- Developed a waste management strategy and a Conservation Reserves Strategy.
- Assisted in the development of fisheries management plans.

#### COMMUNICATIONS AND INTERPERSONAL RELATIONSHIP BUILDING

- Teaching English as a Second Language to children and adults from China, Latin America, Russia, Germany, USA, etc.
- Teaching Science concepts to preschoolers, school-aged children and teens as a freelance online teacher.
- Soliciting work, writing proposals, writing technical reports.
- Developing grant proposals and reporting on projects to funders' requirements.
- Research, compiling and presenting information on waste management practices to Board Members, support agencies and the public.
- Developing communication products.
- Facilitating and presenting information at public and board meetings.
- Reviewing and providing advice to regarding land use planning applications a decision-making Board.

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- Providing input to and reviewing plans and plan amendments, commented on applications.
- Providing advice to colleagues, staff of other agencies and the public.
- Building and repair relationships between provincial government officials and advisory committee members.
- Media contact.
- Negotiating with partners.



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Based on the limitations of the scope of work, schedule, and budget, the preparation of this report, and all associated work, was carried out in accordance with the normally accepted standard of care for the specific professional service provided to the Client. The environmental conditions that have been presented are based on the factual data obtained from this investigation. No other warranty is expressed or implied.

#### INTERPRETATION OF SITE CONDITIONS

Descriptions of environmental conditions made in this report are based on site conditions encountered by Greenstone Engineering Ltd. at the time of the work, and at the specific inspected, tested, monitored and/or sampled locations. Classifications and statements of condition(s) have been made in accordance with commonly accepted practices, which are judgmental in nature; no specific description should be considered exact. Extrapolation of in-situ conditions can only be made to some limited extent beyond the sampling or test points, if completed. The extent depends on variability of the specific media conditions (building materials, soil, groundwater, rock, sediment, etc.) as influenced by natural, environmental, geological and/or hydrogeological processes, construction activity, and site/building use. No warranty or other conditions, expressed or implied, should be understood.

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Regardless of how exhaustive an environmental investigation is performed, the investigation cannot identify all the surface/subsurface conditions, which may differ from the conditions encountered at the test locations at the time of our investigation. Further, surface/subsurface conditions can change with time due to natural and direct or indirect human impacts at or away from the site. As



such, no warranty is expressed or implied that the entire site is representative of the subsurface information obtained at the specific locations of our investigation, which may also change with time.

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If there are any changes in the project scope or development features, which may affect our assessment, the information obtained during the investigation may be inadequate. In this case, Greenstone Engineering Ltd. should be retained to review the project changes to evaluate if the changes will affect the conclusions and recommendations within our report, and if additional field investigation work, as well as reporting is required as part of the reassessment.

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#### **REGULATORY DISCLAIMER**

This report has been prepared for due diligence purposes only and in accordance with standard environmental engineering and consulting practices in accordance with applicable standards.



# **Geotechnical Investigation Report**

Proposed New Subdivision

0 Chippewa Street, Sault Ste. Marie, Ontario

#### Prepared for:

Mr. Harjinder Kang, President Mamta Homes 44 Aster Drive Wasaga Beach, ON L9Z 2Z8

#### Prepared by:

Down to Earth Geotechnical Engineering 253 Old Garden River Road Sault Ste. Marie, ON, P6B 5A7

February 21, 2023 Project No. G22042

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#### 1.0 INTRODUCTION & SCOPE

Down to Earth Geotechnical Engineering (Down To Earth) is pleased to provide our Geotechnical Investigation Report for a proposed new residential subdivision to be located on approximately 37 acres of vacant properties, at the west end of Chippewa Street in Sault Ste. Marie, Ontario. The Site location is shown on Figure 1 in Appendix A.

The geotechnical investigation and engineering evaluation was performed in accordance with Down to Earth's proposed scope of work outlined in our December 21, 2022 Proposal (G22042), which was signed off by Mr. Harjinder Kang of Mamta Homes.

It is understood by Down to Earth that the proposed new residential subdivision will comprise of detached homes, semi-detached homes, town homes, apartments, as well as the associated infrastructure required to develop a residential subdivision.

Since the project is in the early stages of development and there were no structural or architectural drawings available for the proposed apartment buildings, the geotechnical borehole investigation program was performed for the proposed residential houses and associated infrastructure (i.e. roadways, sewers and water services). As such, foundation recommendations for the proposed apartment buildings are not discussed in this report.

In general, the Geotechnical Investigation was required to delineate and evaluate the general subsurface soil and groundwater conditions, and based on the factual information obtained, provide geotechnical engineering design and construction recommendations, as well as provide engineering guidelines on the geotechnical aspects of the project that could influence design and construction decisions from a geotechnical perspective.

This was accomplished by advancing a total of 10 strategically placed exploratory boreholes (BH1 to BH10) and instrumenting 2 of the boreholes (BH9 and BH10) with piezometers (monitoring wells, MW1 and MW2) within the boundaries of the proposed subdivision, while avoiding underground site services. The approximate spatial location of the boreholes/monitoring wells are indicated on Figure 2 in Appendix A.

Based on the results of the geotechnical investigation, soil laboratory testing, and geotechnical engineering analysis, the following geotechnical investigative processes, recommendations and construction considerations are provided:

- Geotechnical Field Investigation and Methodology;
- Geophysical Logging of Subsurface Conditions & Soil Laboratory Test Results;
- General Subsurface Soil and Groundwater Conditions (Soil Stratigraphy);
- Borehole Logs and Location Plan;
- Foundation Type(s) and Soil Bearing Pressures at Serviceability Limit States (SLS) design for Residential Construction;
- Potential Total and Differential Foundation Settlements;
- Soil Subgrade Preparation and Improvement as/if required;
- Foundation Frost Protection Considerations;
- Interior Building Concrete Floor Slab-on-grade Granular Support Material;
- Suitability and Potential Re-use (recycling) of excavated soil as backfill;
- Sewer Pipe Bedding and Trench Backfill requirements;
- Granular Backfill and Compaction Requirements;

- Frost Mitigation Strategies for watermains (i.e. frost protection) using granular backfill and/or equivalent insulation thickness;
- Asphalt Pavement Structure Design Recommendations including subgrade, road base and construction recommendations in accordance with City practice;
- Surface and Subsurface Drainage Requirements (Systems) to enhance the performance and longevity of the pavement structure;
- Geotechnical Design Considerations for Constructability;
  - Open Cut Trench Excavations above and below the estimated groundwater table including the stability of temporary sloped excavations including bracing as/if required; and,
  - Anticipated Groundwater Management (dewatering).

This report contains our factual geotechnical comments and recommendations, based on our understanding of the project scope, our geotechnical field investigation, and previous geotechnical information in the area.

Abbreviations, terminology and principle symbols commonly used throughout the report and appendices are enclosed in Appendix B.

#### 2.0 GEOTECHNICAL FIELD INVESTIGATION AND METHODOLOGY

The geotechnical field investigation consisted of advancing a total of 10 sampled exploratory boreholes (BH1 to BH10) from January 19 to 24, 2023. The boreholes were advanced to between about 4.4 to 5.9 meters (m) below existing grades, where they were terminated within a varved natural silt to silty clay soil deposit. The approximate spatial locations of the boreholes are indicated on Figure 2 in Appendix A.

The boreholes were advanced for the proposed roadway, sewer, water and residential building foundation construction.

To obtain the necessary subsurface geotechnical engineering data, the exploratory boreholes were advanced with conventional geotechnical drilling machinery, equipped with geotechnical soil sampling equipment consisting of 150 mm diameter continuous flight hollow stem augers, 51 mm outside diameter split-spoon sampler, and AW rods.

Soil samples were collected from the flights of the hollow stem augers, as well as from the split-spoon sampler in conjunction with Standard Penetration Tests (SPT), "N" values (ASTM D1586) at regular geotechnical intervals. The SPT "N" values were used to give a qualitative evaluation of the compactness condition of non-cohesive soils (i.e., sands and non-plastic silts) and roughly estimate the consistency of cohesive soils (i.e. plastic silt and clay). Field vane testing was performed in cohesive soils to estimate the materials in-situ undrained shear strength properties in accordance with ASTM D2573-72. We note that the soil stratums were interlayered with silt and clay seams. As such, the field vane measurements may have been performed in a more silty material than what was previously retrieved within the split spoon barrel, which tends to result in higher undrained shear strengths due to the increased silt content.

Upon completion of soil sampling, each borehole was checked for groundwater and then subsequently backfilled with auger cuttings and sealed with Bentonite pellets in accordance with MECP Regulation 903 (as amended).

Boreholes BH9 and BH10 were instrumented with a Casagrande piezometer (monitoring well) to a depth of about 6 m below the ground surface in accordance with MECP Regulation 903 (as amended), in order to measure the stabilized groundwater at a later date.

The borehole drilling operations were supervised fulltime by Down to Earth's geotechnical engineering staff. Recovered soil samples were evaluated and logged in the field by an experienced geotechnical representative, in accordance with the Modified Unified Soil Classification System (M-USCS). Collected soil samples were sealed into moisture proof bags and transported back to our laboratory for further visual and tactile examination by the geotechnical engineer. Soil laboratory analysis was completed on representative select soil samples to determine natural moisture contents, and particle/grain size distribution.

#### **3.0 GENERAL SUBSURFACE CONDITIONS**

#### 3.1 Geophysical Logging & Soil Laboratory Testing

The geophysical loggings of the soil and groundwater conditions were performed to collect geotechnical engineering design information.

The subsurface (soil and groundwater) conditions and laboratory tests performed on select representative soil samples encountered within the boreholes are presented in detail on the borehole logs in Appendix C. The borehole log indicates the subsurface conditions at the specific test location only.

The borehole logs include textural descriptions of the subsoil in accordance with the Modified Unified Soil Classification System (M-USCS) and indicate the soil boundaries inferred from non-continuous sampling and observations during the borehole advancement. These boundaries reflect approximate transition zones for the purpose of geotechnical design and should not be interpreted as exact planes of geological change. The M-USCS classification is explained in further detail in Appendix B.

Select soil samples collected from the boreholes were submitted to our Materials Testing Laboratory to determine the natural water content and particle size distribution of the soils. Laboratory analytical reports are included in Appendix D.

It is noted that due to the limitations of retrieving soil samples with a 51 mm outside diameter (35 mm inside diameter) split spoon barrel, the particle size distribution results may not be fully representative of the in-situ soil matrix and reflect the larger particles observed by geotechnical personnel in the field. These observations are reflected on the borehole logs and discussed throughout the report.

In addition, testing was performed on disturbed soil samples and is subject to an according degree of error. As such, all geotechnical data requires interpretation by Down to Earth or an experienced geotechnical engineering consultant who is familiar with the local soil types and conditions.

#### 3.2 Subsurface Profile

#### 3.2.1 Duff/Organics

Approximately 50 mm of duff/organics were encountered from the ground surface within all boreholes.

The duff/organics consisted of wild vegetation, such as wild grass, and other vegetative matter, such as leaves, twigs, and etcetera, that overlaid black organics that were wet at the time of the investigation.

#### 3.2.2 Natural Subgrade Soils

The natural subgrade soils encountered below the duff/organics, consisted of transitioning phases/interlayering of varved silty clay to silt, which extended to the borehole termination depths of between about 4.4 and 6 m below existing grades within all boreholes.

The silty clay was brown to grey in colour, damp to wet (below  $\sim 1.2$  m), varved, soft to firm in consistency and of medium to high plasticity. The undrained shear of the material ranged from about 20 to 50 kPa, and increased in strength with depth in a portion of the boreholes. However, it is noted that the silty clay in the area is known to decrease in strength below about 4 to 5 m below grade. It is also noted that some of the higher undrained shear strengths could be a result of performing the field vane measurements in a material that has a higher silt content than observed in the previous soil sample.

The silty clay soil is susceptible to long-term consolidation settlements with an increase in effective stress due to installing earth/granular fill materials above the current grades.

The silt generally contained trace to some clay, was grey in colour, wet and loose to very loose.

Based on previous geotechnical information within the area, the silty clay and silt materials can be expected to extend to a sand soil deposit suspected to be encountered between about 60 to 70 m below grade and possibly more. The sand material is expected to overly glacial till, which overlays sandstone bedrock, which is expected to be encountered between about 80 to 90 m below grade.

#### 3.2.3 Groundwater Observations – Measured and Inferred

2 weeks after the installation of the piezometers within boreholes BH9 and BH10, the natural groundwater was measured at about 1.2 below the ground surface, and is represented on the borehole logs with an inverted triangle

Based on field observations and laboratory testing, the natural groundwater was estimated and/or inferred to be located at approximately 1.2 m below grade in the remaining boreholes.

Upon completion of drilling, all boreholes were wet at the base.

Seasonal variations in the water table should be expected, with higher levels occurring during wet weather conditions in the spring and fall or in response to a particular precipitation event should be expected, and lower levels occurring during dry weather conditions.

# 4.0 GEOTECHNICAL GUIDELINES, DESIGN RECOMMENDATIONS, CONSIDERATIONS & COMMENTS

#### 4.1 Residential Foundation Discussion & Recommendations

The recommendations presented in the following sections of this report are based on the information available regarding the proposed construction, the results obtained from our investigation, and our experience with similar projects. Because the investigation represents a small portion of the subsurface conditions, it is likely that conditions may be encountered during construction that are substantially different than those encountered during our investigation. If these situations are encountered, adjustments to the design may be necessary. A qualified geotechnical representative should be on Site during the foundation preparation and Site development to ensure the subsurface conditions are the same/similar to what was observed during the geotechnical field investigation.

Based on the information obtained from the geotechnical investigation, soil laboratory testing, and geotechnical engineering analysis, the proposed residential structures can be supported by conventional shallow strip and spread footings bearing directly on the undisturbed natural silty clay soil deposit, provided the recommendations outlined in this report are followed.

The natural soil deposits at this site are considered susceptible to frost heave movements during freezing conditions. As such, to mitigate potential foundation frost heave movements, it is typical building practice to establish shallow foundations with a minimum of 1.5 m of soil cover above the underside of the foundation. It is noted that the geotechnical exploratory borehole investigation indicates that the natural subgrade soils tend to become weaker with depth. As such, to support the proposed residential structures on conventional strip and spread footings, the following foundation considerations are provided:

- **Option 1** Establish the foundations at 1.5 below the existing grade on undisturbed firm silty clay, with strip footing widths not exceeding 0.6 m wide and spread footings not exceeding 1.2 m by 1.2 m, in order to reduce the pressure (stress) on the underlying weaker soil deposit(s);
- **Option 2** Install the foundations at a higher elevation on undisturbed firm silty clay to reduce the pressure on the underlying weaker soil deposits, and provide a combination of soil cover and rigid insulation to

mitigate possible soil frost heave movements. This option will allow for larger strip and spread footing dimensions; and/or

• **Option 3** - Install the foundations on either a compacted granular engineered fill pad and/or a granular engineered fill pad reinforced with a non-woven geotextile (Terrafix 360R or equivalent product).

For **Option 1**, an approximate unfactored allowable bearing reaction of 75 kPa at Serviceability Limit States (SLS) design may be used at the underside of the proposed foundations. The recommended maximum strip and spread footing widths are to keep the pressure (stress) on the underlying loose silt deposit to 50 kPa or less.

For **Option 2**, an approximate unfactored allowable bearing reaction of 75 kPa at SLS design may be used at the underside of the proposed foundations. However, provided the pressure on the underlying loose silt material is limited to 50 kPa or less, then the strip and spread footing dimensions may be increased accordingly. For example, if the foundations are established 1 m below the existing grade on the undisturbed firm silty clay soil deposit, then strip footing widths can be increased to 0.9 m and spread footings to 1.8 m by 1.8 m. All foundations are to have a minimum of 600 mm of soil cover above the underside of them, and not exceed the aforementioned foundation sizes.

Frost protection with rigid insulation will be a function of the foundation depth below the ground surface.

For **Option 3**, the unfactored allowable bearing reaction can be increased above 75 kPa with various foundation sizes (ex. smaller than outlined in Option 2). The allowable soil bearing reaction would be a function of the foundation sizes and the design of either a compacted granular engineered fill pad and/or a granular engineered fill pad reinforced with a non-woven geotextile (Terrafix 360R or equivalent product), as well as the final thickness of the engineered pad(s). The crux of the design is to keep the majority of the stresses within the engineered fill pad and reduce it on the underlying weaker soil deposits. Should this option is considered, then Down to Earth can provide appropriate design recommendations based on the loading/bearing pressure(s) and foundation sizes proposed by the structural engineer. General engineered fill material specifications and installation requirements are outlined in Section 4.3 of this report.

Any potential grade increases with granular fill materials are to be considered when evaluating the foundation bearing pressures, and the pressure at the underside of the foundation reduced accordingly. For example, should the grade be increased by 0.5 m, and assuming a unit weight of soil of 20 kN/m<sup>3</sup>, then the bearing pressure should be reduced by 10 kPa from 75 to 65 kPa at SLS design. Grade increases are to limited to 600 mm of the original elevation of the surface of the natural silty clay soil deposit.

Since a relatively small quantity of boreholes were advanced at the Site compared to the size of the Site, it is noted that there could be pockets of weaker soils that were not encountered. As such, if observed during the excavation works for the foundation installation, then the unfactored allowable bearing reaction at SLS may have to be reduced accordingly. If it is determined that the soil bearing is to be reduced, then we would expect it to **not** be less than about 50 kPa at SLS design. However, the actual allowable soil bearing must be confirmed by a qualified representative at the time that the excavations take place.

The allowable bearing reactions provided also assumes that all footings will be constructed to the minimum sizes outlined in the latest edition of the Ontario Building Code, as well as this report.

The unfactored reaction at SLS is based on an estimated settlement of 25 mm or less with differential settlements of 19 mm or less.

Since the natural soils tend to vary in strength across the site, we recommend that the foundation walls be constructed of poured concrete reinforced with nominal reinforcing steel bars, to mitigate any potential foundation wall cracking versus a concrete block wall.

The recommended design bearing pressure assumes that all geotechnical recommendations outlined in this report are followed.

Depending on the subgrade conditions at the time of construction a 100 to 150 mm thick layer of Granular "A" (OPSS 1010) or a 19 mm diameter Clear Stone gravel (OPSS 1004) may be beneficial to protect the integrity of the natural subgrade soils during the installation and construction of the foundations.

Prior to the installation of the footings, the natural silty clay soil is to be inspected and approved by a certified building inspector or qualified geotechnical representative to ensure that the material conforms with the soil type and consistency observed during the subsurface investigation work. This will either consist of proof roll compaction with minimum 10 tonne non-vibratory steel drum roller, under the direction of geotechnical personnel and/or tactile inspection with a geotechnical probe rod.

#### 4.2 General Shallow Foundation Subgrade Preparation

The natural subgrade soils are sensitive to change in moisture content and can become loose if the soils are subject to excessive precipitation prior to the installation of the foundations. As well, they could be easily disturbed if travelled on during construction. Once they become disturbed, they are no longer considered adequate for the support of shallow foundations. It is noted that the permeability of the silty clay soil is low to very low and should not require significant effort to remove the release of water from within it. To ensure and protect the integrity of the subgrade soil during construction operations, the following is recommended:

- The subgrade should be sloped to promote surface drainage and the collected water pumped out of the excavation. It is critical that water be controlled and the subgrade preparation work commence in the dry. Continuous groundwater control is critical to prevent the soils from becoming loose/soft;
- It is critical that 24 hour groundwater control be performed during the installation of the foundations and until all concrete for the proposed foundations is installed, set and backfilled;
- Construction equipment traffic on the subgrade soils should be avoided;
- The foundations should be installed as soon as practically possible after the excavation subgrade is exposed. The longer the excavated subgrade soil remains open to weather conditions and potential water seepage, the greater the chance for construction problems to occur, and increase compromising the integrity of the subgrade soils; and,
- Once the foundations are installed, they should be backfilled as soon as practically possible.

Should the subgrade soils become disturbed during construction or pockets of unstable or unsuitable areas be encountered, Down to Earth can provide appropriate recommendations at the time, which may include but not be limited to the following:

- Compaction of the subgrade soil;
- Removal of subgrade material and subsequent replacement with engineered fill;
- Placement of a non-woven geotextile;
- Placement of geogrid; and/or,
- Installation of a minimum 75 mm thick low strength (1 MPa) concrete mud slab immediately upon excavation of the exposed soils.

If construction proceeds during freezing weather conditions, the subgrade soils and any potential fill materials must be maintained above freezing or thawed prior to construction works and the installation of concrete.

Prior to installing the foundation form work and/or engineered fill for the foundations, the subgrade soils are to be inspected and approved by a certified building inspector or a qualified geotechnical engineering representative to ensure that the material conforms with the soil type and consistency observed during the subsurface investigation

work. If the soils are not consistent with the observations made from within the boreholes or geological information in the area, Down to Earth can provide appropriate recommendations at that time.

#### 4.3 General Engineered Fill Material Specifications and Installation Requirements

If required, the following outlines our general recommendations for the installation of granular engineered fill material, which must be reviewed prior to finalizing any potential foundation construction design.

Any potential granular engineered fill material installed below the foundations should consist of a Granular "A" Ontario Provincial Standard Specification 1010 (OPSS 1010) compacted in maximum 200 mm thick loose lifts to 100% Standard Proctor Maximum Dry Density (SPMDD). The Granular "A" should have a minimum thickness of 100 mm. Below the Granular "A" fill material, either a Granular "B" Type I or Type II can be used to increase the grade above the natural subgrade soils.

A Granular "B" Type I (OPSS 1010), should be placed in maximum 200 mm thick loose lifts and compacted to a minimum of 98% SPMDD.

Should surface or groundwater be an issue during construction, then a non-woven geotextile, such as a Terrafix 270R (or equivalent product) should be installed directly over the natural subgrade soils combined with the installation of 150 mm of 19 mm diameter Clear Stone gravel (OPSS 1004) for drainage purposes and controlling the water. The Clear Stone should contain a minimum of 50% crushed particles. The Clear Stone will help distribute footing pressures and protect the integrity of the subgrade soils during the construction. Water collected within the stone should be controlled through sumps and filtered pumps. The subgrade soils should be graded to drain to appropriate drainage areas and pumped away from the excavation if necessary.

The Clear Stone and the Granular "B" Type II should be vibratory compacted to a compact state, compacted in maximum 200 mm thick loose lifts. If Clear Stone is used to support foundations, then it should not exceed a thickness of 300 mm.

All engineered fill material installed below the underside of the foundations should extend a minimum horizontal distance of 300 mm beyond the outside face of the foundations and slope down at 1H:1V to ensure the foundation loads are properly transferred to the underlying undisturbed natural subgrade soils.

All individual spread footings are to bear entirely on natural soils or engineered fill, and not a combination of both.

Prior to the installation of a granular engineered fill pad, all deleterious materials and organics must be removed to a suitable undisturbed natural subgrade soil.

A qualified geotechnical engineering representative should be on site to observe fill placement operations and perform field density tests at select locations throughout each lift, to ensure the specified compaction is being achieved.

For Granular "A" and Granular "B" Type I material, a nuclear density gauge should be used for each lift to ensure that the material is compacted to the recommended SPMDD. For Granular "B" Type II and Clear Stone material, routine visual and tactile inspections should be performed during the placement of the material to ensure adequate compaction is achieved. Prior to the start of the project, a sample of each material type is required for laboratory testing to determine the materials' SPMDD and/or grain size distribution for conformance with OPS Specifications.

Provided the engineered fill is prepared as outlined in this section, it should be capable of supporting a net allowable bearing reaction of 75 kPa or more at SLS design.

The recommended design bearing pressures assume that the groundwater is adequately controlled and the natural soil does not become loose during construction due to basal heave.

#### 4.4 Vertical Transition of Strip Footings

Where strip footings are founded at different elevations, the subgrade soil is to have a maximum slope of 2H:1V, with a maximum rise of 600 mm and a minimum run of 600 mm between each step footing, as detailed in the latest edition of the Ontario Building Code.

#### 4.5 Foundation Offsets

To avoid stress bulb interaction between footings, any potential parallel strip footings are to be spaced a minimum distance of one and half times the footing width apart from each other, and individual spread footings are to be spaced a minimum distance of one and a half times the largest footing width apart from one another. This assumes the footings are at the same elevation.

Foundations which are to be placed at different elevations in soils or near service trenches should be located such that the footings are separated by a minimum slope of 2H:1V with an imaginary line drawn from the underside of the lower foundation or bottom of the service trench to the outside bottom edge of the foundation facing each other.

#### 4.6 Shallow Foundation Estimated Settlements

Foundations installed in accordance with the recommendations as outlined in the previous sections are not expected to exceed total settlements of 25 mm and differential settlements of 20 mm.

#### 4.7 Soil Frost Susceptibility and Shallow Foundation Frost Protection

Where the interior of the building is heated to 18 degrees Celsius or more, perimeter shallow foundations are provided with a minimum of 1.5 m of soil cover frost protection above the underside of the foundation, and for unheated areas, 1.8 m of soil cover frost protection is typically provided.

Where the above cannot be achieved for perimeter foundations, an equivalent combination of soil cover and rigid insulation is installed above the underside of the foundation to mitigate possible soil frost heave movements.

For unheated foundations, a rigid insulation may be placed below the underside of the footing in combination with a frost free granular backfill material, provided the rigid insulation satisfies the required compressive strength requirements to withstand the foundation bearing pressure. All insulation material is to be installed in accordance with the manufactures recommendations.

#### 4.8 Foundation Wall Backfill for Frost Protection & Drainage

To assist in maintaining the proposed residential buildings dry from surface water seepage, it is recommended that exterior grades around the building be sloped away at a 2% gradient or more, for a distance of at least 2.0 m. Roof drains should discharge a minimum of 1.5 m away from the buildings to a drainage swale or appropriate storm drainage system so that surface water is diverted away from the foundation to mitigate soil frost adhesion.

For residential buildings, exterior perimeter foundation drains are also to be installed. The foundation drains should consist of a minimum 100 mm diameter fabric wrapped perforated drainage tile surrounded by 19 mm diameter Clear Stone (OPSS 1004) with a minimum cover of 100 mm on top and sides and 50 mm below the drainage tile. The water collected from the weeping tile should be directed away from the building to appropriate drainage areas, either through gravity flow or interior sump pump systems. All subsurface walls should be damp proofed above the water table and water proofed below the water table.

To minimize potential frost movements from soil frost adhesion, the exterior foundation wall backfill should consist of a free-draining non-frost susceptible granular material, such as a Granular "B" Type I or a Granular "B" Type II (OPSS 1010). The backfill is to extend a minimum lateral distance of 600 mm beyond the outside face of the wall. The backfill material used against the foundation must be placed so that the allowable lateral capacity is not exceeded. Ideally, during backfilling operations, all backfill material should be placed on each side of the foundation wall in equal lifts not exceeding 200 mm, compacted to a minimum of 97% SPMDD.

#### 4.9 Concrete Floor Slab-on-Grade (Heated Areas Only)

The following recommendations assume that the residential floor slab is not connected to any load bearing walls or columns, and the floor slab is lightly loaded.

The concrete floor slab-on-grade is to be established on a minimum of 150 mm of engineered fill material, consisting of 19 mm Clear Stone (OPSS 1004), combined with an appropriate moisture barrier. The clear stone is to be compacted to a compact state with a vibratory plate tamper.

Prior to the installation of any engineering fill material, all deleterious and organic materials are to be removed down to the undisturbed natural subgrade soils.

Where subgrade soils are wet, it may be necessary to place a non-woven geotextile (Terrafix 270R or equivalent) prior to placing any fill material to act as a separation medium. The geotextile will also minimize the underlying fine grained natural soils from pumping up into the engineered fill due to construction traffic.

#### 4.10 General Reuse of Excavated Material

The natural soils contain a significant amount of silt sized particles, which are considered highly frost susceptible and shouldn't be used as engineered backfill material against any foundation walls.

They may be used for general landscaping purposes, provided they are deemed environmentally safe to do so by a qualified environmental engineering firm.

#### 4.11 Underground Service Pipes

#### 4.11.1 Bedding and Cover Materials for Flexible and Rigid Pipes

Service pipes require an adequate base to ensure proper pipe connection and positive flow is maintained post construction. As such, pipe bedding material is to be of uniform thickness, compactness and shaped to receive the bottom of the pipe. In general, the pipe bedding and backfilling materials are to conform to OPSD 802.010 specifications for flexible pipes.

The pipe bedding material should consist of a minimum thickness of 150 mm Granular A (OPSS 1010) below the pipe and extend up the sides to the spring line. In certain situations, the bedding thickness may have to be increased depending on the pipe diameter or if wet or weak subgrade conditions are encountered. The backfill material surrounding the pipe from the spring line up should consist of a stone free Granular B Type I (OPSS 1010) placed in maximum 200 mm thick loose lifts, at the same elevation on both sides of the pipe and extend to a minimum of 300 mm above the top of the pipe. The granular backfill should be compacted to 98% of SPMDD.

The bedding material, pipe, and cover material should be installed as soon as practically possible after the excavation subgrade is exposed. The longer the excavated subgrade soil remains open to weather conditions and groundwater seepage, the greater the chance for construction problems to occur.

Although not anticipated, where it is difficult to stabilize the subgrade due to groundwater or the material is at a higher than optimum moisture content, a Granular "B" Type II material may be required. Alternatively, if constant groundwater infiltration becomes an issue, then an approximate 150 mm thick granular pad consisting of 19 mm Clear Stone gravel (OPSS 1004) wrapped in a non-woven geotextile (Terrafix 270R or equivalent) should be considered to maintain the integrity of the natural subgrade soils. The clear stone should contain a minimum of 50% crushed particles. An additional 150 mm of Granular "A" installed over the clear stone may also be beneficial for unstable subgrade conditions. Water collected within the stone should be controlled through filtered sumps and pumps.

Provided the subgrade soils remain undisturbed, they will provide adequate support of buried services on conventional granular bedding as dictated by local good ground conditions.

Prior to the installation of any granular fill material, all organics and deleterious materials are to be removed down to the natural undisturbed subgrade soils.

#### 4.11.2 Trench Backfill

Above the pipe cover material to the underside of the pavement structure, the trench can be backfilled by re-using the excavated fill and natural soils matching the materials exposed on the sides of the trenches, provided they are environmentally safe to do so. The soils should be placed to the underside of the granular subbase of the pavement structure, and be compacted in maximum 300 mm thick lifts to 95% SPMDD within 4% of optimum moisture content. This is recommended to provide soil compatibility and help minimize potential abrupt differential frost heave between the local soils and another type of backfill material.

The material must be free of organics or other deleterious material. If it contains deleterious material or it is not utilized, then it should be removed and properly disposed of in accordance with current environmental regulations if/as required.

All stockpiled material should be protected from deleterious materials, additional moisture and be kept from freezing.

Quality control will be of the utmost importance when selecting the material. The selection of the material should be done as early in the contract as possible to allow sufficient time for gradation and proctor testing on representative samples to ensure it meets the projects specifications.

Where the natural soils will be exposed, adequate compaction may prove difficult if the material becomes wet (i.e., above the optimum moisture content). Depending on the moisture content of the natural materials at the time of construction, they may either require moisture to be added or stockpiled and left to dry to achieve moisture content within 4% of optimum. This will be the case for soils excavated below the groundwater table.

Heavy construction equipment and truck traffic should not cross any pipe until at least 1 m of compacted soil is placed above the top of the pipe, or as recommended by the manufacture.

Post compaction settlement of finer grained soils can be expected, even when placed to compaction specifications. As such, fill material should be installed as far in advance as possible before finishing the roadway for best grade integrity.

#### 4.11.3 Water Main Frost Protection

A frost penetration depth of up to 1.8 m can occur in open areas in the Sault Ste. Marie area without snow cover. The underlying natural subgrade soils are considered to have a high frost susceptibility. As such, there is a potential for the water pipes to freeze, heave and move due to frost action, should they be installed with inverts at or higher than about 1.8 m below grade(s). As such, Down to Earth recommends the following possible soil cover frost protection:

- 2.1 m to the spring line of the water main or lower, where the water main has continuous water flow, does not have service connections, and it is not dead-end; and,
- 2.1 m to the top of the pipe for all water mains that have service connections and are dead-end.

If the above cannot be achieved, then the pipe should be insulated with a rigid polystyrene insulation (DOW Styrofoam HI40, or equivalent) or a pre-insulated pipe be utilized.

The insulation design configuration may either consist of placing horizontal insulation to a specified design distance beyond the outside edge of the pipe or an inverted "U" surrounding the top and sides of the pipe. Any method

chosen requires suitable design and installation in accordance with the manufactures recommendations. To accommodate the placement of horizontal insulation a wider excavation trench may be required.

#### 4.12 Asphalt Pavement Structure Design

#### 4.12.1 General

The following sections outline the recommended pavement structure design for an asphalt pavement structure.

An estimated functional Design Life of 20 years has been used for the pavement structure design. This is based on an estimated Service Life of 14 to 18 years, which represents the estimated number of years to the first major rehabilitation, e.g. asphalt overlay or resurfacing. The functional Design Life and Service Life assumes regular maintenance, such as, crack sealing, pothole repairs, and etcetera.

All design recommendations assume that no organics are present below the pavement structure. If organics are encountered during excavations, they should be removed to the underlying organic free natural subgrade soil to a maximum depth of about 1.5 m. Below this depth, it is likely cost prohibitive to remove the organics, unless it is at relatively small discrete locations or the majority of them are being removed during the installation of the sewer and water systems.

### 4.12.2 Asphalt Pavement Structure

The pavement structure design recommendations presented in the following table are based on the information obtained from our geotechnical investigation. The following table presents an asphalt pavement design structure for an Average Annual Daily Traffic (AADT) of 1000 to 2000, and 2000 to 3000 with 10% traffic comprising commercial.

| <sup>i</sup> Pavement Material Layer                                  | Compaction Requirements                                     | Pavement Design<br>Thickness<br>AADT 1000 to 2000 | Pavement Design<br>Thickness<br>AADT 2000 to 3000 |
|-----------------------------------------------------------------------|-------------------------------------------------------------|---------------------------------------------------|---------------------------------------------------|
| Asphalt Surface Course:<br>Hot Mix Asphalt<br>HL-3 or HL4 (OPSS 1150) | 92 to 97% MRD<br>as per OPSS 310                            | 50 mm                                             | 40 mm                                             |
| Asphalt Base Course:<br>Hot Mix Asphalt<br>HL4 or HL-8 (OPSS 1150)    | 92 to 97% MRD<br>as per OPSS 310                            | -                                                 | 50 mm                                             |
| Base Course:<br>Granular A (OPSS 1010)                                | 100% Standard Proctor<br>Maximum Dry Density<br>(ASTM-D698) | 150 mm                                            | 150 mm                                            |
| Subbase Course:<br>Granular B Type I<br>(OPSS 1010)                   | 100% Standard Proctor<br>Maximum Dry Density<br>(ASTM D698) | 600 mm                                            | 600 mm                                            |
| Non-wo                                                                | ven geotextile (Terrafix 270R or                            | equivalent) over subgr                            | ade soils                                         |

#### Notes:

- If a Granular B Type I (OPSS 1010) is replaced with the Granular B Type II (OPSS 1010), then the thickness of the subbase can be decreased by 100 mm for a crushed quarried bedrock product, or an air cooled blast furnace slag product (nut slag); and,
- Prior to placing the pavement structure, the fill and/or natural subgrade soils are to be proof rolled compacted with a minimum 10 tonne non-vibratory steel drum roller, under the direction of geotechnical personnel; and,
- iii) If the subgrade soils are dry at the time of construction, a non-woven geotextile (Terrafix 270R or equivalent product) is not required to be installed over the subgrade soils prior to installing any granular fill material. This assumes good construction practices.

#### 4.13.3 Granular B Type I (OPSS 1010) Specifications

Should a Granular B Type I be used within the pavement structure, it is recommended that it contain at least 25% material retained on the No. 4 (4.75 mm) sieve size. Of the 25% of the material retained, a minimum of 10% of the material should have particle sizes between 25 to 150 mm. The material passing the 4.75 mm sieve size is to conform to OPPSS 1010 for a Granular B Type I material.

The above, modified Granular B Type I (OPSS 1010) will provide better performance over a Granular B Type I, that is predominantly comprised of sand material, (i.e. passing the 4.75 mm sieve size).

#### 4.13.4 Granular B Type II (OPSS 1010) Specifications

Should a Granular B Type II be used within the pavement structure, it is recommended that it be obtained from crushing quarried bedrock, or air-cooled blast furnace slag (nut slag). Steel slag and reclaimed materials shall not be used in the production of Granular B Type II.

#### 4.13.5 Pavement Structure Existing Subbase and Subgrade Preparation

The proper placement of base and subbase fill materials becomes very important in addressing the proper load distribution to provide a durable pavement structure.

In general, the natural soils are sensitive to change in moisture content and can become loose/soft if they are subject to additional water exposure or precipitation. Furthermore, they could be easily disturbed if travelled on during construction. As such, where the natural soil will be exposed, it is recommended that the non-woven geotextile and engineered fill be placed immediately upon excavation to protect the integrity of the soil.

The first layer of granular fill should be placed at a minimum thickness of 300 mm (loose) prior to compaction to mitigate disturbance of the underlying natural subgrade soils.

If localized weaker (non-compacted) areas are encountered, these areas should be remediated under the guidance of a geotechnical engineering consultant to help ensure the longevity of the pavement structure.

Depending on the condition of the exposed natural subgrade soils, at the time of construction, Down to Earth can provide recommendations at the time, which may include but not be limited to the following:

- Compaction of the subgrade soil;
- Removal of subgrade material and subsequent replacement with engineered fill; and,
- Placement of geotextile and geogrid.

A geotechnical engineer should be on Site to review the subgrade material and to ensure fill specifications and compaction requirements are achieved. Once the subgrade is approved, it can then be backfilled with the recommended pavement structure materials.

Where underground services will be within the roadway granular fill materials, frost heave tapers as outlined in Section 4.13.7 of this report are to be constructed.

Post compaction settlement of fine-grained soils can be expected, even when placed to compaction specifications. As such, fill material should be installed as far in advance as possible before finishing the roadways for best grade integrity.

### 4.13.6 Compaction Requirements & Width of Granular Materials

The Granular "A" base and Granular "B" subbase material is to be compacted in maximum 200 mm thick lifts to 100% Standard Proctor Maximum Dry Density (SPMDD). All granular and asphalt materials are to conform to OPSS 1010, 1150 and the City of Sault Ste. Marie specifications.

All granular materials are to be placed full width unless otherwise specified.

### 4.13.7 Transition Treatment

Should the subgrade material types differ below the underside of the pavement structure, the transition between the materials should be sloped as per frost heave taper OPSD 205.060.

### 4.13.8 Drainage

Control of surface water is a critical factor in achieving good pavement structure life. The pavement thickness designs are based on a drained pavement subgrade via sub-drains or ditches.

Sub-drains should consist of 150 mm diameter fabric wrapped perforated drainage tile surrounded by 19 mm diameter clear stone (OPSS 1004) with a minimum cover of 150 mm on top and sides and 50 mm below the drainage tile. Since the in-situ soils contain a significant amount of silt sized particles, the clear stone gravel should be wrapped in a non-woven geotextile (Terrafix 270R or equivalent). Any potential ditching should have inverts of at least 500 mm below the underside of the subbase.

The surface of the roadway should be free of depressions. They should be sloped at a minimum grade of 1% in order to drain to appropriate drainage areas. Subgrade soils should slope a minimum grade of 3% toward subdrains or ditches. Positive slopes are very important for the proper performance of the drainage system. The granular base and subbase material should extend horizontally to subdrains and/or ditches.

In addition, routine maintenance of the drainage systems will assist with the longevity of the pavement structure, and should be regularly cleared of debris.

### 4.13.9 Pavement End Treatment & Tack Coat

The joints between any potential new and previously installed asphalt should be constructed in accordance to OPSS 310.07.11. Tack coating should be applied to the vertical joint surface. The tack coat should follow OPSS 308 and SSP 308S01.

### 4.14 Site Grade Increases

The natural silty clay soil deposits are susceptible to long-term consolidation settlements with net changes in effective stress caused by increasing the loads on the materials from installing earth/granular fill materials above the current grades.

Provided the existing site grades are not increased by more than 600 mm with earth/granular fill materials, then long-term excessive consolidation settlements of the soils are not expected to be an issue. Any proposed grade increases above the aforementioned will require specific design and potentially additional geotechnical investigation work via borehole drilling.

To keep the loading down, a polystyrene lightweight fill material may also be considered in lieu of earth/granular fill materials, which will also provide insulation frost protection for frost susceptible services should they happen to be

in the area where grade increases are required. If this option is considered it would require additional geotechnical engineering review.

### 5.0 GEOTECHNICAL DESIGN CONSIDERATIONS FOR CONSTRUCTIBILITY

#### 5.1 Open Cut Excavations

#### 5.1.1 General

Where workers must enter trench excavations advanced within unconsolidated overburden soils cut deeper than 1.2 m, the trench excavations should be suitably sloped, braced and/or supported in accordance with the current Ontario Occupational Health and Safety Act (OHSA).

The OHSA recognizes four soil types, which are classified as Type 1, 2, 3 or 4 and associated safe side slopes for unsupported trench excavations cut 1.2 m or deeper, and to a maximum of 6 m:

The stability of the excavations may be affected by surcharge loads, stockpiles of material, as well as groundwater seepage conditions, and as such, must be considered when excavating and designing any potential lateral support systems.

#### 5.1.2 Unconsolidated Soil

It is anticipated that open cut excavations will potentially extend up to approximately 3 to 4 m below the existing grades to accommodate the installation of the sewers.

Based on the subsurface information obtained from within the boreholes, it is anticipated that the excavated overburden material will predominantly consist of silty clay to silt soils.

Based on the OHSA, the in-situ soils may be classified as Type 3 soils above the groundwater table and Type 4 soils below the groundwater table. Temporary excavation side slopes in Type 3 soils should remain stable at a slope of 1H:1V and at 3H:1V in Type 4 soils.

If narrower excavation limits are required, then steel sheet piles, closed shoring, bracing or trench boxes can be used to support the excavations as dictated by ground conditions.

All excavated soils and surcharge loads should be kept a minimum horizontal distance away from the excavation equal to 2 times the depth of the excavation, unless a support system is designed to allow for surcharge loads.

In addition to compliance with the OHSA, the excavation procedures must also be in compliance to any potential other regulatory authorities, such as federal and municipal safety standards.

The in-situ soils can be excavated using conventional earthmoving equipment.

### 5.2 General Anticipated Groundwater Management (Temporary)

Prior to commencing excavations, it is critical that all existing surface water and potential surface water is controlled and diverted away from the work area to prevent infiltration and subgrade weakening. At no time should excavations be left open for a period of time that will expose them to precipitation and cause subgrade weakening.

It is noted that the permeability of the silty clay to silt material is low to very low and should not require significant effort to remove the release of water from within it.

Unless the groundwater level is controlled, excavations advanced below the water table will experience loosening and sloughing of the base and sides to 3H:1V or flatter. If this scenario occurs the soil bearing capacity will be significantly reduced.

Excavation side slopes and stability below the groundwater will be a function of the contractor's methodology and ability to effectively dewater the excavation.

It is the responsibility of the contractor to propose a suitable dewatering system based on the groundwater elevation at the time of construction. The method used should not adversely impact any nearby structures. The contractor should submit their proposal to the prime consultant for review and approval prior to construction. The use of steel sheet piles may be required, and should be considered by the contractor while developing an appropriate dewatering system. A permit to take water may be required from the Ministry of the Environment if the quantity of pumped water exceeds 50,000 L/day. It is the responsibility of the contractor to make this application as required. If required, Down to Earth can help with the application process.

To ensure a stable subgrade and adequate working conditions, it is recommended that the following conditions be fulfilled when dewatering excavations:

- The groundwater control should be maintained until services are installed and backfilled to at least 600 mm above the natural groundwater elevation;
- Until the backfilling is completed, the groundwater is to be kept under full control 24 hours a day, 7 days a week, to avoid base instability and compromised subgrade support soils;
- Effective filters are to be provided, as required to prevent loss of ground;
- Any potential precipitation or seepage entering the excavations should be pumped away immediately (not allowed to pond). It is critical that water be controlled and the subgrade preparation work commence in the dry;
- Additional sump pumps (i.e. backup pumps) and power supply(s) should be readily available to control the groundwater at all times;
- Pumping methods be adopted for groundwater lowering that will not lead to damage of adjacent structures, such as by settlement;
- All collected water is to discharge a sufficient distance away from the excavation to prevent re-entry; and,
- Sediment control measures, such as a silt fence should be installed at the discharge point of the dewatering system; and,
- The utmost care should be taken to avoid any potential impacts on the environment.

Fluctuations in the groundwater level due to seasonal variations or in response to a particular precipitation event should be anticipated. As such, depending on the groundwater at the time of the excavation works, a more involved dewatering system may be required.

The soil types should be assessed and confirmed in the field as the excavation works progress by a qualified representative.

The dewatering and excavations should only be performed by competent contractors, that are familiar with this type of construction, and dewatering challenges.

## 6.0 SITE SUPERVISION & QUALITY CONTROL

It is recommended that all geotechnical aspects of the project be reviewed and confirmed under the appropriate geotechnical supervision, to routinely check such items. This includes but is not limited to inspection and confirmation of the undisturbed natural subgrade soil prior to backfilling, subgrade preparation, engineered fill installation to ensure that the actual conditions are not markedly different than what was observed at the borehole locations and geotechnical components are constructed as per our recommendations. Compaction quality control of engineered fill material is recommended as standard practice, as well as sampling and testing of aggregates, to

ensure it meets the physical characteristics for compliance during installation and satisfies all specifications presented within this report.

If appropriate routine geotechnical inspections and quality control are not provided by a Down to Earth representative, then Down to Earth accepts no responsibility for the performance or non-performance of geotechnical components, even if they are ostensibly constructed in accordance with the design recommendations within this report.

### 7.0 DESIGN REVIEW

Development or design plans and specifications should be reviewed by Down to Earth, sufficiently ahead of initiating the next project stage (property acquisition, tender, construction, etcetera), to confirm that this report completely addresses the elaborated project specifics and that the contents of this report have been properly interpreted. The recommendations made in this report are in accordance with our present understanding of the project and are provided solely for the design team responsible for the project. Down to Earth should be retained to review our recommendations as the design nears completion to ensure that the final design is in general agreement with the assumptions on which our recommendations are based.

### 8.0 LIMITATIONS

This Geotechnical Investigation report was performed for our Client and their design consultants. The use of this report is subject to the Report Limitations and Guidelines for Use in Appendix E. It is the responsibility of the Client(s), and its agents to review the Report Limitations and Guidelines for Use within.

### 9.0 CLOSURE

We trust that the foregoing information is satisfactory for your present requirements. Should you have any questions about the report or require additional information, please contact the undersigned.

Yours truly,

Maurice Corriveau, P.Eng. Principal Engineer <u>mcorriveau@downtoearthge.com</u>

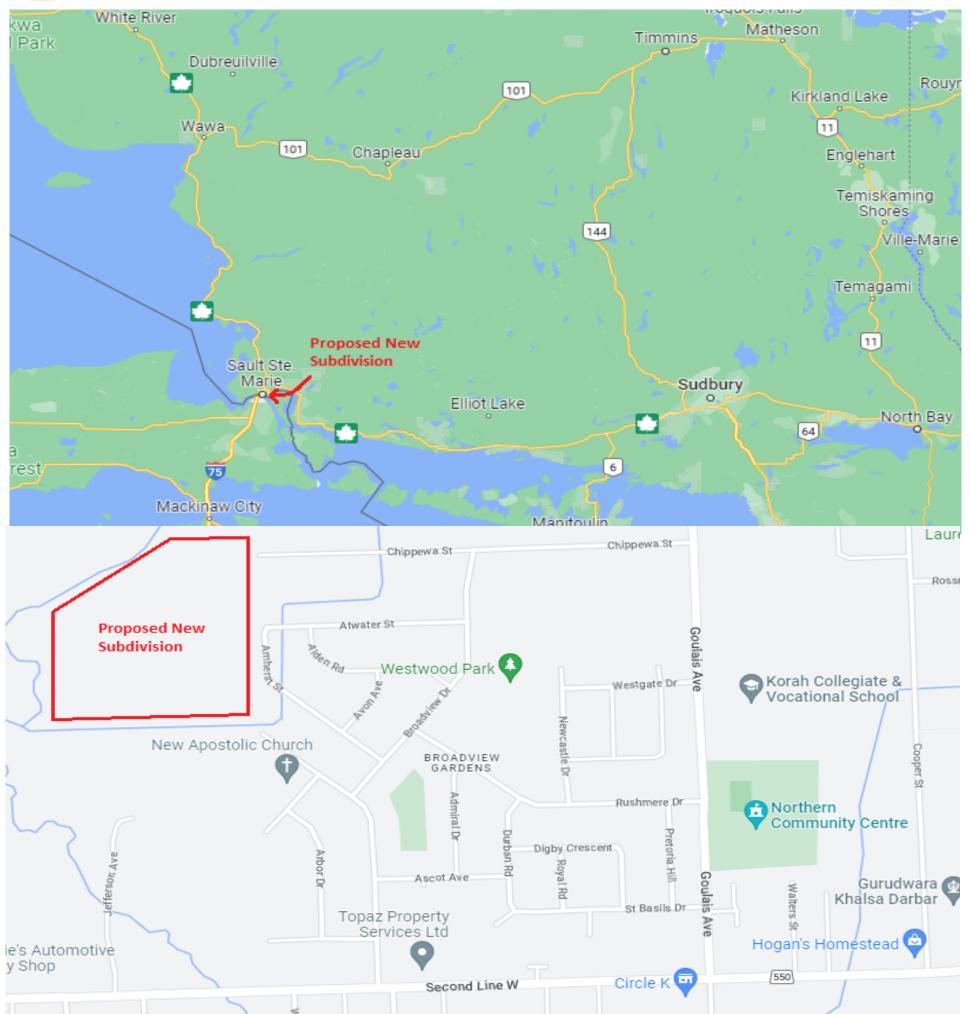
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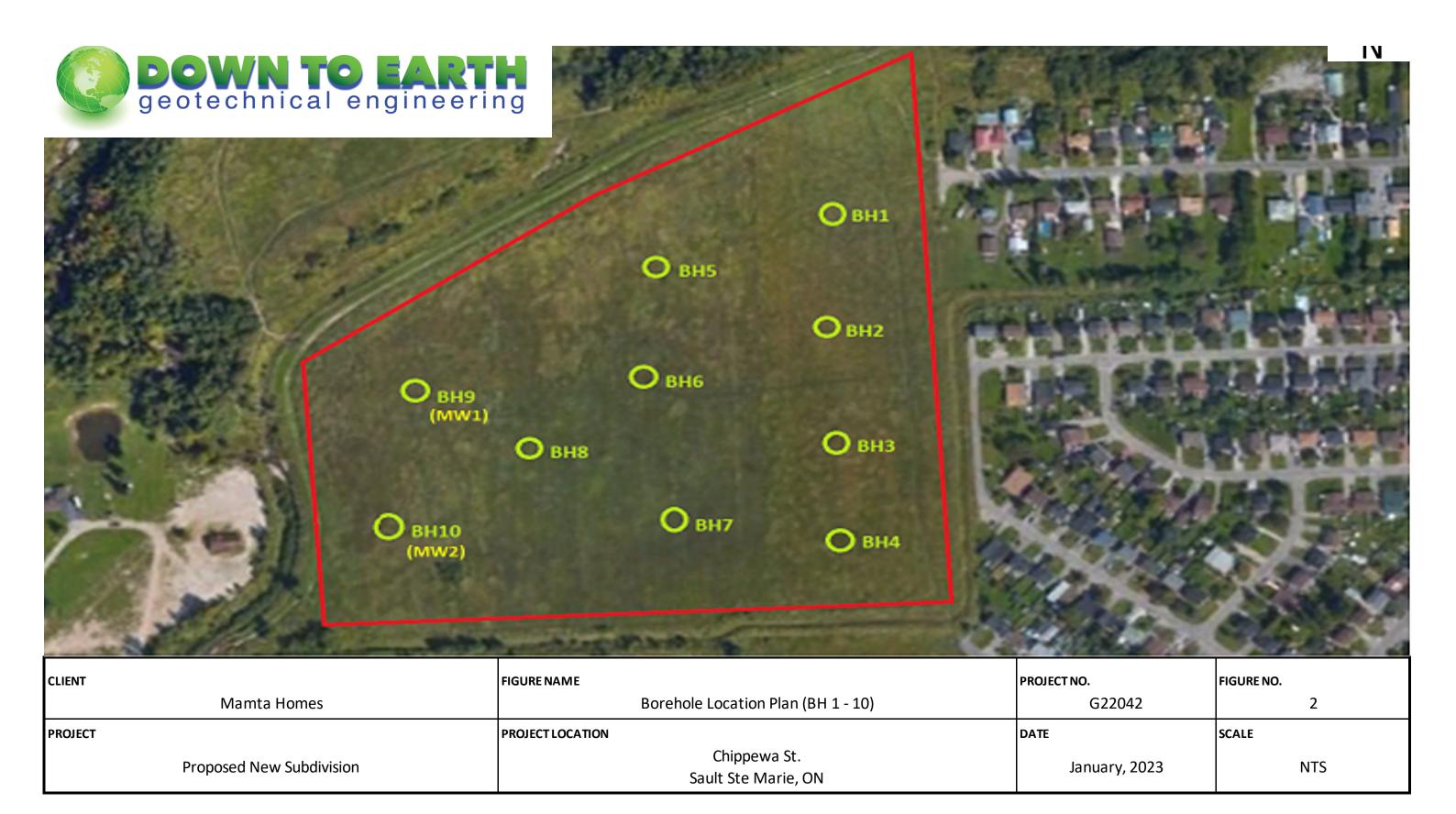
APPENDIX A FIGURES







| CLIE | ENT                      | FIGURE NAME                         | PROJECT NO.   | FIGURE NO. |
|------|--------------------------|-------------------------------------|---------------|------------|
|      | Mamta Homes              | General Location Plan               | G22042        | 1          |
| PRC  | DJECT                    | PROJECT LOCATION                    | DATE          | SCALE      |
|      | Proposed New Subdivision | Chippewa St.<br>Sault Ste Marie, ON | January, 2023 | NTS        |



APPENDIX B

SYMBOLS USED IN REPORT AND BOREHOLE LOGS

## SYMBOLS & TERMS USED IN REPORT, BOREHOLE & TEST PIT LOGS

## Soil Descriptions

The soil descriptions and classifications are based on the modified Unified Soil Classification System (USCS). The USCS classifies soils on the basis of engineering properties. The system divides soils into three major categories; coarse grained, fine grained, and highly organic soils. The soil is then subdivided based on either gradation or plasticity characteristics. The classification excludes particles larger than 76 mm.

Terminology describing materials outside the USCS, (e.g. particles larger than 76 mm, visible organic matter, construction debris, etc.) is based upon the proportion of these materials present:

| Terminology                     | Proportion    |
|---------------------------------|---------------|
| Trace                           | Less than 10% |
| Some                            | 10% to 20%    |
| Adjective (e.g. silty or sandy) | 20 to 35%     |
| And                             | 35 to 50%     |

Notes:

- Soil properties, such as strength, gradation, plasticity, structure, etcetera, dictate the soils engineering behavior over grain size fractions;
- With the exception of soil samples tested for particle size distribution or plasticity, all soil samples have been classified based on visual and tactile observations. The accuracy of visual and tactile observation is not sufficient to differentiate between changes in soil classification or precise grain size and is therefore an approximate description.

The Standard Penetration Test SPT, N-value is used to interpret the compactness condition of cohesionless soils. A relationship between the compactness condition and N-Value is provided in the following table.

| Cohesi                                               | onless Soil |  |  |  |  |  |  |  |  |  |
|------------------------------------------------------|-------------|--|--|--|--|--|--|--|--|--|
| Compactness SPT N-Index (blows per Condition 300 mm) |             |  |  |  |  |  |  |  |  |  |
| Very Loose                                           | <4          |  |  |  |  |  |  |  |  |  |
| Loose                                                | 4 to 10     |  |  |  |  |  |  |  |  |  |
| Compact                                              | 10 to 30    |  |  |  |  |  |  |  |  |  |
| Dense                                                | 30 to 50    |  |  |  |  |  |  |  |  |  |
| Very Dense                                           | > 50        |  |  |  |  |  |  |  |  |  |



The undrained shear strength as measured by in-situ vane tests, penetrometer tests, or unconfined compression tests, is used to describe the consistency of cohesive soils related to undrained shear strength. A relationship between the undrained shear strength and the SPT, N-value is provided in the following table.

|             | Cohesive Soil                     |                                   |
|-------------|-----------------------------------|-----------------------------------|
| Consistency | Undrained Shear<br>Strength (kPa) | SPT N-Index (blows per<br>300 mm) |
| Very soft   | <12                               | <2                                |
| Soft        | 12 to 25                          | 2 to 4                            |
| Firm        | 25 to 50                          | 5 to 8                            |
| Stiff       | 50 to 100                         | 9 to 15                           |
| Very Stiff  | 100 to 200                        | 16 to 30                          |
| Hard        | >200                              | >30                               |

**Note:** Utilizing the SPT, N-Index value to correlate the consistency and undrained shear strength of cohesive soils is only very approximate and needs to be used with caution.

## Sampling Method

| AS | Auger Sample            | w  | Washed Sample             |
|----|-------------------------|----|---------------------------|
| SS | Split Spoon Sample      | HQ | Rock Core (63.5 mm diam.) |
| ST | Thin Walled Shelby Tube | NQ | Rock Core (47.5 mm diam.) |
| BS | Block Sample            | BQ | Rock Core (36.5 mm diam.) |

## **Rock Coring**

**Rock Quality Designation (RQD)** is an indirect measure of the number of fractures within a rock mass, Deere et al. (1967). It is the sum of sound pieces of rock core equal to or greater than 100 mm recovered from the core run, divided by the total length of the core run, expressed as a percentage. If the core section is broken due to mechanical or handling, the pieces are fitted together and if 100 mm or greater included in the total sum.

The following is the Classification of Rock with Respect to RQD Value:

| RQD Classification | RQD Value (%) |
|--------------------|---------------|
| Very poor quality  | <25           |
| Poor quality       | 25 to 50      |
| Fair quality       | 50 to 75      |
| Good quality       | 75 to 90      |
| Excellent quality  | 90 to 100     |



APPENDIX C BOREHOLE LOGS



(Page 1 of 1)

|                        | Ge           | 0 C<br>Sau<br>otec | ed New Subdivision<br>Chippewa Street<br>It Ste. Marie, ON<br>Chnical Investigation<br>IECT NO. G22042                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | PROJECT<br>Date Completed<br>Hole Diameter<br>Drilling Method<br>Sampling Method |             | : Jan. 1<br>: 150 m | 19, 202<br>nm<br>w Stem | ubdivisio<br>3<br>Auger |                |   | Bor<br>Cor  | ject Lo<br>ehole I<br>npany<br>face El | .ocatio<br>Rep. | on : S<br>: A | See F                 | ewa S<br>ig.2<br>boose |                 |                  |
|------------------------|--------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------|---------------------|-------------------------|-------------------------|----------------|---|-------------|----------------------------------------|-----------------|---------------|-----------------------|------------------------|-----------------|------------------|
| Depth                  | Depth        | Water Level        | Groundwater Level          Image: Inferred Level         Image: Im |                                                                                  | Strata Plot | Sample Type         | Sample No.              | Recovery (mm)           | SPT/DCPT value |   | SPT/I       | DCPT                                   |                 | Sh            | ained<br>ear          |                        | ure Content (%) | Surf.            |
| in<br>Meters           | in Feet      | Wate               | MATERIAL DESCR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | RIPTION                                                                          | Strata      | Samp                | Samp                    | Reco                    | SPT/I          | 0 | Gra<br>20 4 | aph<br>0 60                            | 80 (            | Streng        | ип (кр<br>30<br>1 — 1 | 160                    | ⊡∺              | Elev. (m)<br>100 |
| 0                      | 0 -          |                    | Topsoil ~ 50 mm<br>SILTY CLAY, varved, medium<br>plasticity, grey to brown, moist<br>firm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                  |             | AS                  | 1                       |                         |                |   |             |                                        |                 |               |                       |                        | 32.3            | - 100            |
| -<br>-<br>1-<br>-<br>- | 3 -          | ▼                  | wet below 1.2m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                  |             | SS                  | 1                       | 500                     | 2              | ø |             |                                        |                 |               |                       |                        | 35.3            | - 99             |
|                        | 5 -          |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                  |             | SS                  | 2                       | 500                     | 2              | ø |             |                                        |                 |               |                       |                        | 31.7            | - 98             |
|                        | 7 -          |                    | SILT, varved, trace to some cl<br>loose                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | ay, wet, grey,                                                                   |             | SS                  | 3                       | 450                     | 4              | Φ |             |                                        |                 |               |                       |                        | 25.2            |                  |
| 3-                     | 9 -          |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                  |             | SS                  | 4                       | 500                     | 4              | φ |             |                                        |                 |               |                       |                        | 29.1            | - 97             |
|                        | 12 -<br>13 - |                    | very loose below 3.75m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                  | X           |                     | _                       |                         |                |   |             |                                        |                 |               |                       |                        |                 | - 96             |
| -                      | 14 -         |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                  | X           | SS                  | 5                       | 500                     | 2              | Φ |             |                                        |                 |               |                       |                        | 33.9            |                  |
|                        | 15 -<br>16 - |                    | SILTY CLAY, varved, medium<br>plasticity, grey, wet, soft to firm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                  |             | SS                  | 6                       | 450                     | 2              | Ø |             |                                        |                 |               |                       |                        | 35.7            |                  |
|                        | 17 -<br>18 - |                    | vane test at 5.25m = 49 kPa<br>Borehole terminated at 5.3 m<br>cave at 1.5 m, wet upon comp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | letion                                                                           |             |                     |                         |                         |                |   |             |                                        |                 |               |                       |                        |                 |                  |
|                        |              |                    | rtains to this boring only, and subsu<br>stigated area(s).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | face conditions ma                                                               | y diffe     | r                   |                         |                         |                |   |             |                                        |                 |               |                       |                        |                 |                  |

AS = Auger Sample, SS = Split Spoon Sample, ST = Shelby Tube, GS = Grab Sample, RC= Rock Core



RC= Rock Core

# BOREHOLE LOG BH2

|                             | Ge                   | otec        | It Ste. Marie, ON<br>hnical Investigation<br>ECT NO. G22042                      | Date Completed<br>Hole Diameter<br>Drilling Method<br>Sampling Method |             | : Jan. 1<br>: 150 m<br>: Hollov<br>: Split \$ | nm<br>w Stem | Auger         |                |   | Boreh<br>Comp  | ole Loca<br>ole Loc<br>any Re<br>ce Elev | cation<br>ep. | : S<br>: A                   | Chippewa See Fig.2<br>Waboos<br>ocal |      |                    |
|-----------------------------|----------------------|-------------|----------------------------------------------------------------------------------|-----------------------------------------------------------------------|-------------|-----------------------------------------------|--------------|---------------|----------------|---|----------------|------------------------------------------|---------------|------------------------------|--------------------------------------|------|--------------------|
| Depth<br>in<br>leters       | Depth<br>in Feet     | Water Level | Groundwater Level  Inferred Level  Measured  MATERIAL DESC                       | RIPTION                                                               | Strata Plot | Sample Type                                   | Sample No.   | Recovery (mm) | SPT/DCPT value |   | SPT/DC<br>Grap | h                                        | 80 0<br>1 1   | Undra<br>She<br>Strengt<br>8 | ear<br>h (kPa)                       | l iš | Sur<br>Elev.<br>10 |
| 0<br><br><br><br>           | 0 -                  |             | \Topsoil ~ 50 mm<br>SILTY CLAY, varved, mediun<br>plasticity, brown, moist, soft | n to high                                                             |             | AS                                            | 1            |               |                |   |                |                                          |               |                              |                                      | 32.7 | - 100              |
| -<br>-<br>1-<br>-<br>-      | 3 -                  | ▼           | wet below 1.2m                                                                   |                                                                       |             | ss                                            | 1            | 450           | 1              | G |                |                                          |               |                              |                                      | 40.6 | - 99               |
| -<br>-<br>-<br>2-           | 5 -<br>6 -<br>7 -    |             | vane test at 1.8m = 20 kPa                                                       |                                                                       |             |                                               |              |               |                |   |                |                                          | 6             |                              |                                      |      | - 98               |
|                             | 8 -<br>9 -           |             | SILT, varved, trace to some or grey, very loose                                  | lay, wet,                                                             |             | SS                                            | 2            | 450           | 2              | 0 |                |                                          |               |                              |                                      | 34.9 |                    |
| 3                           | 10 -<br>11 -         |             |                                                                                  |                                                                       |             | SS                                            | 3            | 500           | 3              | Ø |                |                                          |               |                              |                                      | 28.9 | - 97               |
| -<br>-<br>-<br>4<br>-       | 12 -                 |             | SILTY CLAY, varved medium plasticity, grey, wet, soft                            | to high                                                               |             | SS                                            | 4            | 500           | 0              | 0 |                |                                          |               |                              |                                      | 35.2 | - 96               |
| -<br>-<br>-<br>-<br>-<br>5- | 14 -<br>15 -<br>16 - |             | vane test at 4.8m = 23 kPa                                                       |                                                                       |             |                                               |              |               |                |   |                |                                          |               | 0                            |                                      |      | - 95               |
| -                           | 17 -<br>18 -         |             |                                                                                  |                                                                       |             | ss                                            | 5            | 450           | 0              | 0 |                |                                          |               |                              |                                      | 38.3 |                    |
| -<br>-<br>6-                | 19 -<br>20 -         |             | Borehole terminated at 5.9m cave at 1.3 m, wet upon com                          | bletion                                                               |             |                                               | <u> </u>     |               |                |   |                |                                          |               |                              |                                      |      | ]                  |



Proposed New Subdivision 0 Chippewa Street Sault Ste. Marie, ON Geotechnical Investigation PROJECT NO. G22042

RC= Rock Core

# 

|                                                                                 |                  |                                                         | BC                      | JRE           | НC             | ובי |          | )G         | BH                                    | 3   |                       |              |                         |                      |                           |
|---------------------------------------------------------------------------------|------------------|---------------------------------------------------------|-------------------------|---------------|----------------|-----|----------|------------|---------------------------------------|-----|-----------------------|--------------|-------------------------|----------------------|---------------------------|
|                                                                                 |                  |                                                         |                         |               |                |     |          |            |                                       | (   | Pag                   | e 1          | of 1)                   | )                    |                           |
| PROJECT<br>Date Completed<br>Hole Diameter<br>Drilling Method<br>Sampling Metho |                  | : Propo<br>: Jan. 1<br>: 150 m<br>: Hollov<br>: Split S | 9, 2023<br>nm<br>w Stem | 3             | divisio        | 'n  | Bo<br>Co | rehole     | .ocatio<br>e Locat<br>y Rep.<br>Elev. | ion | : S<br>: A            | ee F         | ewa S<br>ïg.2<br>Iboose |                      |                           |
| RIPTION                                                                         | L<br>Strata Plot | Sample Type                                             | Sample No.              | Recovery (mm) | SPT/DCPT value | 0   | Gr       | DCP<br>aph | T<br>0 80                             | St  | Undra<br>She<br>rengt | ear<br>h (kF |                         | Moisture Content (%) | Surf.<br>Elev. (m)<br>100 |
| m to high                                                                       |                  | AS                                                      | 1                       | 400           | 0              | 6   |          |            |                                       |     |                       |              |                         | 37.2                 | - 100<br>- 99             |
| clay, grey,                                                                     |                  |                                                         |                         |               |                |     |          |            |                                       | 0   |                       |              |                         |                      | - 98                      |

|                       |                  | l           | Groundwater Level<br>▼ Inferred Level<br>√ Measured                                     |             | e           |            | mm)           | value          |   |              |      |    |                                 |    | ontent (%) |                          |
|-----------------------|------------------|-------------|-----------------------------------------------------------------------------------------|-------------|-------------|------------|---------------|----------------|---|--------------|------|----|---------------------------------|----|------------|--------------------------|
| Depth<br>in<br>Meters | Depth<br>in Feet | Water Level | MATERIAL DESCRIPTION                                                                    | Strata Plot | Sample Type | Sample No. | Recovery (mm) | SPT/DCPT value | 0 | SPT/D<br>Gra | 80   | St | Jndrain<br>Shea<br>rength<br>80 | ar | i i i      | Surf.<br>Elev. (m<br>100 |
| 0-                    | 0 -              | _           |                                                                                         |             | •,          | •,         | -             | •,             |   |              | Ť    |    |                                 |    | <u>п —</u> | L 100                    |
|                       | 1 -<br>2 -       |             | Topsoil ~ 50 mm<br>SILTY CLAY, varved, medium to high<br>plasticity, brown, moist, soft |             | AS          | 1          |               |                |   |              |      |    |                                 |    | 37.2       |                          |
| -<br>-<br>1-<br>-     | 3 -              | •           |                                                                                         |             | SS          | 1          | 400           | 0              | ø |              |      |    |                                 |    | 36         | - 99                     |
| -                     | 4 -<br>5 -       |             | wet below 1.2m                                                                          |             |             |            |               |                |   |              |      |    |                                 |    |            |                          |
| -<br>2-<br>-          | 6 -<br>7 -       |             | vane test at 1.8m for 24 kPa                                                            | X           |             |            |               |                |   |              |      | 0  |                                 |    |            | - 98                     |
| -                     | 8 -<br>9 -       |             | SILT, varved, trace to some clay, grey, wet, very loose                                 |             | SS          | 2          | 450           | 2              | 0 |              |      |    |                                 |    | 35.3       |                          |
| -<br>3—<br>-          | 10 -             |             |                                                                                         | X           |             |            |               |                |   |              |      |    |                                 |    |            | - 97                     |
| -                     | 11 -<br>12 -     |             |                                                                                         |             | SS          | 3          | 500           | 2              | • |              |      |    |                                 |    | 31.4       |                          |
| -<br>-<br>4—          | 13 -             |             | SILTY CLAY, varved, medium to high plasticity, brown, wet, soft                         |             | SS          | 4          | 500           | 0              | • |              |      |    |                                 |    | 35.7       |                          |
|                       | 14 -             |             |                                                                                         | X           |             |            |               |                |   |              |      |    |                                 |    |            |                          |
|                       | 15 -             |             | Borehole terminated at 5.4m<br>cave at 1.3 m, wet upon completion                       |             |             |            |               |                |   |              |      |    |                                 | I  |            |                          |
|                       |                  |             | rtains to this boring only, and subsurface conditions ma<br>stigated area(s).           | y diffe     | r           |            |               |                |   |              | <br> |    |                                 |    |            |                          |
| -                     |                  |             | e, SS = Split Spoon Sample, ST = Shelby Tube, GS = G                                    | Grab S      | ample,      |            |               |                |   |              |      |    |                                 |    |            |                          |



RC= Rock Core

# BOREHOLE LOG BH4

|                       | Ge                   | Sau<br>otec | hippewa Street<br>It Ste. Marie, ON<br>hnical Investigation<br>ECT NO. G22042 | Date Completed<br>Hole Diameter<br>Drilling Method<br>Sampling Method |             | : Jan. 2<br>: 150 m<br>: Hollov<br>: Split \$ | nm<br>w Stem |               |                | Project Location<br>Borehole Locatio<br>Company Rep.<br>Surface Elev. | : Chippewa St.<br>n : See Fig.2<br>: A. Waboose<br>: Local |                      |                     |
|-----------------------|----------------------|-------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------|-------------|-----------------------------------------------|--------------|---------------|----------------|-----------------------------------------------------------------------|------------------------------------------------------------|----------------------|---------------------|
| Depth<br>in<br>Meters | Depth<br>in Feet     | Water Level | Groundwater Level  Inferred Level  Measured  MATERIAL DESCE                   | RIPTION                                                               | Strata Plot | Sample Type                                   | Sample No.   | Recovery (mm) | SPT/DCPT value | SPT/DCPT<br>Graph<br>0 20 40 60 80 <sup>0</sup>                       | Undrained<br>Shear<br>Strength (kPa)<br>80 160             | Moisture Content (%) | Sur<br>∃lev.<br>100 |
| 0                     | 0 -<br>1 -<br>2 -    |             | \Topsoil ~ 50 mm<br>SILTY CLAY, medium to high<br>brown, moist, firm          | /<br>plasticity,                                                      |             | AS                                            | 1            |               |                |                                                                       |                                                            | 27.9                 | - 100               |
| -<br>-<br>1_<br>-     | 3 -<br>4 -           | ▼           | vane at 1m = 41 kPa                                                           |                                                                       | X           |                                               |              |               |                |                                                                       | φ                                                          | -                    | - 99                |
| 0<br>                 | 5 -                  |             | SILT, trace to some clay, grey                                                | , wet, loose                                                          | X           | SS                                            | 1            | 450           | 5              | φ                                                                     |                                                            | 28                   | 0.9                 |
| 2                     | 7 -<br>8 -           |             | very loose below 2.3m                                                         |                                                                       | X           | SS                                            | 2            | 450           | 2              | ø                                                                     |                                                            | 36                   | - 98                |
| 3                     | 9 -                  |             |                                                                               |                                                                       |             | ss                                            | 3            | 500           | 1              | φ                                                                     |                                                            | -                    | - 97                |
|                       | 11 -<br>12 -<br>13 - |             | SILTY CLAY, medium to high brown, wet, firm                                   | plasticity,                                                           |             |                                               |              |               |                |                                                                       |                                                            |                      | 06                  |
| 4                     | 14 -<br>15 -         |             |                                                                               |                                                                       | X           | SS                                            | 4            | 500           | 1              |                                                                       |                                                            | 0.5                  | - 96                |
| 5                     | 16 -<br>17 -         |             | vane at 4.8m = 32 kPa                                                         |                                                                       | X           |                                               |              |               |                |                                                                       | 6                                                          | -                    | - 95                |
|                       | 18 -<br>19 -         |             |                                                                               |                                                                       | X           | SS                                            | 5            | 500           | 0              | Φ                                                                     |                                                            | 7.1                  |                     |
| 6-                    | 20 -                 |             | Borehole terminated at 5.9m cave at 1m, wet upon complet                      | ion                                                                   |             |                                               |              |               |                |                                                                       |                                                            |                      |                     |



|                   | Ge                   | 0 C<br>Saul<br>otec | ed New Subdivision<br>hippewa Street<br>t Ste. Marie, ON<br>hnical Investigation<br>ECT NO. G22042                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | PROJECT<br>Date Completed<br>Hole Diameter<br>Drilling Method<br>Sampling Method |             | : Jan. 2<br>: 150 m | 20, 202<br>nm<br>w Stem | ew Subo<br>3<br>Auger |                | 'n                                    | Bore<br>Com  | ect Lo<br>ehole L<br>npany<br>ace El | .ocati<br>Rep. |          | : See                         | /aboos |                  |                    |
|-------------------|----------------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------|---------------------|-------------------------|-----------------------|----------------|---------------------------------------|--------------|--------------------------------------|----------------|----------|-------------------------------|--------|------------------|--------------------|
| Depth             | Depth                | Water Level         | Groundwater Level          Inferred Level         Image: Comparison of the second secon |                                                                                  | Strata Plot | Sample Type         | Sample No.              | Recovery (mm)         | SPT/DCPT value |                                       | SPT/C        |                                      |                |          | Jndraine<br>Shear<br>ength (l |        | ture Content (%) | Surf.<br>Elev. (m) |
|                   | in Feet              | Wate                | MATERIAL DESCR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | RIPTION                                                                          | Strat       | Sam                 | Sam                     | Recc                  | SPT/           | 0 2                                   | Gra<br>20 40 | •                                    | 80             |          | 80                            | 160    | l :≝             | 100                |
| -0<br><br><br>    | 0 -                  |                     | ∖Topsoil ~ 50 mm<br>SILTY CLAY, varved, medium<br>plasticity, brown, moist, soft to                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                  |             | AS                  | 1                       |                       |                |                                       |              |                                      |                |          |                               |        | 39.2             | - 100              |
| -<br>-<br>1-<br>- | 3 -                  | •                   | wet below 1.2m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                  |             | SS                  | 1                       | 400                   | 6              | e e e e e e e e e e e e e e e e e e e |              |                                      |                |          |                               |        | 34.9             | - 99               |
|                   | 5 -                  |                     | vane test at 1.8m = 25 kPa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                  |             |                     |                         |                       |                |                                       |              |                                      |                | 0        |                               |        |                  |                    |
| 2-                | 7 -                  |                     | SILT, varved, trace to some cla                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ay, grey,                                                                        |             |                     |                         |                       |                |                                       |              |                                      |                |          |                               |        |                  | - 98               |
|                   | 9-                   |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                  |             | SS                  | 2                       | 450                   | 3              | Ø                                     |              |                                      |                |          |                               |        | 24.6             |                    |
| 3                 | 10 -<br>11 -<br>12 - |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                  |             | SS                  | 3                       | 500                   | 3              | Ø                                     |              |                                      |                |          |                               |        | 25.9             | - 97               |
| -<br>-<br>4-      | 13 -                 |                     | SILTY CLAY, varved, medium plasticity, brown, wet, soft                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | to high                                                                          |             | SS                  | 4                       | 500                   | 1              | 0                                     |              |                                      |                |          |                               |        | 36.9             |                    |
|                   | 14 -                 |                     | Borehole terminated at 4.4m cave at 1.6m, wet upon comple                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | etion                                                                            |             | I                   | <u> </u>                | L                     | <u> </u>       | <u> </u>                              |              |                                      |                | <u> </u> |                               |        | <u> </u>         | J                  |
| throug            | hout the             | inve:<br>mple       | tains to this boring only, and subsu<br>stigated area(s).<br>s, SS = Split Spoon Sample, ST = S                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                  |             |                     |                         |                       |                |                                       |              |                                      |                |          |                               |        |                  |                    |



| Proposed New Subdivision                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                  |             |                                                         |                          |               |                |                                                                                                                              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------|---------------------------------------------------------|--------------------------|---------------|----------------|------------------------------------------------------------------------------------------------------------------------------|
| 0 Chippewa Street<br>Sault Ste. Marie, ON<br>Geotechnical Investigation<br>PROJECT NO. G22042                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | PROJECT<br>Date Completed<br>Hole Diameter<br>Drilling Method<br>Sampling Method |             | : Propo<br>: Jan. 2<br>: 150 m<br>: Hollov<br>: Split S | 20, 2023<br>nm<br>w Stem | 3             | divisio        | on<br>Project Location : Chippewa St.<br>Borehole Location : See Fig.2<br>Company Rep. : A. Waboose<br>Surface Elev. : Local |
| epth<br>in<br>eters in Feet<br>Bepth<br>in Feet<br>Bepth in Feet<br>Bepth | RIPTION                                                                          | Strata Plot | Sample Type                                             | Sample No.               | Recovery (mm) | SPT/DCPT value | Undrained O entry (%) tue<br>SPT/DCPT Shear Strength (kPa) O W 10<br>0 20 40 60 80 0 80 160 W 11                             |
| 0 - 0<br>- Topsoil ~ 50 mm<br>SILTY CLAY, varved, mediur<br>plasticity, brown, moist, soft to                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                  |             | AS                                                      | 1                        |               |                | 29.5                                                                                                                         |
| - 3 - 1 - 3 - 4 - ▼ wet below 1.2m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                  |             | SS                                                      | 1                        | 400           | 2              | <b>o</b> 39.7 <sup>- 99</sup>                                                                                                |
| - 5 - 6 - vane test at 1.8m = 30 kPa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                  |             |                                                         |                          |               |                | o<br>- 98                                                                                                                    |
| SILT, varved, trace to some of wet, very loose                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | slay, grey,                                                                      |             | SS                                                      | 2                        | 450           | 3              | o 29.4                                                                                                                       |
| 3 - 10 -<br>- 11 -<br>- 12 -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                  |             | SS                                                      | 3                        | 500           | 3              | • 97<br>• 29.5                                                                                                               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                  |             | SS                                                      | 4                        | 500           | 2              | o 34.2                                                                                                                       |
| Borehole terminated at 4.4m<br>cave at 1.6m, wet upon comp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | letion                                                                           |             | <u> </u>                                                | <u> </u>                 |               | L              |                                                                                                                              |



| Geo                                                                                         | 0 C<br>Sau<br>otec | ed New Subdivision<br>Chippewa Street<br>It Ste. Marie, ON<br>hnical Investigation<br>ECT NO. G22042 | PROJECT<br>Date Completed<br>Hole Diameter<br>Drilling Method<br>Sampling Method |             | : Jan. 2<br>: 150 m | 23, 2023<br>nm<br>v Stem | ew Subo<br>3<br>Auger |                | 'n | Proje<br>Borel<br>Comj<br>Surfa | nole L<br>⊳any∣ | .ocati<br>Rep. |     | : See                              | opewa S<br>Fig.2<br>Vaboos<br>al |              | -                        |
|---------------------------------------------------------------------------------------------|--------------------|------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------|---------------------|--------------------------|-----------------------|----------------|----|---------------------------------|-----------------|----------------|-----|------------------------------------|----------------------------------|--------------|--------------------------|
| Depth<br>in Depth<br>Aeters in Feet                                                         | Water Level        | Groundwater Level                                                                                    | RIPTION                                                                          | Strata Plot | Sample Type         | Sample No.               | Recovery (mm)         | SPT/DCPT value |    | SPT/D<br>Grap                   | bh              | 80<br>I        | Str | Jndrain<br>Shear<br>rength (<br>80 |                                  | iei I        | Surf.<br>Elev. (r<br>100 |
| 0- 0 -<br>-<br>- 1 -<br>-<br>- 2 -                                                          |                    | ∖Topsoil ~ 50 mm<br>SILTY CLAY, varved, mediun<br>plasticity, brown, moist, soft to                  |                                                                                  |             | AS                  | 1                        |                       |                |    |                                 |                 |                |     |                                    |                                  | 25.7         | - 100                    |
| - 2<br>- 3-<br>1- 3-<br>- 4-                                                                | ▼                  | wet below 1.2m                                                                                       |                                                                                  |             | SS                  | 1                        | 400                   | 2              | Ģ  |                                 |                 |                |     |                                    |                                  | 39.9         | - 99                     |
| -<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>- |                    | vane test at 1.8m = 30 kPa                                                                           |                                                                                  |             |                     |                          |                       |                |    |                                 |                 |                | o   |                                    |                                  |              | - 98                     |
| - 7 -<br>- 8 -<br>- 9 -                                                                     |                    |                                                                                                      |                                                                                  |             | SS                  | 2                        | 450                   | 1              | ø  |                                 |                 |                |     |                                    |                                  | 42.8<br>26.7 |                          |
| 3 – 10 –<br>– 11 –<br>– 11 –<br>– 12 –                                                      |                    | SILT, varved, trace to some c<br>wet, very loose                                                     | lay, grey,                                                                       |             | SS                  | 3                        | 500                   | 3              | Ø  |                                 |                 |                |     |                                    |                                  | 34.9         | - 97                     |
| 4 13 -<br>14                                                                                |                    |                                                                                                      |                                                                                  |             | SS                  | 4                        | 500                   | 3              | Ø  |                                 |                 |                |     |                                    |                                  | 32.1         |                          |
| 15 -                                                                                        |                    | Borehole terminated at 4.4m cave at 0.8m, wet upon comp                                              | letion                                                                           |             |                     |                          | I                     | <u> </u>       | [] |                                 |                 |                |     |                                    |                                  | I            | J                        |



Proposed New Subdivision

0 Chippewa Street

Sault Ste. Marie, ON

Geotechnical Investigation

PROJECT NO. G22042

PROJECT

Date Completed

Hole Diameter

Drilling Method

Sampling Method

# **BOREHOLE LOG BH8**

| : Proposed New Subdivision<br>: Jan. 23, 2023 Project Location : Chippewa St.<br>: 150 mm Borehole Location : See Fig.2<br>: Hollow Stem Auger Company Rep. : A. Waboose<br>: Split Spoon Surface Elev. : Local |                         |                                 |               |                |   |               |                 |               | (F   | Page 1            | of 1)           | )                    |                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|---------------------------------|---------------|----------------|---|---------------|-----------------|---------------|------|-------------------|-----------------|----------------------|------------------|
| Dontent (%)                                                                                                                                                                                                     | : Jar<br>: 150<br>: Hol | n. 23, 202<br>) mm<br>llow Stem | 23<br>m Auger | divisio        | n | Boreh<br>Comp | ole Lo<br>any F | ocati<br>Rep. |      | : See F<br>: A. W | ⁼ig.2<br>aboose |                      |                  |
| ad              Undrained           Surf.           ad                                                                                                                                                          | Sample Type             | Sample No.                      | Recovery (mm) | SPT/DCPT value |   | Grap          | h               | 80            | Stre | ength (kl         | Pa)             | Moisture Content (%) | Elev. (m)<br>100 |

|              | Depth<br>in Feet | Water Level | Groundwater Level          Inferred Level         Measured                | Strata Plot | Sample Type | Sample No. | Recovery (mm) | SPT/DCPT value | SPT/DCPT<br>Graph<br>0 20 40 60 80 | Undrained<br>Shear<br>Strength (kPa)<br>0 80 160 |      | Surf.<br>Elev. (m)<br>100 |
|--------------|------------------|-------------|---------------------------------------------------------------------------|-------------|-------------|------------|---------------|----------------|------------------------------------|--------------------------------------------------|------|---------------------------|
| 0-           | 0 -              |             | \Topsoil ~ 50 mm<br>SILTY CLAY, varved, medium to high                    |             |             |            |               |                |                                    |                                                  |      | - 100                     |
| -            | 1 -              |             | plasticity, brown, moist, soft to firm                                    |             | AS          | 1          |               |                |                                    |                                                  | 27.2 |                           |
|              | 2 -              |             |                                                                           | X           |             |            |               |                |                                    |                                                  |      |                           |
| -<br>-<br>1- | 3 -              |             |                                                                           | X           |             |            |               |                |                                    |                                                  |      | - 99                      |
| -            | 4 -              | ▼           | wet below 1.2m                                                            | X           | SS          | 1          | 400           | 2              | ρ                                  |                                                  | 35.9 |                           |
| -            | 5 -              |             |                                                                           |             |             |            |               |                |                                    |                                                  |      |                           |
| -            | 6 -              |             | vane test at 1.8m = 26 kPa                                                |             |             |            |               |                |                                    | 0                                                |      |                           |
| 2-           |                  |             |                                                                           |             |             |            |               |                |                                    |                                                  |      | - 98                      |
| -            | 7 -              |             |                                                                           | X           |             |            |               |                |                                    |                                                  |      |                           |
| -            | 8 -              |             | SILT, varved, trace to some clay, grey,                                   |             | SS          | 2          | 450           | 1              | φ                                  |                                                  | 30.1 |                           |
| -            | 9 -              |             | wet, very loose                                                           |             |             |            |               |                |                                    |                                                  | 24   |                           |
| 3-           | 10 -             |             |                                                                           |             |             |            |               |                |                                    |                                                  |      | - 97                      |
| -            | 11 -             |             |                                                                           | X           | SS          | 3          | 500           | 2              | Φ                                  |                                                  | 32.4 |                           |
| -            | 12 -             |             |                                                                           | X           | 1           |            |               |                |                                    |                                                  |      |                           |
| 4-           | 13 -             |             |                                                                           | X           |             |            |               |                |                                    |                                                  |      |                           |
|              | 14 -             |             |                                                                           |             | SS          | 4          | 500           | 1              | ¢                                  |                                                  | 31.8 |                           |
|              | 15 -             |             | Borehole terminated at 4.4m cave at 0.8m, wet upon completion             |             | L           |            | L             | <u> </u>       |                                    |                                                  |      |                           |
|              |                  |             | tains to this boring only, and subsurface conditions ma stigated area(s). | y diffe     | r           |            |               |                |                                    |                                                  |      |                           |
| AS = A       |                  | mple        | e, SS = Split Spoon Sample, ST = Shelby Tube, GS = G                      | Grab S      | ample,      |            |               |                |                                    |                                                  |      |                           |



# BOREHOLE LOG BH9 (MW1)

|                                                 | Proposed New Subdivision<br>0 Chippewa Street<br>Sault Ste. Marie, ON<br>Geotechnical Investigation<br>PROJECT NO. G22042   | Date<br>Hole<br>Drillir | JECT<br>Com<br>Diam<br>ng Me | plete<br>eter<br>ethod |            | :             | Propo<br>Jan, 2<br>150 n<br>Hollo<br>Split | 24, 2<br>nm<br>w Ste | 023<br>em A | Subdi<br>uger  | vision |      | B<br>C | roject L<br>orehole<br>ompany<br>urface I | Locati<br>y Rep. |                      | : Chippe<br>: See Fig<br>: A. Wab<br>: local | gure No.2 |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|-------------------------|------------------------------|------------------------|------------|---------------|--------------------------------------------|----------------------|-------------|----------------|--------|------|--------|-------------------------------------------|------------------|----------------------|----------------------------------------------|-----------|
| Depth in Meters<br>Depth in Feet<br>Water Level | Groundwater Level  Measured in piezometer  MATERIAL DESCRIPTION                                                             | 1                       | Strata Plot                  | Sample Type            | Sample No. | Recovery (mm) | SPT/DCPT value                             | 0                    |             | T/DCI<br>Graph |        | 80 0 | Str    | Jndrain<br>Shear<br>ength (l<br>80        |                  | Moisture Content (%) | Surf.<br>Elev. (m)<br>100                    | MW1 (m)   |
| 0                                               | Topsoil ~ 50 mm<br>SILTY CLAY, varved, trace to some<br>fine grained sand, medium to high<br>plasticity, brown, moist, soft |                         |                              | AS                     | 1          |               |                                            |                      |             |                |        |      |        |                                           |                  | 30.3                 | - 100                                        | .3        |
| - 3 -<br>- 4 - ▼                                | wet below 1.2m                                                                                                              |                         | ÷                            | ss                     | 1          | 400           | 0                                          | Ø                    |             |                |        |      |        |                                           |                  | 28.5                 | - 99                                         | .9<br>.9  |
| - 5 -<br>- 6 -<br>2 - 7 -                       | vane test at 1.8m = 21 kPa                                                                                                  |                         |                              |                        |            |               |                                            |                      |             |                |        |      | P      |                                           |                  |                      | - 98                                         | =         |
| -<br>- 8 -<br>- 9 -<br>- 9 -                    | SILT, varved, trace to some clay, grey, wet, loose                                                                          |                         |                              | SS                     | 2          | 500           | 7                                          | 0                    |             |                |        |      |        |                                           |                  | 27.1                 |                                              |           |
| -10 -<br>-<br>-11 -<br>-<br>-<br>-12 -          |                                                                                                                             |                         |                              | ss                     | 3          | 400           | 5                                          | •                    |             |                |        |      |        |                                           |                  | 30.8                 | - 97                                         |           |
| -<br>-13 -<br>-<br>-<br>-14 -<br>-              | SILTY CLAY, varved, medium to high plasticity, grey, wet, soft                                                              |                         | :                            | SS                     | 4          | 450           | 2                                          | 0                    |             |                |        |      |        |                                           |                  | 29.2                 | - 96                                         |           |
| -15 -<br>-16 -<br>-16 -<br>-17 -                | vane test at 4.8m = 20 kPa                                                                                                  |                         |                              |                        |            |               |                                            |                      |             |                |        |      | 0      |                                           |                  |                      | - 95                                         |           |
| -18 -<br>-<br>-19 -<br>-19 -                    | Borehole terminated at 6m                                                                                                   |                         | ÷                            | SS                     | 5          | 550           | 0                                          | 0                    |             |                |        |      |        |                                           |                  | 37.6                 |                                              | 6         |



# BOREHOLE LOG BH10 (MW2)

|                 |               | (             | Proposed New Subdivision<br>0 Chippewa Street<br>Sault Ste. Marie, ON<br>Geotechnical Investigation<br>PROJECT NO. G22042                | Da<br>Ho<br>Dri | le Dia<br>illing I | CT<br>mplet<br>amete<br>Metho<br>g Met | r<br>d     | :             | Jan, 2<br>150 n | 24, 2<br>nm<br>w St | em Auger        | on   | Project Lo<br>Borehole<br>Company<br>Surface E | Locati<br>Rep. |                      | : Chippe<br>: See Fig<br>: A. Wab<br>: local | jure No.2 |
|-----------------|---------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------|-----------------|--------------------|----------------------------------------|------------|---------------|-----------------|---------------------|-----------------|------|------------------------------------------------|----------------|----------------------|----------------------------------------------|-----------|
| Depth in Meters | Depth in Feet | Water Level   | Groundwater Level  Measured in piezometer  MATERIAL DESCRIPTION                                                                          |                 | Strata Plot        | Sample Type                            | Sample No. | Recovery (mm) | SPT/DCPT value  |                     | SPT/DC<br>Grapt | h    | Undraine<br>Shear<br>Strength (k               | Pa)            | Moisture Content (%) | Surf.<br>Elev. (m)<br>100                    | MW2 (m)   |
| 0<br>0-         | 0 -           | 3             |                                                                                                                                          |                 | ю                  | ű                                      | ю<br>I     | Ř             | S               |                     | 20 40           | 60 8 | 80                                             | 160            |                      |                                              | 0         |
|                 | 1 -<br>2 -    |               | Topsoil ~ 50 mm<br>SILTY CLAY, varved, medium to<br>high plasticity, brown, moist, soft to<br>firm                                       | /               | X                  | AS                                     | 1          |               |                 |                     |                 |      |                                                |                | 30.5                 |                                              | .3        |
| -<br>-<br>1-    | 3 -           | T             | wet below 1.2m                                                                                                                           |                 | X                  | ss                                     | 1          | 450           | 4               | ٩                   |                 |      |                                                |                | 25                   | - 99                                         | .9        |
| -               | 4 -<br>5 -    |               | wet below 1.2m                                                                                                                           |                 | X                  |                                        |            |               | -               |                     |                 |      |                                                |                |                      |                                              | 1.2       |
| 2               | 6 -           |               | vane test at 1.8m = 21 kPa                                                                                                               |                 | X                  |                                        |            |               |                 |                     |                 |      | <b>P</b>                                       |                |                      | - 98                                         |           |
|                 | 7 -<br>8 -    |               |                                                                                                                                          |                 | X                  | SS                                     | 2          | 550           | 0               | •                   |                 |      |                                                |                | 34.1                 |                                              |           |
| -<br>-<br>3-    | 9 -<br>10 -   |               |                                                                                                                                          |                 | X                  |                                        |            |               |                 |                     |                 |      |                                                |                |                      | - 97                                         |           |
| -               | 11 -<br>12 -  |               | vane test at 3.3m = 37 kPa                                                                                                               |                 |                    |                                        |            |               |                 |                     |                 |      | Ģ                                              |                |                      |                                              |           |
| 4-              | 13 -<br>14 -  |               | SILT, varved, trace to some clay, grey, wet, very loose                                                                                  |                 | X                  | SS                                     | 3          | 450           | 1               | •                   |                 |      |                                                |                | 28.6                 | - 96                                         |           |
|                 | 15 -          |               |                                                                                                                                          |                 | X                  | SS                                     | 4          | 550           | 1               |                     |                 |      |                                                |                | 27                   |                                              |           |
| 5               | 16 -<br>17 -  |               | SILTY CLAY veryod medium to                                                                                                              |                 |                    |                                        |            |               |                 |                     |                 |      |                                                |                |                      | - 95                                         |           |
| -               | 18 -<br>19 -  |               | SILTY CLAY, varved, medium to<br>high plasticity, grey, wet, soft                                                                        |                 | X                  | SS                                     | 5          | 500           | 0               | 0                   |                 |      |                                                |                | 31.5                 |                                              |           |
| 6-              | 20 -          |               | Borehole terminated at 5.9m cave at 0.8 m, wet upon completion                                                                           |                 |                    |                                        | 1          |               |                 |                     |                 | I    | <br>                                           |                |                      | -                                            | 6         |
| diff<br>AS      | er th         | rougi<br>uger | tion pertains to this boring only, and subsu<br>nout the investigated area(s).<br>Sample, SS = Split Spoon Sample, ST = S<br>= Rock Core |                 |                    |                                        |            |               |                 |                     |                 |      |                                                |                |                      |                                              |           |

APPENDIX D LABORATORY SOIL TESTING REPORTS



### **MOISTURE CONTENTS**

Tested in accordance with LS-701 (ASTM D 2216)

| Project:         | Proposed Su  | ubdivision    |       |       | Contract Nu | mber:      | G22042      |       |  |
|------------------|--------------|---------------|-------|-------|-------------|------------|-------------|-------|--|
| Location:        | 0 Chippewa   | Street        |       |       | Client:     |            | Mamta Hor   | nes   |  |
| Date Sampled:    | Monday, Ja   | nuary 23, 20  | 23    |       | Sampled By  | <i>'</i> : | A. Waboose  | е     |  |
| Date Tested:     | Tuesday, Ja  | nuary 31, 202 | 23    |       | Tested By:  |            | A. Waboose  | е     |  |
|                  |              |               |       |       |             |            |             |       |  |
| BOREHOLE NUMBE   | R            | BH 1          | BH 1  | BH 1  | BH 1        | BH1        | BH1         | BH1   |  |
| SAMPLE NUMBER    |              | AS1           | SS1   | SS2   | <b>SS3</b>  | SS4        | <b>SS</b> 5 | SS6   |  |
| LAB NUM BER      |              |               |       |       |             |            |             |       |  |
| DEPTH OF SAMPLE  | (m)          | 0.3           | 1.1   | 1.8   | 2.6         | 3.3        | 4.1         | 4.8   |  |
| MASS OF WET SOI  | L+TARE (g)   | 147.5         | 129.1 | 133.7 | 187.0       | 216.1      | 146.0       | 138.4 |  |
| MASS OF DRY SOIL | . + TARE (g) | 134.2         | 120.3 | 124.8 | 168.1       | 189.2      | 132.4       | 126.3 |  |
| MASS OF TARE (g) |              | 93.0          | 95.4  | 96.7  | 93.1        | 96.8       | 92.3        | 92.4  |  |
| WATER CONTENT (9 | %)           | 32.3%         | 35.3% | 31.7% | 25.2%       | 29.1%      | 33.9%       | 35.7% |  |
|                  |              |               |       |       |             |            |             |       |  |
| BOREHOLE NUMBE   | R            | BH 2          | BH 2  | BH 2  | BH 2        | BH2        | BH2         |       |  |
| SAMPLE NUMBER    |              | AS1           | SS1   | SS2   | <b>SS3</b>  | SS4        | <b>SS</b> 5 |       |  |
| LAB NUM BER      |              |               |       |       |             |            |             |       |  |
| DEPTH OF SAMPLE  | (m)          | 0.3           | 1.1   | 2.6   | 3.3         | 4.1        | 5.6         |       |  |
|                  |              |               |       |       |             | T          | 1           |       |  |

| MASS OF WET SOIL + TARE (g) | 147.5 | 133.1 | 159.5 | 147.7 | 156.9 | 196.4 |     |     |
|-----------------------------|-------|-------|-------|-------|-------|-------|-----|-----|
| MASS OF DRY SOIL + TARE (g) | 134.4 | 121.6 | 142.1 | 135.5 | 139.9 | 168.1 |     |     |
| MASS OF TARE (g)            | 94.3  | 93.3  | 92.2  | 93.3  | 91.6  | 94.2  |     |     |
| WATER CONTENT (%)           | 32.7% | 40.6% | 34.9% | 28.9% | 35.2% | 38.3% |     |     |
|                             |       |       |       |       |       |       |     |     |
| BOREHOLE NUMBER             | BH3   | BH3   | BH3   | BH3   | BH3   | BH3   | BH3 | BH3 |
| SAMPLE NUMBER               | AS1   | SS1   | SS2   | SS3   | SS4   |       |     |     |
| LAB NUMBER                  |       |       |       |       |       |       |     |     |
|                             |       |       |       |       |       |       |     |     |

| LAB NUMBER                  |       |       |       |       |       |  |  |
|-----------------------------|-------|-------|-------|-------|-------|--|--|
| DEPTH OF SAMPLE (m)         | 0.3   | 1.1   | 2.6   | 3.3   | 4.1   |  |  |
| MASS OF WET SOIL + TARE (g) | 161.3 | 147.6 | 156.4 | 140.7 | 168.4 |  |  |
| MASS OF DRY SOIL + TARE (g) | 142.9 | 133.0 | 140.2 | 129.0 | 148.9 |  |  |
| MASS OF TARE (g)            | 93.4  | 92.4  | 94.3  | 91.7  | 94.3  |  |  |
| WATER CONTENT (%)           | 37.2% | 36.0% | 35.3% | 31.4% | 35.7% |  |  |

| BOREHOLE NUMBER             | BH4   | BH4   | BH4   | BH4   | BH4   | BH4        |  |
|-----------------------------|-------|-------|-------|-------|-------|------------|--|
| SAMPLE NUMBER               | AS1   | SS1   | SS2   | SS3   | SS4   | <b>SS5</b> |  |
| LAB NUMBER                  |       |       |       |       |       |            |  |
| DEPTH OF SAMPLE (m)         | 0.3   | 1.8   | 2.4   | 3.3   | 4.1   | 5.6        |  |
| MASS OF WET SOIL + TARE (g) | 145.5 | 136.3 | 112.5 | 186.2 | 147.4 | 154.1      |  |
| MASS OF DRY SOIL + TARE (g) | 134.1 | 126.7 | 107.5 | 166.0 | 132.1 | 133.8      |  |
| MASS OF TARE (g)            | 93.3  | 92.4  | 93.6  | 91.8  | 94.3  | 90.7       |  |
| WATER CONTENT (%)           | 27.9% | 28.0% | 36.0% | 27.2% | 40.5% | 47.1%      |  |

Comments:



## **MOISTURE CONTENTS**

Tested in accordance with LS-701 (ASTM D 2216)

| Project:             | Proposed Su | ubdivision    |       |       | Contract Nu | mber:     | G22042    |     |  |
|----------------------|-------------|---------------|-------|-------|-------------|-----------|-----------|-----|--|
| Location:            | 0 Chippewa  | Street        |       |       | Client:     |           | Mamta Hor | nes |  |
| Date Sampled:        | Monday, Ja  | nuary 23, 202 | 23    |       | Sampled By  | <b>/:</b> | A. Waboos | e   |  |
| Date Tested:         | Tuesday, Ja | nuary 31, 202 | 23    |       | Tested By:  |           | A. Waboos | e   |  |
|                      |             |               |       | -     |             |           |           |     |  |
|                      |             |               |       |       |             |           |           |     |  |
| BOREHOLE NUMBER      |             | BH5           | BH5   | BH5   | BH5         | BH5       |           |     |  |
| SAMPLE NUMBER        |             | AS1           | SS1   | SS2   | SS3         | SS4       |           |     |  |
| LAB NUMBER           |             |               |       |       |             |           |           |     |  |
| DEPTH OF SAMPLE (m)  |             | 0.3           | 1.1   | 2.6   | 3.3         | 4.1       |           |     |  |
| MASS OF WET SOIL + 1 | 119.1       | 121.1         | 165.9 | 133.9 | 159.9       |           |           |     |  |
|                      |             |               |       |       |             |           | -         | 1   |  |

| MASS OF WEI SUIL + TARE (g) | 119.1 | 121.1 | 105.9 | 133.9 | 159.9 |  |  |
|-----------------------------|-------|-------|-------|-------|-------|--|--|
| MASS OF DRY SOIL + TARE (g) | 111.1 | 112.7 | 151.4 | 124.3 | 143.2 |  |  |
| MASS OF TARE (g)            | 90.7  | 88.6  | 92.5  | 87.3  | 97.9  |  |  |
| WATER CONTENT (%)           | 39.2% | 34.9% | 24.6% | 25.9% | 36.9% |  |  |

| BOREHOLE NUMBER             | BH6   | BH6   | BH6   | BH6   | BH6   |  |
|-----------------------------|-------|-------|-------|-------|-------|--|
| SAMPLE NUMBER               | AS1   | SS1   | SS2   | SS3   | SS4   |  |
| LAB NUMBER                  |       |       |       |       |       |  |
| DEPTH OF SAMPLE (m)         | 0.3   | 1.1   | 2.6   | 3.3   | 4.1   |  |
| MASS OF WET SOIL + TARE (g) | 238.8 | 250.1 | 303.6 | 295.9 | 333.2 |  |
| MASS OF DRY SOIL + TARE (g) | 229.1 | 236.3 | 282.4 | 282.7 | 309.0 |  |
| MASS OF TARE (g)            | 196.2 | 201.5 | 210.4 | 238.0 | 238.2 |  |
| WATER CONTENT (%)           | 29.5% | 39.7% | 29.4% | 29.5% | 34.2% |  |

| BOREHOLE NUMBER             | BH7   | BH7   | BH7   | BH7   | BH7   | BH7   |  |
|-----------------------------|-------|-------|-------|-------|-------|-------|--|
| SAMPLE NUMBER               | AS1   | SS1   | SS2a  | SS2b  | SS3   | SS4   |  |
| LAB NUMBER                  |       |       |       |       |       |       |  |
| DEPTH OF SAMPLE (m)         | 0.3   | 1.1   | 2.4   | 2.7   | 3.3   | 4.1   |  |
| MASS OF WET SOIL + TARE (g) | 197.6 | 151.3 | 164.9 | 106.5 | 160.8 | 164.5 |  |
| MASS OF DRY SOIL + TARE (g) | 175.7 | 133.4 | 143.2 | 102.5 | 143.1 | 148.2 |  |
| MASS OF TARE (g)            | 90.6  | 88.5  | 92.5  | 87.5  | 92.4  | 97.4  |  |
| WATER CONTENT (%)           | 25.7% | 39.9% | 42.8% | 26.7% | 34.9% | 32.1% |  |

| BOREHOLE NUMBER             | BH8   | BH8   | BH8   | BH8   | BH8   | BH8   |  |
|-----------------------------|-------|-------|-------|-------|-------|-------|--|
| SAMPLE NUMBER               | AS1   | SS1   | SS2a  | SS2b  | SS3   | SS4   |  |
| LAB NUMBER                  |       |       |       |       |       |       |  |
| DEPTH OF SAMPLE (m)         | 0.3   | 1.1   | 2.4   | 2.7   | 3.3   | 4.1   |  |
| MASS OF WET SOIL + TARE (g) | 166.4 | 260.6 | 274.6 | 275.9 | 324.5 | 340.6 |  |
| MASS OF DRY SOIL + TARE (g) | 151.0 | 243.6 | 259.8 | 268.8 | 303.4 | 317.1 |  |
| MASS OF TARE (g)            | 94.3  | 196.2 | 210.7 | 239.2 | 238.3 | 243.3 |  |
| WATER CONTENT (%)           | 27.2% | 35.9% | 30.1% | 24.0% | 32.4% | 31.8% |  |

Comments:



## **MOISTURE CONTENTS**

Tested in accordance with LS-701 (ASTM D 2216)

| Project:      | Proposed Subdivision      | Contract Number: | G22042      |
|---------------|---------------------------|------------------|-------------|
| Location:     | 0 Chippewa Street         | Client:          | Mamta Homes |
| Date Sampled: | Monday, January 23, 2023  | Sampled By:      | A. Waboose  |
| Date Tested:  | Tuesday, January 31, 2023 | Tested By:       | A. Waboose  |
|               |                           |                  |             |

| BOREHOLE NUMBER             | BH9   | BH9   | BH9   | BH9   | BH9   | BH9   |  |
|-----------------------------|-------|-------|-------|-------|-------|-------|--|
| SAMPLE NUMBER               | AS1   | SS1   | SS2   | SS3   | SS4   | SS5   |  |
| LAB NUMBER                  |       |       |       |       |       |       |  |
| DEPTH OF SAMPLE (m)         | 0.3   | 1.1   | 2.4   | 3.3   | 4.1   | 5.7   |  |
| MASS OF WET SOIL + TARE (g) | 183.9 | 170.7 | 124.1 | 116.4 | 132.3 | 149.9 |  |
| MASS OF DRY SOIL + TARE (g) | 162.8 | 154.0 | 118.4 | 111.2 | 123.3 | 136.1 |  |
| MASS OF TARE (g)            | 93.2  | 95.4  | 97.4  | 94.3  | 92.5  | 99.4  |  |
| WATER CONTENT (%)           | 30.3% | 28.5% | 27.1% | 30.8% | 29.2% | 37.6% |  |

| BOREHOLE NUMBER             | BH10  | BH10  | BH10  | BH10       | BH10       | BH10       |  |
|-----------------------------|-------|-------|-------|------------|------------|------------|--|
| SAMPLE NUMBER               | AS1   | SS1   | SS2   | <b>SS3</b> | <b>SS4</b> | <b>SS5</b> |  |
| LAB NUMBER                  |       |       |       |            |            |            |  |
| DEPTH OF SAMPLE (m)         | 0.3   | 1.1   | 2.6   | 4.1        | 4.8        | 5.6        |  |
| MASS OF WET SOIL + TARE (g) | 155.0 | 276.3 | 179.0 | 170.0      | 170.7      | 152.2      |  |
| MASS OF DRY SOIL + TARE (g) | 139.3 | 261.3 | 156.0 | 152.8      | 154.1      | 138.1      |  |
| MASS OF TARE (g)            | 87.8  | 201.4 | 88.6  | 92.7       | 92.6       | 93.3       |  |
| WATER CONTENT (%)           | 30.5% | 25.0% | 34.1% | 28.6%      | 27.0%      | 31.5%      |  |

| BOREHOLE NUMBER             |  |  |  |  |
|-----------------------------|--|--|--|--|
| SAMPLE NUMBER               |  |  |  |  |
| LAB NUMBER                  |  |  |  |  |
| DEPTH OF SAMPLE (m)         |  |  |  |  |
| MASS OF WET SOIL + TARE (g) |  |  |  |  |
| MASS OF DRY SOIL + TARE (g) |  |  |  |  |
| MASS OF TARE (g)            |  |  |  |  |
| WATER CONTENT (%)           |  |  |  |  |

| BOREHOLE NUMBER             |  |  |  |  |
|-----------------------------|--|--|--|--|
| SAMPLE NUMBER               |  |  |  |  |
| LAB NUMBER                  |  |  |  |  |
| DEPTH OF SAMPLE (m)         |  |  |  |  |
| MASS OF WET SOIL + TARE (g) |  |  |  |  |
| MASS OF DRY SOIL + TARE (g) |  |  |  |  |
| MASS OF TARE (g)            |  |  |  |  |
| WATER CONTENT (%)           |  |  |  |  |

Comments:



# **ATTERBERG LIMITS**

Tested in accordance with LS-703/704 (ASTM D4318)

| Project:       | Proposed Subdivision, 0 Chipewa St. |
|----------------|-------------------------------------|
| Sample Number: | BH1, SS1                            |
| Date Sampled:  | 19-Jan-23                           |
| Date Tested:   | 08-Feb-23                           |

| Contract Number: | G22042        |
|------------------|---------------|
| Sample Depth:    | 0.8 m - 1.4 m |
| Sampled By:      | S.Hoffman     |
| Tested By:       | S.Hoffman     |

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| TEST                  | TEST             |       |       |       | C LIMIT | LIQUID LIMIT |       |       |       |   |
|-----------------------|------------------|-------|-------|-------|---------|--------------|-------|-------|-------|---|
| Variable              | NO               |       | 1     | 2     | 3       | 4            | 1     | 2     | 3     | 4 |
|                       | Var.             | Units | 1     | 2     |         | Ť            | -     | 2     | 5     | 4 |
| Number of Blows       | Ν                | blows |       |       |         |              | 16    | 20    | 31    |   |
| Can Number            |                  |       | Α     | В     | С       |              | E     | G     | J     |   |
| Mass of Empty Can     | M <sub>c</sub>   | (g)   | 13.59 | 13.67 | 13.62   |              | 13.62 | 13.66 | 13.70 |   |
| Mass Can & Soil (Wet) | M <sub>CMS</sub> | (g)   | 18.01 | 17.26 | 18.05   |              | 30.03 | 27.40 | 28.92 |   |
| Mass Can & Soil (Dry) | M <sub>CDS</sub> | (g)   | 17.29 | 16.67 | 17.34   |              | 24.70 | 23.00 | 24.01 |   |
| Mass of Soil          | Ms               | (g)   | 3.70  | 3.00  | 3.72    |              | 11.08 | 9.34  | 10.31 |   |
| Mass of Water         | Mw               | (g)   | 0.72  | 0.59  | 0.71    |              | 5.33  | 4.40  | 4.91  |   |
| Water Content         | W                | (%)   | 19.5  | 19.7  | 19.1    |              | 48.1  | 47.1  | 47.6  |   |

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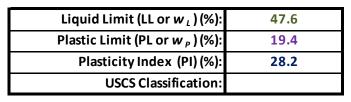
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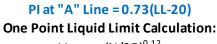
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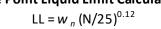
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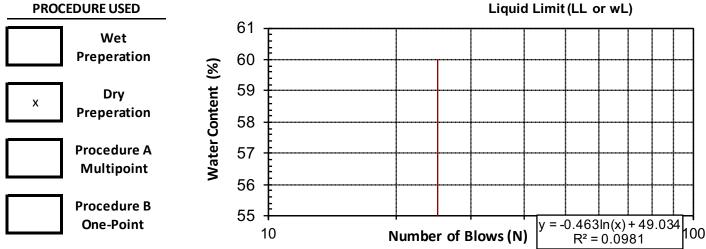
Plasticity Index (PI)







## **PROCEDURE USED**



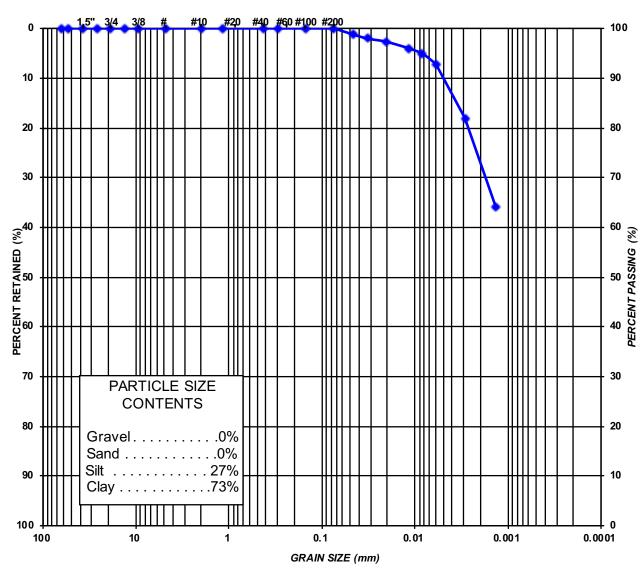


Tested in accordance with LS-702

| Project: Proposed Subdivision, 0 Chipewa St. |
|----------------------------------------------|
| Lab Number:                                  |
| Source: BH 1, SS2                            |
| Date Sampled: January 19, 2023               |
| Date Tested: February 9, 2023                |

| Contract Number: G22042     |
|-----------------------------|
| Material: Silty Clay        |
| Sample Depth (m): 1.5 - 2.1 |
| Sampled By: S. Hoffman      |
| Tested By: S. Hoffman       |

PARTICLE SIZE



| UNIFIED | COARSE | FINE | COARS | MEDIUM | FINE | SILT AND CLAY |
|---------|--------|------|-------|--------|------|---------------|
| SYSTEM  | GRAVEL |      | SAND  |        |      |               |

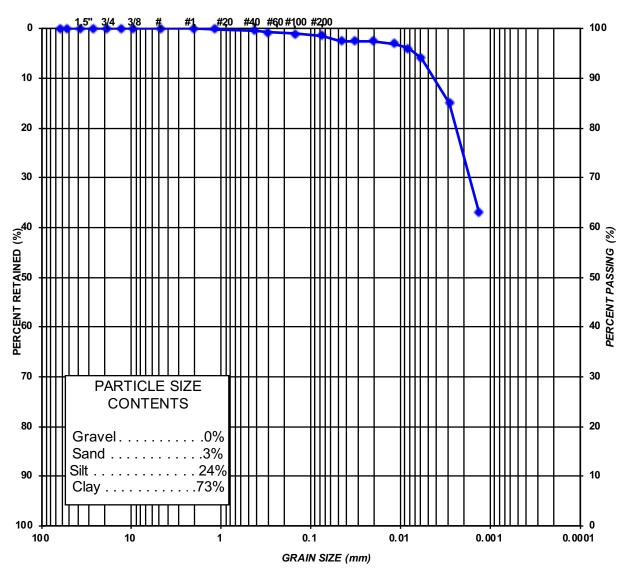


Tested in accordance with LS-702

| Project: Proposed Subdivision, 0 Chipewa St. |
|----------------------------------------------|
| Lab Number:                                  |
| Source: BH 2 - SS1                           |
| Date Sampled: January 24, 2023               |
| Date Tested: February 10, 2023               |

| Contract Number: G22042               |
|---------------------------------------|
| Material: Silty Clay, trace fine sand |
| Sample Depth (m): 0.8 - 1.4           |
| Sampled By: S. Hoffman                |
| Tested By: S. Hoffman                 |

PARTICLE SIZE



| UNIFED<br>SYSTE | COARSE | FINE | COAR | MEDIUM | FINE | SILT AND CLAY |  |
|-----------------|--------|------|------|--------|------|---------------|--|
| M               | GRA    | /EL  |      | SANE   | )    | SILTANDCLAT   |  |

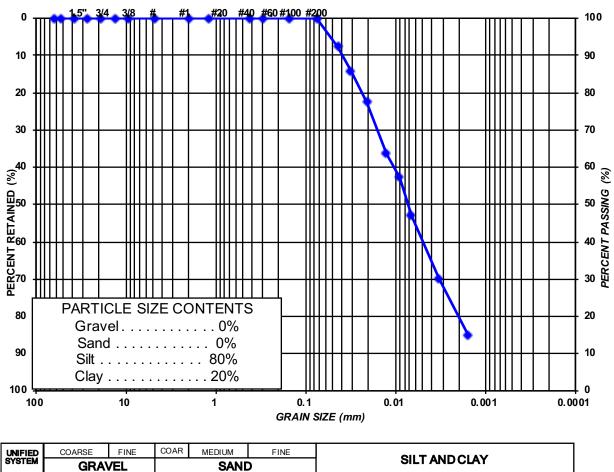


Tested in accordance with LS-702

| Project: Proposed Subdivision, 0 Chipewa St |
|---------------------------------------------|
| Lab Number:                                 |
| Source: BH2, SS2                            |
| Date Sampled: January 19, 2023              |
| Date Tested: February 9, 2023               |

| Contract Number: G22042     |
|-----------------------------|
| Material: Silt, some clay   |
| Sample Depth (m): 2.3 - 2.9 |
| Sampled By: S. Hoffman      |
| Tested By: S. Hoffman       |

PARTICLE SIZE



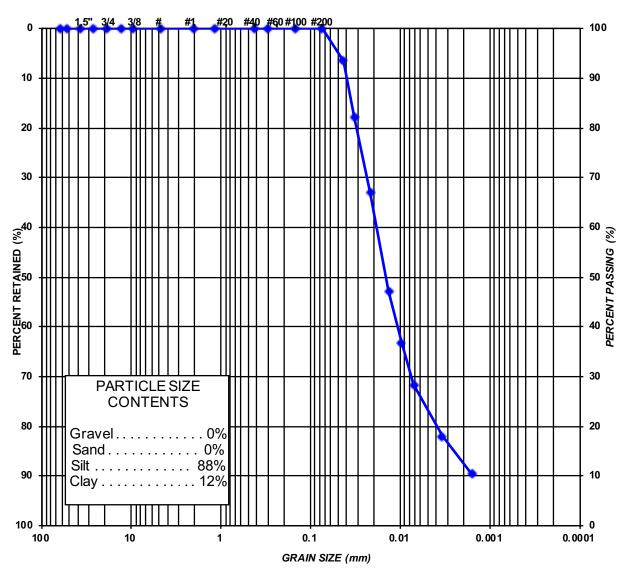


Tested in accordance with LS-702

| Project: Proposed Subdivision, 0 Chippewa St. |
|-----------------------------------------------|
| Lab Number:                                   |
| Source: BH4, SS1                              |
| Date Sampled: January 20, 2023                |
| Date Tested: February 9, 2023                 |

| Contract Number: G22042     |
|-----------------------------|
| Material: Silt, some Clay   |
| Sample Depth (m): 1.5 - 2.1 |
| Sampled By: S. Hoffman      |
| Tested By: S. Hoffman       |

PARTICLE SIZE



|   | COARSE | FINE | COAR | MEDIUM | FINE |             |
|---|--------|------|------|--------|------|-------------|
| M | GRAVEL |      | SAND |        |      | SILTANDCLAY |

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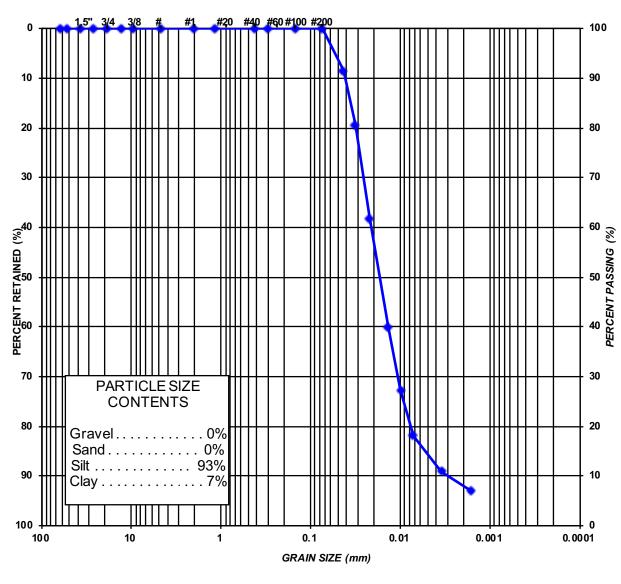


Tested in accordance with LS-702

| Project: Proposed Subdivision, 0 Chippewa St |
|----------------------------------------------|
| Lab Number:                                  |
| Source: BH6, SS3                             |
| Date Sampled: January 20, 2023               |
| Date Tested: February 9, 2023                |

| Contract Number: G22042     |
|-----------------------------|
| Material: Silt, trace Clay  |
| Sample Depth (m): 2.3 - 2.9 |
| Sampled By: S. Hoffman      |
| Tested By: S. Hoffman       |

PARTICLE SIZE



| UNIFED<br>SYSTE | COARSE | FINE | COAR | MEDIUM | FINE | SILT AND CLAY |
|-----------------|--------|------|------|--------|------|---------------|
| M               | GRAVEL |      |      | SAND   |      | SILIANDCLAT   |



## **ATTERBERG LIMITS**

Tested in accordance with LS-703/704 (ASTM D4318)

| Project:       | Proposed Subdivision, 0 Chipewa St. |
|----------------|-------------------------------------|
| Sample Number: | BH10, SS2                           |
| Date Sampled:  | 19-Jan-23                           |
| Date Tested:   | 08-Feb-23                           |

| Contract Number: | G22042        |
|------------------|---------------|
| Sample Depth:    | 2.3 m - 2.9 m |
| Sampled By:      | S.Hoffman     |
| Tested By:       | S.Hoffman     |

| TEST                  | PLASTIC LIMIT    |       |       |       | LIQUID LIMIT |   |       |       |       |   |
|-----------------------|------------------|-------|-------|-------|--------------|---|-------|-------|-------|---|
| Variable              | NO               |       | 1     | 2     | 3            | 4 | 1     | 2     | 3     | 4 |
| Valiable              | Var.             | Units | 1     | 2     | 3            | 4 | -     | 2     | 3     | + |
| Number of Blows       | Ν                | blows |       |       |              |   | 17    | 21    | 30    |   |
| Can Number            |                  |       | Α     | В     | С            |   | E     | G     | J     |   |
| Mass of Empty Can     | M <sub>c</sub>   | (g)   | 13.64 | 13.65 | 13.75        |   | 13.65 | 13.64 | 13.69 |   |
| Mass Can & Soil (Wet) | M <sub>CMS</sub> | (g)   | 18.03 | 17.33 | 18.05        |   | 30.60 | 28.18 | 29.40 |   |
| Mass Can & Soil (Dry) | M <sub>CDS</sub> | (g)   | 17.24 | 16.69 | 17.29        |   | 24.82 | 23.20 | 23.89 |   |
| Mass of Soil          | Ms               | (g)   | 3.60  | 3.04  | 3.54         |   | 11.17 | 9.56  | 10.20 |   |
| Mass of Water         | Mw               | (g)   | 0.79  | 0.64  | 0.76         |   | 5.78  | 4.98  | 5.51  |   |
| Water Content         | W                | (%)   | 21.9  | 21.1  | 21.5         |   | 51.7  | 52.1  | 54.0  |   |

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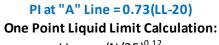
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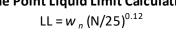
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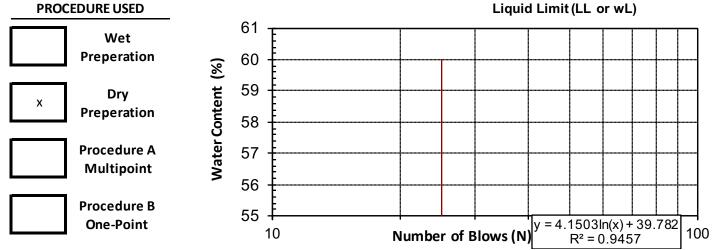
Plasticity Index (PI)

| Liquid Limit (LL or w <sub>L</sub> ) (%): | 52.6 |
|-------------------------------------------|------|
| Plastic Limit (PL or $w_P$ ) (%):         | 21.5 |
| Plasticity Index (PI) (%):                | 31.1 |
| USCS Classification:                      |      |









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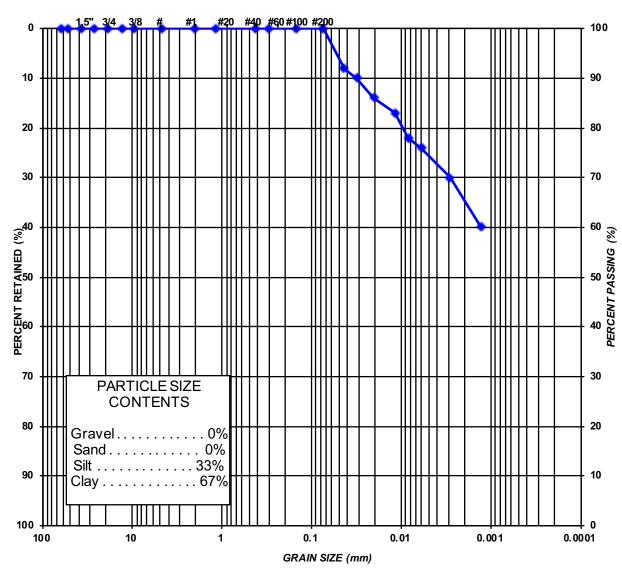


Tested in accordance with LS-702

| Project: Proposed Subdivision, 0 Chippewa St. |
|-----------------------------------------------|
| Lab Number:                                   |
| Source: BH10, SS5                             |
| Date Sampled: January 24, 2023                |
| Date Tested: February 10, 2023                |

| Contract Number: G22042     |
|-----------------------------|
| Material: Silty Clay        |
| Sample Depth (m): 5.3 - 5.9 |
| Sampled By: S.Hoffman       |
| Tested By: S. Hoffman       |

PARTICLE SIZE



| UNIFED<br>SYSTE | COARSE | FINE | COAR | MEDIUM | FINE |               |
|-----------------|--------|------|------|--------|------|---------------|
| M               |        |      | SAND |        |      | SILT AND CLAY |

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APPENDIX E

**REPORT LIMITATIONS AND GUIDELINES FOR USE** 

### **REPORT LIMITATIONS & GUIDELINES FOR USE**

This report is intended to reduce, but not eliminate, uncertainty regarding the subsurface conditions at the Site(s), and recognizes reasonable limits on time and cost. There are risks associated with any and all subsurface investigation work, which must be reasonably recognized by the Client.

The following information has been provided to help manage and mitigate any potential risks that could arise with the misuse of this report.

#### **USE OF THIS REPORT**

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# **Kresin Engineering Corporation**

# **Traffic Impact Study**

0 Chippewa Avenue Development

B001618

CIMA+ file number: B001618 04 01 2024 – Review 1.0



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# **Kresin Engineering Corporation**

# **Traffic Impact Study**

0 Chippewa Avenue Development

B001618

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### 1. Introduction and Background

CIMA+ was retained by Kresin Engineering to undertake a Traffic Impact Study (TIS) as part of a development application for a 363-unit mixed use development at 0 Chippewa Street with direct access to Chippewa Street, Atwater Street, and Amherst Street as shown in **Figure 1**. The proposed development is located on the northwest corner of the City of Sault Ste. Marie (the City) and is planned to include mostly residential homes and a retail store.

The study objective is to determine the expected traffic volumes to be generated by the proposed development during the AM, and PM peak hours, and to assess the impact of development traffic on the surrounding transportation network. Finally, mitigation measures will be recommended to accommodate the projected development traffic if the operational analysis indicates they are necessary.

The content of this TIS follows the approach and methodology presented in the Terms of Reference (TOR) submitted to the City for review on March 27<sup>th</sup>, 2023. **Appendix A** contains the TOR documentation.

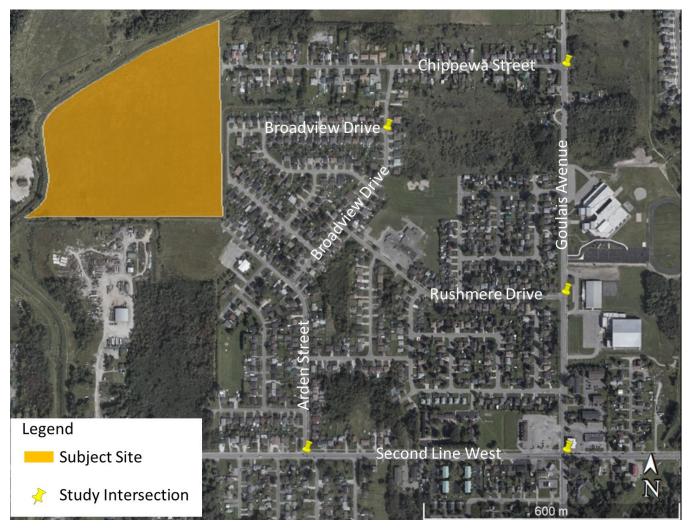


Figure 1: Proposed Development Area Map



### 1.1 Study Area

**Figure 1** illustrates the subject site along with the surroundings lands, which together, represents the study area. The subject site is located adjacent to residential neighbourhoods.

Second Line West is classified as a major urban arterial in the City's Transportation Master Plan, with a posted speed limit of 60 km/h. Within the study area Second Line West is a two-lane road (one lane per direction) oriented in an east-west direction. The only other non-local road in the study area is Goulais Avenue, which is classified as an urban collector road with posted speed of 50 km/h. Goulais Avenue is currently a 4-lane road (two lanes per direction) however, we are aware that the City is currently investigating the implementation of a road diet. At the time of this TIS, there is no formal standing for the road diet and for this reason Goulais Avenue will maintain its current configuration for all future scenarios.

The following intersections were analyzed as part of the road network impacted by the proposed development:

- > Chippewa Street and Goulais Avenue (Unsignalized)
- > Atwater Street and Broadview Drive (Unsignalized)
- > Rushmere Drive and Goulais Avenue (Unsignalized)
- > Arden Street and Second Line West (Unsignalized), and
- > Goulais Avenue and Second Line West (Signalized).

The turning movement count (TMC) provided by the City, for Goulais Avenue and Second Line West was conducted in October 2022. TMCs for the other four intersections were provided by Kresin Engineering and conducted on December 14<sup>th</sup>, 2023. It should be noted that for another CIMA assignment, a TMC was provided for Goulais Avenue and Second Line West. The TMC was conducted by the City on December 15<sup>th</sup> 2023and its volumes were found to have greater similarity to the Kresin TMCs compared to the TMC conducted in October 2022. For this study, the December 2023 TMC at Goulais Avenue and Second Line West was used. The existing traffic counts are provided in **Appendix B**.

### **1.2 Development Context**

The proposed mixed used development is bounded by Chippewa Street and Broadview Street to the east, a construction yard to the south and a creek to the north and west. Accesses are provided via Chippewa Street, Atwater Street, and Amherst Street. **Figure 2** and **Appendix C** showcase the site plan. Through consultations with Kresin Engineering, Parcel A, comprising of detached homes, semi-detached homes and a plaza, is expected to be fully built out by 2035 while Parcel B and C comprising of town homes, apartments, an amenity building, and a park are expected to be fully built out by 2032.



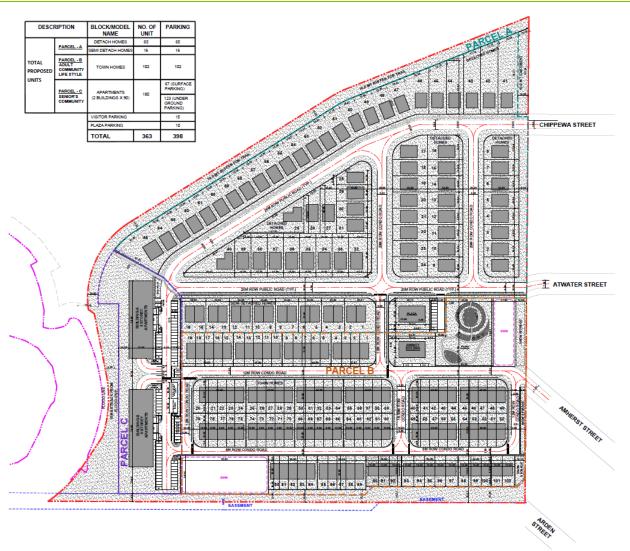


Figure 2: Site Plan

### 2. Study Methodology

### 2.1 Horizon Years

This study evaluates existing and future traffic operations at study area intersections for the weekday AM peak hour, and weekday PM peak hour. The development is expected to be built in phases. The horizon year for the completion of each phase was selected to fully evaluate the effects of the development on the transportation network.

The study assessed traffic operations under existing (2023) conditions and the following future horizon years:

- > Opening Year for Parcels B and C (2032) Background Conditions;
- > Full Build-Out (2035) Background Conditions;
- > Opening Year for Parcels B and C Future (2032) Total Conditions; and,
- > Full Build-Out Future (2035) Total Conditions.



### 2.2 Traffic Operational Analysis

Intersection operations were assessed using the Synchro 11 software which utilizes the Highway Capacity Manual (HCM) 2000 methodology published by the Transportation Research Board National Research Council. Synchro 11 can analyze both signalized and unsignalized intersections in a road corridor or network considering the spacing, interaction, queues, and operations between intersections. Intersection operations performance metrics are reported in terms of Level of Service (LOS), volume to capacity (v/c) ratios.

Level of Service is based on the average control delay per vehicle for a given movement. Delay is an indicator of how long a vehicle must wait to complete a movement and is represented by a letter between 'A' and 'F', with 'F' being the longest delay.

Table 1 summarizes the LOS criteria for signalized and unsignalized intersections.

| Level of Service | Average Control Delay<br>Signalized Intersection | per Vehicle (second/vehicle)<br>Unsignalized Intersection |
|------------------|--------------------------------------------------|-----------------------------------------------------------|
| А                | ≤10                                              | ≤10                                                       |
| В                | > 10 and ≤ 20                                    | > 10 and ≤ 15                                             |
| С                | > 20 and ≤ 35                                    | > 15 and ≤ 25                                             |
| D                | > 35 and ≤ 55                                    | > 25 and ≤ 35                                             |
| E                | > 55 and ≤ 80                                    | > 35 and ≤ 50                                             |
| F                | > 80                                             | > 50                                                      |

### Table 1: Intersection Level of Service Criteria

SimTraffic software was used to calculate the 95<sup>th</sup> percentile queue length to analyze and assess the available storage capacity and whether queue spillback or lane blockages occur due to long queues. The available storage capacity was based on the best available data collected from aerial imagery.

The City does not have a Traffic Impact Study Guidelines. Therefore, for this study, critical movements are established based on the following criteria:

- > Level of Service of E or F;
- > Volume to Capacity ratio of 1.00 or greater; and
- > 95%<sup>th</sup> percentile queue exceeds the available storage length.

It should be noted that the peak hour factor (PHF) was calculated from the provided turning movement counts (TMC's) and was used for all existing and future scenarios.



### 3. Existing Conditions

### 3.1 Collision Data

A collision analysis was conducted to identify any potential safety issues within the study area. The most recent five years' worth of historical collision data was provided by the city. The data provided is dated between January 2018 and May 2023 for the three busiest study area intersections, which are Second Line West & Goulais Avenue, Second Line West & Arden Street and Chippewa Street & Goulais Avenue. This section summarizes the results of the collision data analysis.

### Second Line West & Arden Street

The unsignalized T-intersection had only one reported collision. It was a rear-end collision that occurred in June of 2019, during a rain event and one of the drivers was found to be following too close. No collision patterns or safety issues identified.

#### **Chippewa Street & Goulais Avenue**

The unsignalized T-intersection had only three reported collisions where two occurred in 2018 and one in 2021. The two 2018 collisions occurred while the roads were snow covered and involved a driver going too fast for road conditions. No collision patterns or safety issues identified.

#### Second Line West & Goulais Avenue

A total of 42 collisions were reported at Goulais Avenue and Second Line West intersection. The collision data was further examined for patterns that might point to underlying safety issues. The collision summary by severity, prevailing driver action and impact type is shown below in **Table 2**. The following collision characteristics were reviewed to find possible collision patterns:

- Classification
- Prevailing Driver Action
- Prevailing Impact Type
- Lighting
- Environment Conditions
- Road Surface Conditions
- Direction

Table 2: Collision Summary

Intersection

Total

Severity



|                                                 |                                      | Fatal | Non-Fatai | PDO | Prevailing<br>Driver<br>Action           | Prevailing<br>Impact<br>Type |
|-------------------------------------------------|--------------------------------------|-------|-----------|-----|------------------------------------------|------------------------------|
| Second<br>Line West<br>and<br>Goulais<br>Avenue | 42 (1<br>reported as<br>intentional) | 0     | 3         | 38  | 43%<br>(18/42)<br>Following<br>Too Close | 52%<br>(22/42)<br>Rear End   |

### Table 3: Environmental Conditions

| Intersection                                 | Lighting       |                  | Environment<br>Condition |               | Road Surface Condition |                            |
|----------------------------------------------|----------------|------------------|--------------------------|---------------|------------------------|----------------------------|
|                                              | Daylight       | Non-<br>daylight | Clear                    | Other         | Dry                    | Other                      |
| Second Line<br>West and<br>Goulais<br>Avenue | 86%<br>(36/42) | 14%<br>(6/42)    | 88%<br>(37/42)           | 12%<br>(5/42) | 62% (26/42)            | 52%<br>(22/42)<br>Rear End |

The following collision trends were observed:

- > All 18 instances where drivers were following too close resulted in a rear end collision.
- > 68% (15/22) of rear end collisions occurred during dry road conditions.
- Westbound vehicles were involved in 59% (13/22) of rear end collisions followed by 27% (6/22) for southbound vehicles and only 9% (2/22) for eastbound vehicles and 5% northbound vehicles.
  - Of the 13 westbound vehicles involved in rear end collisions 85% (11/13) occurred during the afternoon between 12:00 and 7:00 PM.

There is a pattern of vehicle heading westbound in the afternoon being involved in rear end collisions.

### **3.2 Sightline Assessment**

Kresin Engineering conducted a sightline analysis for the proposed site access located at Amherst Street. The sightline assessment aimed to determine if the curve of Amherst Street, where a proposed access to the development will be located, may cause any sightline issues as illustrated in **Figure 3**. It should be noted that the sightline analysis was conducted during the winter, and it was difficult to know where the proposed condo road would be located.



Based on the Transportation Association of Canada Geometric Design Guide for Canadian Road (TAC-2017), the required stopping sight distance is 85 metres (based on 60 km/h design speed). The design speed is based on the posted speed plus 10 km/h, where in this case a 50 km/h posted speed is assumed. Additionally, the TAC-2017 manual outlines a recommended 110 metre intersection sight distance based on the design speed.

The sightline assessment results (pictures provided in **Appendix D**), showcases the minimum sight distance can be achieved based on the existing road profile and configuration. No sightline obstructions were found during the assessment. The pictures show a clear sightline for well over 110 metres looking down Amherst Street.

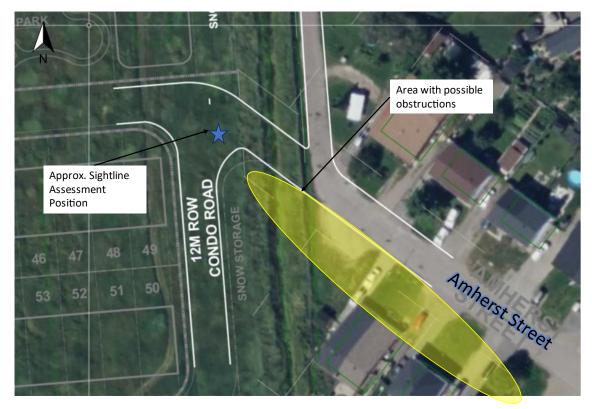


Figure 3: Sightline Assessment



### **3.3 Traffic Operations**

The following section outlines existing conditions. Existing intersection operations were analyzed using the lane configurations illustrated in **Figure 4**.

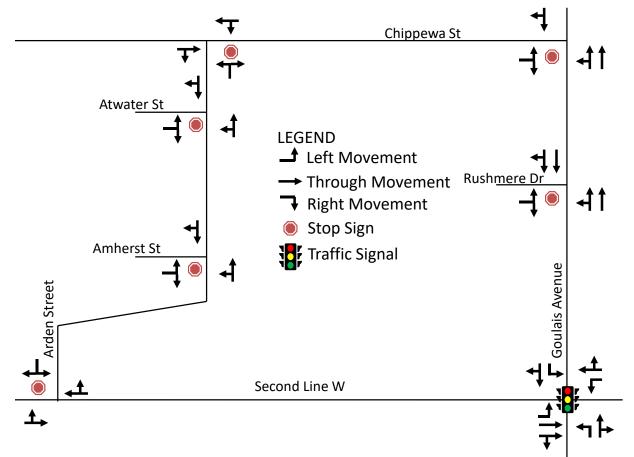


Figure 4: Existing Lane Configuration



As previously mentioned in Section 1.1, CIMA+ received the collection of turning movement counts (TMC) for the study area network from the City and Kresin Engineering.

Volume balancing was conducted due to the TMCs being conducted on different days. As a conservative approach, the balancing resulted in additional volume to be place on the through movements along Goulais Avenue. Volume balancing was only necessary for the PM peak hour with the goal of maintaining a similar ratio of leaving and departing volumes between the three study area intersections along Goulais Avenue. This resulted in vehicles being added to the northbound and southbound through movements for Chippewa Street & Goulais Avenue and Rushmere Drive & Goulais Avenue intersections. The resulting volume balanced existing traffic volumes are shown in **Figure 5**.

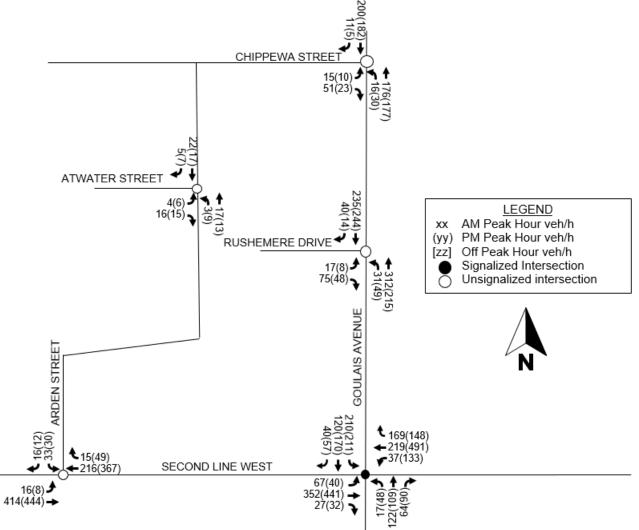


Figure 5: Existing 2023 Volume

Traffic operations were analyzed using Synchro 11 and SimTraffic software. Volume to capacity ratio (v/c), level of service (LOS) and delay, and 95th percentile queues were reviewed. The results are summarized in **Table 4**. It should be noted that the available storage capacity is based on aerial imagery to measure storage lane length. Synchro and SimTraffic outputs are available in **Appendix E**.



| Direction /<br>Movement                      |           | Storage    | v/c           | Delay          | LOS           | 95% <sup>ile</sup> Queue |  |  |
|----------------------------------------------|-----------|------------|---------------|----------------|---------------|--------------------------|--|--|
|                                              |           | (m)        | V/C           | Delay          | LUS           | (m)                      |  |  |
| Goulais Avenue at Second Line W (Signalized) |           |            |               |                |               |                          |  |  |
| EB                                           | L         | 75         | 0.17 (0.20)   | 11 (14)        | B (B)         | 23 (21)                  |  |  |
| LD                                           | TR        | >500       | 0.22 (0.28)   | 11 (11)        | B (B)         | 33 (44)                  |  |  |
| WB                                           | L         | >950       | 0.09 (0.37)   | 15 (19)        | B (B)         | 13 (62)                  |  |  |
| VV D                                         | TR        | >950       | 0.53 (0.86)   | 21 (34)        | C (C)         | 67 (163)                 |  |  |
| NB                                           | L         | 45         | 0.08 (0.26)   | 31 (32)        | C (C)         | 16 (27)                  |  |  |
| IND                                          | TR        | >250       | 0.56 (0.57)   | 36 (36)        | D (D)         | 51 (48)                  |  |  |
| SB                                           | L         | >250       | 0.74 (0.77)   | 36 (39)        | D (D)         | 52 (49)                  |  |  |
| 30                                           | TR        | >250       | 0.29 (0.43)   | 24 (26)        | C (C)         | 38 (48)                  |  |  |
| Inters                                       | ection Su | mmary      | 0.62 (0.83)   | 22 (27)        | C (C)         | -                        |  |  |
|                                              | В         | roadview   | Drive at Atwa | ter Street (Ui | nsignalized)  |                          |  |  |
| EB                                           | LR        | >250       | 0.02 (0.02)   | 9 (9)          | A (A)         | 13 (15)                  |  |  |
| NB                                           | LT        | >100       | 0.00 (0.00)   | 1 (3)          | A (A)         | <7 (<7)                  |  |  |
| SB                                           | TR        | >100       | 0.02 (0.02)   | 0 (0)          | A (A)         | <7 (<7)                  |  |  |
|                                              | Go        | oulais Ave | nue at Chippe | ewa Street (U  | Insignalized) |                          |  |  |
| EB                                           | LR        | >300       | 0.11 (0.08)   | 11 (11)        | B (B)         | 15 (13)                  |  |  |
| NB                                           | LT        | >500       | 0.08 (0.10)   | 2 (3)          | A (A)         | <7 (12)                  |  |  |
| SB                                           | TR        | >500       | 0.14 (0.16)   | 0 (0)          | A (A)         | <7 (<7)                  |  |  |
|                                              | G         | oulais Ave | nue at Rushn  | nere Drive (U  | nsignalized)  |                          |  |  |
| EB                                           | LR        | >200       | 0.15 (0.10)   | 11 (10)        | B (B)         | 17 (16)                  |  |  |
| NB                                           | LT        | >200       | 0.14 (0.10)   | 2 (4)          | A (A)         | 9 (10)                   |  |  |
| SB                                           | TR        | >300       | 0.10 (0.11)   | 0 (0)          | A (A)         | <7 (<7)                  |  |  |
|                                              |           | Arden Str  | eet at Second | Line W (Uns    | signalized)   |                          |  |  |
| EB                                           | TR        | >500       | 0.02 (0.01)   | 1 (0)          | A (A)         | 9 (12)                   |  |  |
| WB                                           | TR        | >500       | 0.19 (0.27)   | 0 (0)          | A (A)         | <7 (15)                  |  |  |
| SB                                           | LR        | >200       | 0.16 (0.18)   | 16 (20)        | C (C)         | 18 (17)                  |  |  |
|                                              |           |            |               |                | 1             | egend: AM (PM)           |  |  |

### Table 4: Existing 2023 Traffic Operations

Legend: AM (PM)

The results indicate that all movements are operating at an acceptable level of service. All 95th percentile queues can be accommodated within existing storage capacity.

### 4. Future Background Conditions

Future background traffic volumes were estimated using a 1% compound annual growth rate for the opening year for Parcel B and Parcel C (2032) and the Full Build-Out (2035). It is assumed background developments are accounted for by the growth rate.

### **4.1 Future Road Improvements**

The City does not have any planned road improvements within the study area. However, as previously mentioned in Section 1.1, the City is planning a possible road diet on Goulais Avenue between Second Line West and Chippewa Street. At the time of this TIS, there is no formal standing for the road diet and for this reason Goulais Avenue will maintain its current configuration for all future scenarios.

### 4.2 2032 Traffic Volume and Operations

The 2032 future background traffic volumes are shown in Figure 6.



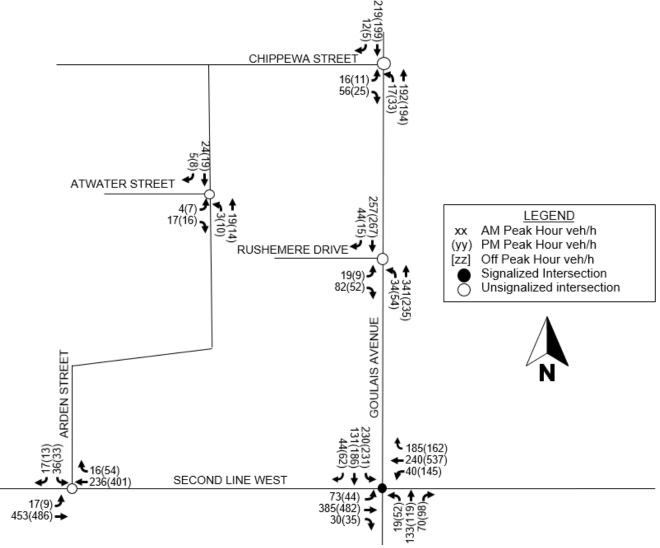


Figure 6: 2032 Future Background Volume

The 2032 future background traffic operations results are summarized in Table 5. Synchro and SimTraffic outputs are available in Appendix G.

| Direction / |           | Storage    |               | Delevi        |               | 95% <sup>ile</sup> Queue |  |  |
|-------------|-----------|------------|---------------|---------------|---------------|--------------------------|--|--|
| Movement    |           | (m)        | v/c           | Delay         | LOS           | (m)                      |  |  |
|             |           |            |               |               |               | (***)                    |  |  |
|             |           |            | venue at Seco |               |               |                          |  |  |
| EB          | L         | 75         | 0.20 (0.29)   | 11 (17)       | B (B)         | 27 (21)                  |  |  |
|             | TR        | >500       | 0.24 (0.31)   | 11 (12)       | B (B)         | 40 (46)                  |  |  |
| WB          | L         | >950       | 0.11 (0.43)   | 16 (20)       | B (C)         | 15 (71)                  |  |  |
|             | TR        | >950       | 0.59 (0.96)   | 23 (47)       | C (D)         | 72 (206)                 |  |  |
| NB          | L         | 45         | 0.10 (0.28)   | 30 (32)       | C (C)         | 16 (28)                  |  |  |
|             | TR        | >250       | 0.60 (0.61)   | 36 (37)       | D (D)         | 63 (62)                  |  |  |
| SB          | L         | >250       | 0.83 (0.86)   | 45 (51)       | D (D)         | 56 (53)                  |  |  |
|             | TR        | >250       | 0.32 (0.46)   | 24 (25)       | C (C)         | 42 (59)                  |  |  |
| Inters      | ection Su | mmary      | 0.69 (0.93)   | 24 (33)       | C (C)         | -                        |  |  |
|             | В         | roadview   | Drive at Atwa | ter Street (U | nsignalized)  |                          |  |  |
| EB          | LR        | >250       | 0.03 (0.03)   | 9 (9)         | A (A)         | 13 (14)                  |  |  |
| NB          | LT        | >100       | 0.00 (0.01)   | 1 (3)         | A (A)         | <7 (<7)                  |  |  |
| SB          | TR        | >100       | 0.02 (0.02)   | 0 (0)         | A (A)         | <7 (<7)                  |  |  |
|             | Go        | oulais Ave | nue at Chippe | ewa Street (U | Insignalized) |                          |  |  |
| EB          | LR        | >300       | 0.12 (0.10)   | 11 (12)       | B (B)         | 14 (12)                  |  |  |
| NB          | LT        | >500       | 0.08 (0.11)   | 2 (3)         | A (A)         | 8 (12)                   |  |  |
| SB          | TR        | >500       | 0.15 (0.17)   | 0 (0)         | A (A)         | <7 (<7)                  |  |  |
|             | Go        | oulais Ave | nue at Rushn  | nere Drive (U | nsignalized)  |                          |  |  |
| EB          | LR        | >200       | 0.17 (0.11)   | 11 (11)       | B (B)         | 17 (16)                  |  |  |
| NB          | LT        | >200       | 0.15 (0.10)   | 2 (4)         | A (A)         | 11 (11)                  |  |  |
| SB          | TR        | >300       | 0.11 (0.12)   | 0 (0)         | A (A)         | <7 (<7)                  |  |  |
|             |           | Arden Str  | eet at Second | Line W (Uns   | signalized)   |                          |  |  |
| EB          | TR        | >500       | 0.02 (0.01)   | 1 (0)         | A (A)         | 8 (24)                   |  |  |
| WB          | TR        | >500       | 0.20 (0.30)   | 0 (0)         | A (A)         | <7 (18)                  |  |  |
| SB          | LR        | >200       | 0.18 (0.22)   | 18 (23)       | C (C)         | 18 (18)                  |  |  |
|             |           |            |               |               | , <i>i</i>    | egend: AM (PM)           |  |  |

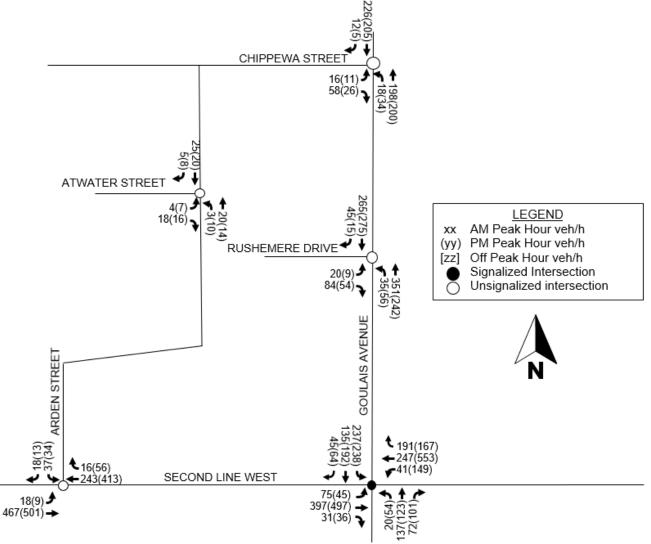
Legend: AM (PM)

The results indicate that all study area intersections are expected to operate well. The individual movements are also expected to operate at an acceptable LOS D or better. All 95th percentile turning movement queues are expected to be able to be accommodated within the existing storage capacity. However, 95th percentile westbound through/right queue at Goulais Avenue and Second Line West is expected to extend to the Walters Street intersection, 200 metres upstream during the PM peak hour.

### 4.3 2035 Traffic Volume and Operations

The 2035 future background traffic volumes are shown in Figure 7.





### Figure 7: 2035 Future Background Volume

The 2035 future background traffic operations results are summarized in **Table 6**. Synchro and SimTraffic outputs are available in **Appendix H**.

| Direction /<br>Movement |                                              | Storage | vle         | Dolov   | LOS                  | 95% <sup>ile</sup> Queue |  |  |  |
|-------------------------|----------------------------------------------|---------|-------------|---------|----------------------|--------------------------|--|--|--|
|                         |                                              | (m)     | v/c         | Delay   | L03                  | (m)                      |  |  |  |
|                         | Goulais Avenue at Second Line W (Signalized) |         |             |         |                      |                          |  |  |  |
| EB                      | L                                            | 75      | 0.22 (0.31) | 12 (18) | B (B)                | 26 (22)                  |  |  |  |
| ED                      | TR                                           | >500    | 0.25 (0.32) | 11 (12) | B (B)                | 41 (48)                  |  |  |  |
| WB                      | L                                            | >950    | 0.11 (0.45) | 16 (21) | B (C)                | 17 (138)                 |  |  |  |
| VVD                     | TR                                           | >950    | 0.61 (0.99) | 23 (55) | C (D)                | 70 (320)                 |  |  |  |
| NB                      | L                                            | 45      | 0.10 (0.29) | 30 (32) | C (C)                | 20 (30)                  |  |  |  |
|                         | TR                                           | >250    | 0.61 (0.63) | 37 (37) | D (D)                | 61 (61)                  |  |  |  |
| SB                      | L                                            | >250    | 0.86 (0.90) | 50 (57) | D ( <mark>E</mark> ) | 62 (50)                  |  |  |  |
|                         | TR                                           | >250    | 0.33 (0.48) | 24 (25) | C (C)                | 44 (56)                  |  |  |  |

### Table 6: 2035 Future Background Traffic Operations



| Inters | ection Su                                        | mmary      | 0.72 (0.96)   | 25 (36)       | C (D)         | -              |  |  |  |  |  |
|--------|--------------------------------------------------|------------|---------------|---------------|---------------|----------------|--|--|--|--|--|
|        | Broadview Drive at Atwater Street (Unsignalized) |            |               |               |               |                |  |  |  |  |  |
| EB     | LR                                               | >250       | 0.03 (0.03)   | 9 (9)         | A (A)         | 14 (15)        |  |  |  |  |  |
| NB     | LT                                               | >100       | 0.00 (0.01)   | 1 (3)         | A (A)         | <7 (<7)        |  |  |  |  |  |
| SB     | TR                                               | >100       | 0.02 (0.02)   | 0 (0)         | A (A)         | <7 (<7)        |  |  |  |  |  |
|        | Go                                               | oulais Ave | nue at Chippe | ewa Street (U | Insignalized) |                |  |  |  |  |  |
| EB     | LR                                               | >300       | 0.13 (0.10)   | 11 (12)       | B (B)         | 17 (13)        |  |  |  |  |  |
| NB     | LT                                               | >500       | 0.09 (0.11)   | 2 (3)         | A (A)         | 11 (11)        |  |  |  |  |  |
| SB     | TR                                               | >500       | 0.16 (0.18)   | 0 (0)         | A (A)         | <7 (<7)        |  |  |  |  |  |
|        | Go                                               | oulais Ave | nue at Rushn  | nere Drive (U | nsignalized)  |                |  |  |  |  |  |
| EB     | LR                                               | >200       | 0.18 (0.11)   | 11 (11)       | B (B)         | 18 (18)        |  |  |  |  |  |
| NB     | LT                                               | >200       | 0.16 (0.11)   | 2 (4)         | A (A)         | 10 (12)        |  |  |  |  |  |
| SB     | TR                                               | >300       | 0.12 (0.13)   | 0 (0)         | A (A)         | <7 (<7)        |  |  |  |  |  |
|        |                                                  | Arden Str  | eet at Second | Line W (Uns   | signalized)   |                |  |  |  |  |  |
| EB     | TR                                               | >500       | 0.02 (0.01)   | 1 (0)         | A (A)         | 10 (17)        |  |  |  |  |  |
| WB     | TR                                               | >500       | 0.21 (0.31)   | 0 (0)         | A (A)         | <7 (14)        |  |  |  |  |  |
| SB     | LR                                               | >200       | 0.20 (0.23)   | 18 (24)       | C (C)         | 18 (17)        |  |  |  |  |  |
|        |                                                  |            |               |               | /             | egend: AM (PM) |  |  |  |  |  |

Legend: AM (PM)

The results indicate that all study area intersections are expected to operate well. The individual movements are also expected to operate at an acceptable LOS D or better except for the southbound left-turn movement at Goulais Avenue and Second Line West during the PM peak hour, which is expected to operate at LOS E.

All 95<sup>th</sup> percentile turning movement queues are expected to be able to be accommodated within the existing storage capacity. However, 95<sup>th</sup> percentile westbound through/right queue at Goulais Avenue and Second Line West is expected to extend well past the Walters Street intersection during the PM peak hour.



### 5. Future Total Conditions

### **5.1 Trip Generation**

As previously mentioned in Section 1.2, Parcels B and C are expected to be built out by 2032 and Parcel A is expected to be built out by 2035.

The trip generation estimates for Parcel A are based on the Single Family Detached Housing land use code (LUC 210), Single Family Attached Housing (LUC 215), and Variety Store (LUC 814) from the Institute of Transportation Engineers (ITE), Trip Generation Manual (11th Edition).

The trip generation estimates for Parcels B and C are based on the Multifamily Housing (Low-Rise) land use code (LUC 220), Multifamily Housing (Mid-Rise) (LUC 221), Public Park (LUC 411), and Utility Building (LUC 170) from the ITE, Manual.

The projected trip generation for the proposed development during the weekday AM and PM peak hours is summarized in **Table 7** for Parcel A and **Table 8** Parcel B.

| ITE Land Use                             | Units/GFA                   | Parameter      | AM Peak Hour          |           |       | PM Peak Hour          |          |       |
|------------------------------------------|-----------------------------|----------------|-----------------------|-----------|-------|-----------------------|----------|-------|
|                                          | Units/GFA                   | Farameter      | In                    | Out       | Total | In                    | Out      | Total |
| Single Family                            |                             | Equation       | T=                    | 0.71(x)+7 | 7.23  | Ln(T)=0.93 Ln(x)+0.36 |          |       |
| Detached<br>Housing (ITE<br>LU Code 210) | 65                          | Gross<br>Trips | 14                    | 39        | 53    | 45                    | 25       | 70    |
| Single Family                            | 16                          | Equation       | Ln(T)=0.92 Ln(x)-0.26 |           |       | Ln(T)=0.88 Ln(x)+0.06 |          |       |
| Attached<br>Housing (ITE<br>LU Code 215) |                             | Gross<br>Trips | 3                     | 7         | 10    | 7                     | 5        | 12    |
| Variety Store                            | 4 026 46                    | Equation       | Aver                  | age Rate  | =4.51 | Avera                 | age Rate | =7.42 |
| (ITE LU Code<br>814)                     | 4,036.46<br>ft <sup>2</sup> | Gross<br>Trips | 9                     | 9         | 18    | 15                    | 15       | 30    |
| Т                                        | 26                          | 55             | 81                    | 67        | 45    | 112                   |          |       |

#### Table 7: Parcel A Trip Generation Summary



As detailed in **Table 7**, Parcel A is expected to generate 81 two-way trips during the weekday AM peak hour (26 trips in / 55 trips out) and 112 two-way trips during the weekday PM peak hour (67 trips in / 45 trips out).

|                                               |                              |                |                       | -         |                                |                 |           |       |
|-----------------------------------------------|------------------------------|----------------|-----------------------|-----------|--------------------------------|-----------------|-----------|-------|
| ITE Land Use                                  | Units/GFA                    | Parameter      | AN                    | l Peak H  | lour                           | PN              | l Peak H  | our   |
|                                               | Units/GFA                    | Farameter      | In                    | Out       | Total                          | In              | Out       | Total |
| Multifamily                                   |                              | Equation       | T=C                   | ).35(x)+2 | 8.13                           | T=0.42(x)+34.78 |           |       |
| Housing<br>(Low-Rise)<br>(ITE LU Code<br>220) | 102                          | Gross<br>Trips | 15                    | 49        | 64                             | 48              | 30        | 78    |
| Multifamily                                   | 180                          | Equation       | T=0.32(x)+5.84        |           |                                | T=0.32(x)+15.57 |           |       |
| Housing (Mid-<br>Rise) (ITE LU<br>Code 221)   |                              | Gross<br>Trips | 16                    | 47        | 63                             | 44              | 29        | 73    |
| Public Park                                   | 35,224.86<br>ft <sup>2</sup> | Equation       | T=0.05(x)+12.67       |           | T=C                            | ).08(x)+1       | 5.36      |       |
| (ITE LU Code<br>411)                          |                              | Gross<br>Trips | 9                     | 5         | 14                             | 7               | 11        | 18    |
| Utility (ITE LU                               | 4 171 011                    | Equation       | Ln(T)=0.67 Ln(x)+1.44 |           | Ln(T)=0.67 Ln(x)+1.44 T=2.00(x |                 | 2.00(x)+3 | 3.49  |
| Code 170)                                     | 4,171.011<br>ft <sup>2</sup> | Gross<br>Trips | 9                     | 2         | 11                             | 2               | 10        | 12    |
| 7                                             | Total Trips                  |                |                       |           | 152                            | 101             | 80        | 181   |

### Table 8: Parcel B and Parcel C Trip Generation Summary

As detailed in **Table 8**, Parcels B and C are expected to generate 152 two-way trips during the weekday AM peak hour (49 trips in / 103 trips out) and 181 two-way trips during the weekday PM peak hour (101 trips in / 80 trips out).

### **5.2 Trip Distribution**

The trip distribution for the proposed development is based on the existing travel patterns. The resulting trip distribution is summarized in **Table 9**.

### Table 9: Trip Distribution Summary

| From/To | Via              | АМ   | РМ   |
|---------|------------------|------|------|
| North   | Goulais Avenue   | 16%  | 12%  |
| South   | Goulais Avenue   | 27%  | 15%  |
| East    | Second Line West | 27%  | 44%  |
| West    | Second Line West | 30%  | 29%  |
| То      | tal              | 100% | 100% |

The resulting site generated trips and distribution is illustrated in Figure 8 and Figure 9.



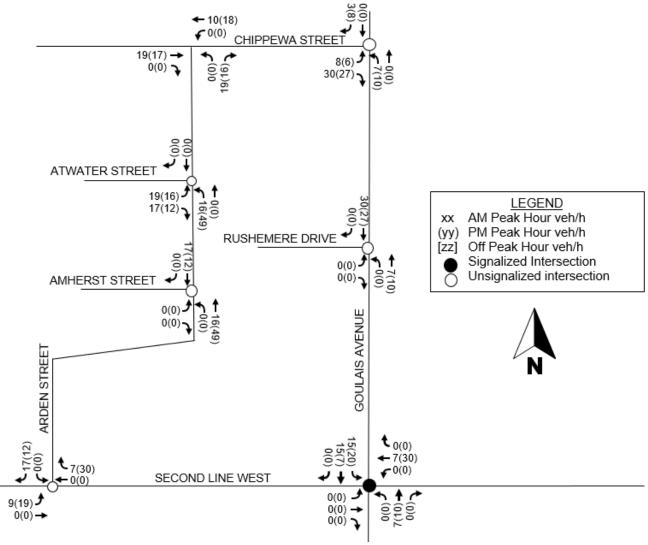


Figure 8: Parcel A Site Traffic



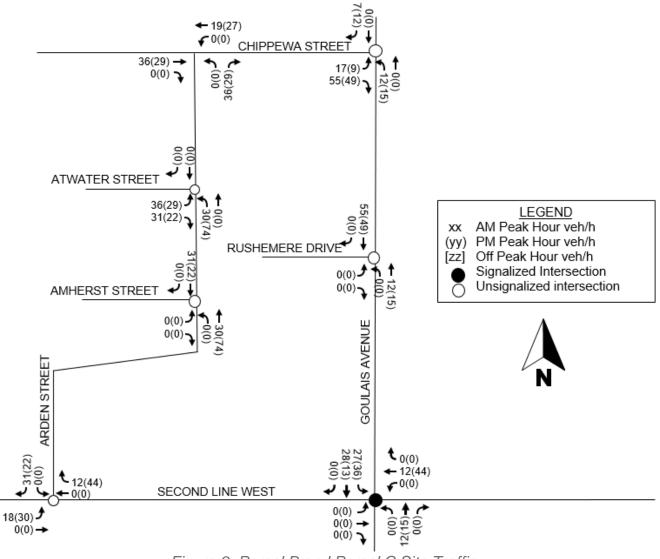


Figure 9: Parcel B and Parcel C Site Traffic

### 5.3 2032 Future Total Conditions

Traffic operations under future 2032 total conditions were analyzed for the weekday AM and PM peak hours. The traffic operational analysis and results for the future total conditions are discussed in this section.

2032 future total intersection operations were assessed using the existing lane configurations shown in **Figure 4**. The 2032 future total traffic volumes were estimated by adding the Parcel B and Parcel C site traffic (**Figure 9**) to 2032 future background volumes (**Figure 6**) and the resulting 2032 future total traffic volumes are illustrated in **Figure 10**. The operational analysis results are provided in **Table 10** and the Synchro and SimTraffic outputs are provided in **Appendix I**.



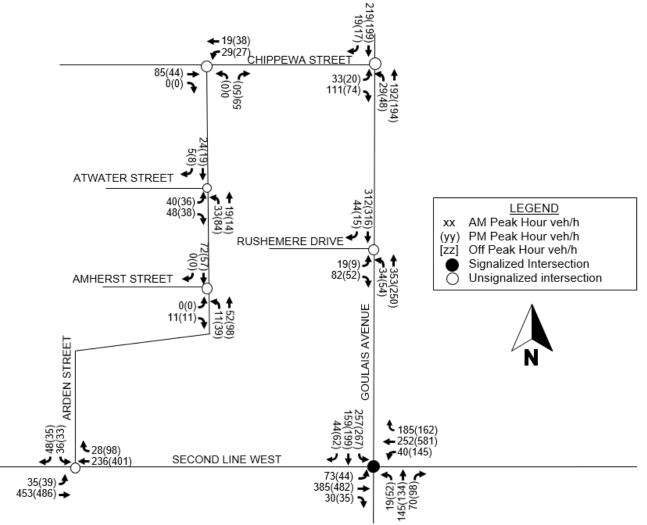


Figure 10: 2032 Future Total Traffic Volumes

| Direc     | tion /               | Storage    | v/c                        | Delay         | LOS          | 95% <sup>ile</sup> Queue |
|-----------|----------------------|------------|----------------------------|---------------|--------------|--------------------------|
| Move      | ement                | (m)        | V/C                        | Delay         | LUU          | (m)                      |
|           |                      | Goulais Av | venue at Seco              | ond Line W (  | Signalized)  |                          |
| EB        | L                    | 75         | 0.21 (0.31)                | 12 (19)       | B (B)        | 26 (22)                  |
| ED        | TR                   | >500       | 0.25 (0.31)                | 11 (12)       | B (B)        | 42 (47)                  |
| WB        | L                    | >950       | 0.11 (0.44)                | 16 (21)       | B (C)        | 16 (189)                 |
| VVD       | TR                   | >950       | 0.62 ( <b>1.03</b> )       | 24 (66)       | C (E)        | 74 (366)                 |
| NB        | L                    | 45         | 0.10 (0.27)                | 30 (31)       | C (C)        | 16 (33)                  |
|           | TR                   | >250       | 0.63 (0.65)                | 37 (38)       | D (D)        | 61 (65)                  |
| SB        | L                    | >250       | 0.94 ( <b>1.01</b> )       | 66 (87)       | E (F)        | 57 (58)                  |
| 30        | TR                   | >250       | 0.37 (0.48)                | 24 (25)       | C (C)        | 49 (56)                  |
| Inters    | Intersection Summary |            | 0.75 ( <mark>1.03</mark> ) | 28 (44)       | C (D)        | -                        |
| Broadview |                      |            | Drive at Atwa              | ter Street (U | nsignalized) |                          |
| EB        | LR                   | >250       | 0.11 (0.13)                | 10 (10)       | A (B)        | 19 (20)                  |
| NB        | LT                   | >100       | 0.03 (0.07)                | 5 (7)         | A (A)        | <7 (8)                   |

### Table 10: 2032 Future Total Traffic Operations



| SB                                               | TR | >100       | 0.02 (0.02)     | 0 (0)           | A (A)        | <7 (<7) |  |  |  |
|--------------------------------------------------|----|------------|-----------------|-----------------|--------------|---------|--|--|--|
| Goulais Avenue at Chippewa Street (Unsignalized) |    |            |                 |                 |              |         |  |  |  |
| EB                                               | LR | >300       | 0.25 (0.25)     | 12 (13)         | B (B)        | 19 (15) |  |  |  |
| NB                                               | LT | >500       | 0.08 (0.11)     | 3 (4)           | A (A)        | 10 (13) |  |  |  |
| SB                                               | TR | >500       | 0.16 (0.19)     | 0 (0)           | A (A)        | <7 (<7) |  |  |  |
|                                                  | Go | oulais Ave | nue at Rushn    | nere Drive (U   | nsignalized) |         |  |  |  |
| EB                                               | LR | >200       | 0.18 (0.11)     | 12 (11)         | B (B)        | 17 (17) |  |  |  |
| NB                                               | LT | >200       | 0.16 (0.11)     | 2 (4)           | A (A)        | 11 (14) |  |  |  |
| SB                                               | TR | >300       | 0.14 (0.14)     | 0 (0)           | A (A)        | <7 (<7) |  |  |  |
|                                                  |    | Arden Str  | eet at Second   | Line W (Uns     | signalized)  |         |  |  |  |
| EB                                               | TR | >500       | 0.04 (0.04)     | 1 (1)           | A (A)        | 17 (36) |  |  |  |
| WB                                               | TR | >500       | 0.21 (0.33)     | 0 (0)           | A (A)        | <7 (19) |  |  |  |
| SB                                               | LR | >200       | 0.26 (0.31)     | 17 (24)         | C (C)        | 22 (20) |  |  |  |
|                                                  |    | Broadview  | Drive at Amhe   | erst Street (Un | signalized)  |         |  |  |  |
| EB                                               | LR | >250       | 0.01 (0.01)     | 9 (9)           | A (A)        | 8 (8)   |  |  |  |
| NB                                               | LT | >75        | 0.01 (0.03)     | 1 (2)           | A (A)        | <7 (<7) |  |  |  |
| SB                                               | TR | >450       | 0.05 (0.04)     | 0 (0)           | A (A)        | <7 (<7) |  |  |  |
|                                                  | I  | Broadview  | Drive at Chippe | ewa Street (U   | nsignalized) |         |  |  |  |
| EB                                               | TR | 350        | 0.05 (0.03)     | 0 (0)           | A (A)        | <7 (<7) |  |  |  |
| WB                                               | LT | 350        | 0.02 (0.02)     | 5 (3)           | A (A)        | <7 (<7) |  |  |  |
| NB                                               | LR | >500       | 0.07 (0.05)     | 9 (9)           | A (A)        | 13 (13) |  |  |  |

Legend: AM (PM)

During the PM peak hour, Goulais Avenue and Second Line West intersection is expected to operate slightly over capacity. The results indicate that all movements are expected to operate at an acceptable level of service except for the following movements at Goulais Avenue and Second Line West:

- > Westbound Through-Right (v/c ratio of 1.03 and LOS E during PM peak hour).
- Southbound Left (v/c ratio of 0.94 & 1.01 and LOS E & F during AM & PM peak hours respectively).

All 95<sup>th</sup> percentile turning movement queues are expected to be able to be accommodated within the existing storage capacity. However, 95<sup>th</sup> percentile westbound through/right queue at Goulais Avenue and Second Line West is expected to extend well past the Walters Street intersection during the PM peak hour.

### 5.3.1 2032 Total Traffic Mitigation Measures

Goulais Avenue at Second Line West intersection is expected to experience long delays and capacity issues that occur during the PM peak hour. To address these issues, the cycle length was increased to 110 seconds. The traffic operational results for the 2032 future total scenario with updated signal timings and cycle length is summarized in **Table 11**. Synchro and SimTraffic outputs are available in **Appendix I**.



| Move   | ement      | (m)        |               |              |             | (m) |
|--------|------------|------------|---------------|--------------|-------------|-----|
|        |            | Goulais Av | venue at Seco | ond Line W ( | Signalized) |     |
| EB     | L          | 75         | 0.32          | 22           | С           | 22  |
| ED     | TR         | >500       | 0.30          | 13           | В           | 51  |
| WB     | L          | >950       | 0.41          | 22           | С           | 70  |
| VVD    | TR         | >950       | 0.98          | 55           | E           | 219 |
| NB     | L          | 45         | 0.30          | 40           | D           | 36  |
| ND     | TR         | >250       | 0.75          | 52           | D           | 69  |
| SB     | L          | >250       | 0.96          | 73           | E           | 73  |
| 30     | TR         | >250       | 0.48          | 30           | С           | 65  |
| Inters | section Su | mmary      | 0.96          | 42           | D           | -   |
|        |            |            |               |              |             |     |

Legend: PM

The results indicate that the intersection is projected to operate slightly below capacity. Delays for both critical movements have improved by over 10 seconds and v/c ratios are now below capacity. The 95<sup>th</sup> percentile queues for the westbound movements have also been significantly reduced with the updated signal timing plan.

### 5.4 2035 Future Total Conditions (Full Build-Out)

2035 future total intersection operations were assessed using the existing lane configurations. The 2035 future total traffic volumes were estimated by adding the Parcel A site traffic (Figure 8) and Parcel's B and C site traffic (Figure 9) to 2035 future background volumes (Figure 7). The resulting 2035 future total traffic volumes are illustrated in Figure 11. The operational analysis results are provided in Table 12 and the Synchro and SimTraffic outputs are provided in Appendix J.

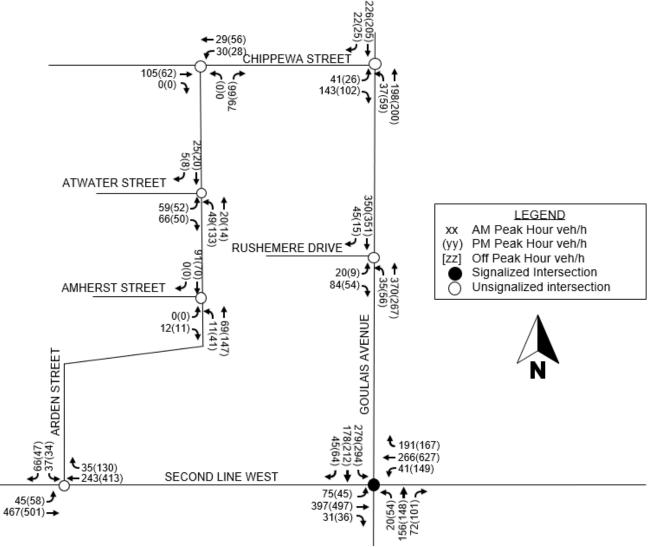


Figure 11: 2035 Future Total Traffic Volumes

| Direc                | tion /                                           | Storage                    | v/c                  | Delay        | LOS                   | 95% <sup>ile</sup> Queue |  |
|----------------------|--------------------------------------------------|----------------------------|----------------------|--------------|-----------------------|--------------------------|--|
| Move                 | ement                                            | (m)                        | V/C                  | Delay        | LUJ                   | (m)                      |  |
|                      | (                                                | Goulais Av                 | venue at Seco        | ond Line W ( | Signalized)           |                          |  |
| EB                   | L                                                | 75                         | 0.23 (0.31)          | 12 (20)      | B (C)                 | 25 (24)                  |  |
| ED                   | TR                                               | >500                       | 0.26 (0.32)          | 12 (13)      | B (B)                 | 44 (50)                  |  |
| WB                   | L                                                | >950                       | 0.12 (0.46)          | 16 (22)      | B (C)                 | 16 (492)                 |  |
| VV D                 | TR                                               | >950                       | 0.65 ( <b>1.12</b> ) | 25 (98)      | C ( <b>F</b> )        | 81 (677)                 |  |
| NB                   | L                                                | 45                         | 0.10 (0.27)          | 30 (31)      | C (C)                 | 25 (33)                  |  |
| ND                   | TR                                               | >250                       | 0.65 (0.68)          | 38 (39)      | D (D)                 | 65 (65)                  |  |
| SB                   | L                                                | >250                       | <b>1.04</b> (1.14)   | 93 (126)     | <b>F</b> ( <b>F</b> ) | 61 (77)                  |  |
| 30                   | TR                                               | >250                       | 0.40 (0.49)          | 24 (25)      | C (C)                 | 51 (60)                  |  |
| Intersection Summary |                                                  | 0.81 ( <mark>1.14</mark> ) | 33 (60)              | C (E)        | -                     |                          |  |
|                      | Broadview Drive at Atwater Street (Unsignalized) |                            |                      |              |                       |                          |  |
| EB                   | LR                                               | >250                       | 0.17 (0.21)          | 10 (12)      | B (B)                 | 22 (20)                  |  |

#### Table 12: 2035 Future Total Traffic Operations



| NB | LT                                                | >100       | 0.04 (0.11)   | 6 (7)           | A (A)        | <7 (7)         |  |  |  |  |
|----|---------------------------------------------------|------------|---------------|-----------------|--------------|----------------|--|--|--|--|
| SB | TR                                                | >100       | 0.02 (0.02)   | 0 (0)           | A (A)        | <7 (<7)        |  |  |  |  |
|    | Goulais Avenue at Chippewa Street (Unsignalized)  |            |               |                 |              |                |  |  |  |  |
| EB | LR                                                | >300       | 0.33 (0.35)   | 13 (15)         | B (B)        | 20 (19)        |  |  |  |  |
| NB | LT                                                | >500       | 0.09 (0.11)   | 3 (5)           | A (A)        | 11 (19)        |  |  |  |  |
| SB | TR                                                | >500       | 0.17 (0.20)   | 0 (0)           | A (A)        | <7 (<7)        |  |  |  |  |
|    | Go                                                | oulais Ave | nue at Rushn  | nere Drive (U   | nsignalized) |                |  |  |  |  |
| EB | LR                                                | >200       | 0.20 (0.12)   | 12 (11)         | B (B)        | 18 (17)        |  |  |  |  |
| NB | LT                                                | >200       | 0.16 (0.12)   | 2 (4)           | A (A)        | 12 (13)        |  |  |  |  |
| SB | TR                                                | >300       | 0.15 (0.16)   | 0 (0)           | A (A)        | <7 (<7)        |  |  |  |  |
|    |                                                   | Arden Str  | eet at Second | Line W (Uns     | signalized)  |                |  |  |  |  |
| EB | TR                                                | >500       | 0.05 (0.06)   | 1 (2)           | A (A)        | 19 (41)        |  |  |  |  |
| WB | TR                                                | >500       | 0.22 (0.36)   | 0 (0)           | A (A)        | 7 (22)         |  |  |  |  |
| SB | LR                                                | >200       | 0.32 (0.39)   | 18 (27)         | C (D)        | 23 (26)        |  |  |  |  |
|    |                                                   | Broadview  | Drive at Amhe | erst Street (Un | signalized)  |                |  |  |  |  |
| EB | LR                                                | >250       | 0.01 (0.01)   | 9 (9)           | A (A)        | 9 (9)          |  |  |  |  |
| NB | LT                                                | >75        | 0.01 (0.03)   | 1 (2)           | A (A)        | <7 (7)         |  |  |  |  |
| SB | TR                                                | >450       | 0.06 (0.04)   | 0 (0)           | A (A)        | <7 (<7)        |  |  |  |  |
|    | Broadview Drive at Chippewa Street (Unsignalized) |            |               |                 |              |                |  |  |  |  |
| EB | TR                                                | 350        | 0.07 (0.04)   | 0 (0)           | A (A)        | <7 (<7)        |  |  |  |  |
| WB | LT                                                | 350        | 0.02 (0.02)   | 4 (3)           | A (A)        | <7 (<7)        |  |  |  |  |
| NB | LR                                                | >500       | 0.09 (0.07)   | 9 (9)           | A (A)        | 14 (13)        |  |  |  |  |
|    |                                                   |            |               |                 |              | ecend: AM (PM) |  |  |  |  |

Legend: AM (PM)

During the PM peak hour, Goulais Avenue and Second Line West intersection is expected to operate over capacity. The results indicate that all movements are expected to operate at an acceptable level of service except for the following movements at Goulais Avenue and Second Line West:

- > Westbound Through-Right (v/c ratio of 1.12 and LOS F during PM peak hour).
- Southbound Left (v/c ratio of 1.04 & 1.14 and LOS F during AM & PM peak hours respectively).

All 95<sup>th</sup> percentile turning movement queues are expected to be able to be accommodated within the existing storage capacity. However, 95<sup>th</sup> percentile westbound through/right queue at Goulais Avenue and Second Line West is expected to extend well past the Edison Avenue intersection during the PM peak hour.

### 5.4.1 2035 Total Traffic Mitigation Measures

Goulais Avenue at Second Line West intersection is expected to experience long delays and capacity issues that occur during the AM and PM peak hours. To address these issues, the cycle length was increased to 110 seconds for the AM peak hour, 140 seconds for the PM peak hour. The traffic operational results for the 2035 future total scenario with updated signal timings and cycle length is summarized in **Table 13**. Synchro and SimTraffic outputs are available in **Appendix J**.



| Direc  | tion /     | Storage    | v/c                  | Delay         | LOS         | 95% <sup>ile</sup> Queue |  |
|--------|------------|------------|----------------------|---------------|-------------|--------------------------|--|
| Move   | ement      | (m)        |                      | <b>,</b>      |             | (m)                      |  |
|        |            | Goulais Av | venue at Seco        | ond Line W (S | Signalized) |                          |  |
| EB     | L          | 75         | 0.24 (0.42)          | 15 (32)       | B (C)       | 31 (24)                  |  |
| ED     | TR         | >500       | 0.26 (0.31)          | 14 (17)       | B (B)       | 44 (52)                  |  |
| WB     | L          | >950       | 0.11 (0.42)          | 19 (26)       | B (C)       | 17 (106)                 |  |
| VVD    | TR         | >950       | 0.64 ( <b>1.01</b> ) | 28 (70)       | C (E)       | 93 (284)                 |  |
| NB     | L          | 45         | 0.11 (0.33)          | 38 (52)       | D (D)       | 26 (57)                  |  |
| IND    | TR         | >250       | 0.74 (0.86)          | 51 (78)       | D (E)       | 68 (122)                 |  |
| SB     | L          | >250       | 0.85 (0.94)          | 46 (71)       | D (E)       | 71 (93)                  |  |
| 30     | TR         | >250       | 0.37 (0.47)          | 27 (36)       | C (D)       | 56 (81)                  |  |
| Inters | section Su | mmary      | 0.73 (0.98)          | 30 (51)       | C (D)       | -                        |  |
|        |            |            |                      |               |             |                          |  |

#### Table 13: 2035 Future Total Traffic Operations – Updated Signal Timing

Legend: AM (PM)

The results indicate that all movements are operating at an acceptable level of service for the AM peak hour. During the PM peak hour, the intersection is projected to operate slightly below capacity. Delays for both critical movements have greatly improved, and v/c ratios are now at or below capacity. The 95<sup>th</sup> percentile queues for the westbound movements have also been significantly reduced with the updated signal timing plan.

### 6. Auxiliary Lanes Review

To help address long PM peak hour at Goulais Avenue and Second Line West, westbound through/right queues that were shown to begin in the 2032 future background scenario and extend over 200 metres to the Walters Street intersection, a westbound right auxiliary lane may be considered. However, it should be noted that the City is expected to implement a road diet on Goulais Avenue. The results from the traffic impacts from the road diet should be analyzed before considering any auxiliary lanes to address the background traffic volume queues.



### 7. Conclusion

Based on the analysis results, the following conclusions can be made:

### **Existing Conditions**

- The analysis results indicate that all movements at study intersections are operating with acceptable level of service and residual capacity during the weekday AM and PM peak hours.
- > A pattern of westbound vehicles in the afternoon involved in rear end collisions was identified. This may be attributed to long queues and delay for the existing westbound traffic. Recommend the City monitor volumes and optimize the signal timing plan to reduce queues and delays.
- > The sightline assessment did not reveal any obstructions. Sight distance meets recommended intersection sight distance.

### Future Background Conditions

- The analysis results indicate that all movements at study intersections are expected to operate with acceptable level of service and residual capacity during the weekday AM and weekday PM peak hours under both future 2032 and 2035 background conditions.
- The 95<sup>th</sup> percentile westbound through/right queue (320 metres) at Goulais Avenue and Second Line West is expected to extend well past the Walters Street intersection during the PM peak hour.

### Trip Generation

- Parcel A of the subject site is expected to generate 81 new auto trips during the weekday AM peak hour and 112 new auto trips during the weekday PM peak hour.
- Parcel B and Parcel of the subject site is expected to generate 152 new auto trips during the weekday AM peak hour and 181 new auto trips during the weekday PM peak hour.

### Future Total Conditions

- > Under future 2032, 2035 total conditions, the traffic operational analysis results indicate that all movements at study intersections are expected to operate with an acceptable LOS D or better with updated signal timing plan; and
- At Goulais Avenue and Second Line West, the 95<sup>th</sup> percentile queue lengths during the weekday AM can be accommodated by existing storage capacity.
- > At Goulais Avenue and Second Line West, the 95<sup>th</sup> percentile queue lengths during the weekday PM peak hour is expected to extend past Walters Avenue. However, by updating the signal timing plan queue length were reduced from 320 metres for 2035 future background, to 284 metres for 2035 future total.





# Appendix A Terms of Reference Document







March 27, 2023

Maggie McAuley, P.Eng. Municipal Services Engineer City of Sault Ste. Marie 99 Foster Drive, Sault Ste. Marie

# Attention: Maggie McAuley, P.Eng.

RE: Terms of Reference for the Preparation of a Traffic Impact Study – 0 Chippewa Avenue

Dear Maggie

As part our collaboration with Kresin Engineering Corp. we would like to present for your consideration the following Terms of Reference for the completion of a Traffic Impact Study supporting the development of 0 Chippewa Avenue. The outline of this document follows standard practices for the preparation of Traffic Impact Studies, but please let us know if an outline specific to the City should be followed.

# **Background and Understanding**

We were advised that Kresin Engineering's client is planning the development of a 374-unit mixed use development at Chippewa Street with a direct access to Chippewa Street, Atwater Street, and Amherst Street (**Figure 1**).

Based on the information provided we understand that the developer already engaged the City of Sault Ste. Marie and due to the location of the proposed development the preparation of a Traffic Impact Study that complies with the requirements of the City needs to be completed.

We also understand that the City does not have a formal Traffic Impact Study Guidelines and as such, we are presenting for your consideration this Terms of Reference to ensure that all concerns are identified in advance of the preparation of the Traffic Impact Study.

Based on the location of the proposed development and the information provided by our client it is our understanding that the TIS will not be circulated to any other road authority aside of the City for review.

# **Terms of Reference**

## **Task 1: Pre-Consultation Teleconference Meeting with MTO**

CIMA+ will attend a pre-submission consultation (virtual) meeting with the City to review and approve the scope of work and discuss any project-specific concerns, as well as verify the availability of data required to complete the review.



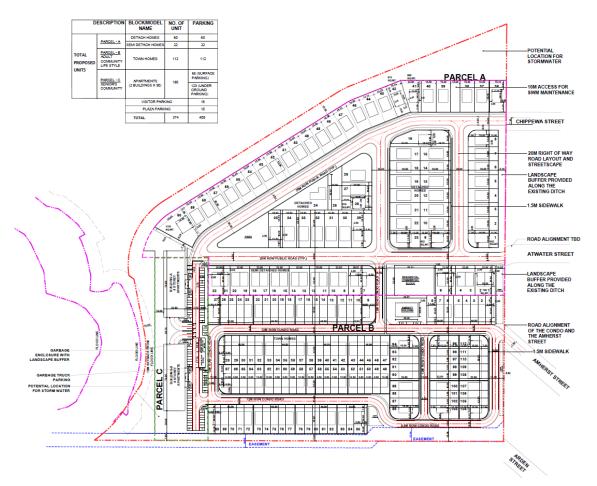


Figure 1 Proposed Development – 0 Chippewa Avenue

## Task 2: Review of Background Information and Estimation of Volumes

CIMA+ will review all relevant background information related to the proposed development and estimated traffic volumes at the proposed accesses. In order to complete this task, it is expected that availability of the following information will be discussed/confirmed as part of the pre-consultation teleconference with the City.

- Turning movement counts (TMC), signal timing data, historical and recent AADT volume information for the following roads:
  - Chippewa Street and Goulais Avenue
  - Atwater Street and Broadview Drive
  - Rushmere Drive and Goulais Avenue
  - Arden Street and Second Line West, and
  - Goulais Avenue and Second Line West
- Collision records for the past 5 years;
- Lot area and type of development (number, type and size of units, GFA of commercial development, etc.).
- Opening year (if multiple phases, opening year of each phase); and

## Page 2 Page 470 of 904



## **Task 3: Sight Distance Assessment and Field Review**

Although the proposed accesses are assumed to front existing roadways (Chippewa Street, Atwater Street and Amherst Street) – CIMA+ will rely on information collected by Kresin Engineering during a site visit to assess sight distances at the proposed site accesses.

### Task 4: Trip Generation, Distribution, Assignment & Traffic Control Assessment

CIMA+ will undertake trip generation calculations, distribution and assignment for the proposed development based on the information to be provided by the developer. Trip generation will be conducted using the Institute of Transportation (ITE) Trip Generation manual, 10th edition.

CIMA+ will evaluate necessary changes to the existing control at the aforementioned intersections of Goulais Avenue and Second Line West. Similarly, the potential effects on the existing traffic control, auxiliary lanes, and tapers at the aforementioned intersections will be identified. The traffic control assessment will consider the increased volume of traffic associated with the proposed development and the surrounding area for the future horizon of 5 years from the date of the TIS. A growth rate for future background traffic of 1% is expected to be confirmed during our discussion with the City.

Considerations for other modes of transportation as well as the use of Traffic Demand Management will be included as part of our analysis.

#### **Task 5: Review for Additional Roadway Improvements**

CIMA+ will evaluate the need for any improvements at the aforementioned intersections in accordance with the TAC Road Design Guide, and other applicable City design standards.

#### **Task 6: Prepare Draft and Final TIS Report**

CIMA+ will prepare a draft report summarizing Tasks 2 through 5 that will be submitted to the City for formal approval. Any comments provided by the City will be addressed as part of the Final TIS Report.

It is assumed that the design of any necessary improvements to support the City's approval will be conducted as part of the next phase of the development approval process.

#### Closing

Should you have any questions or concerns regarding this Terms of Reference, do not hesitate to contact the undersigned.

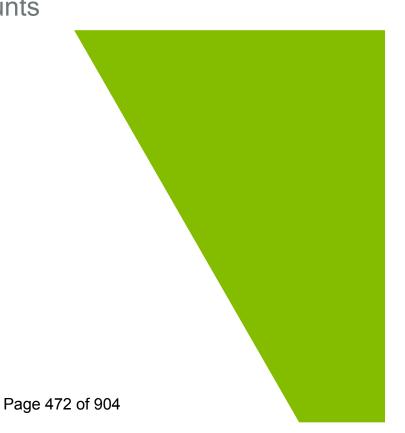
Sincerely,

CIMA Canada Inc.

Jaime Garcia, P.Eng., Ph.D. Senior Project Manager, Transportation jaime.garcia@cima.ca

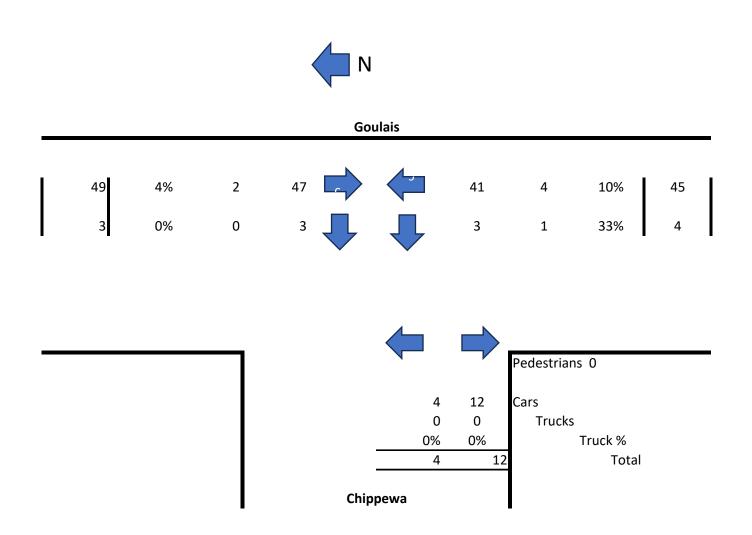


# Appendix B Turning Movement Counts

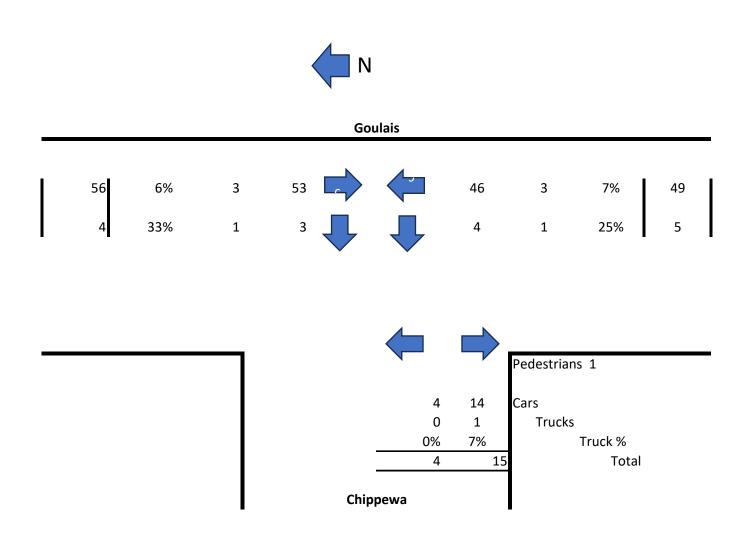




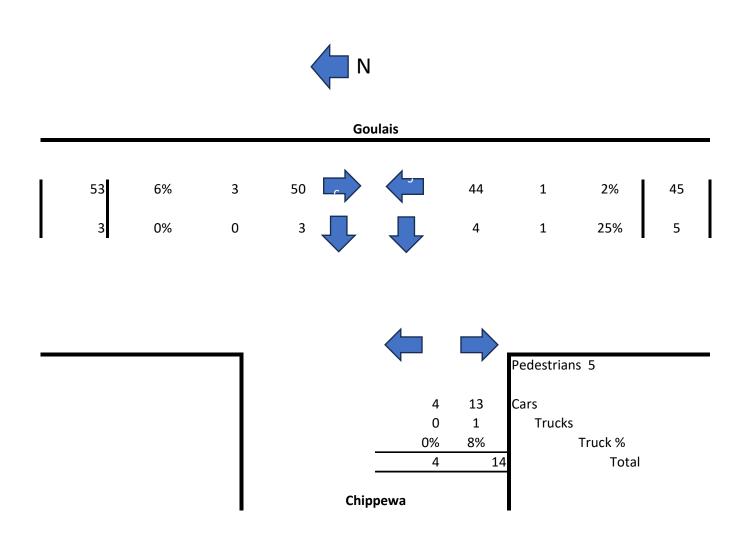
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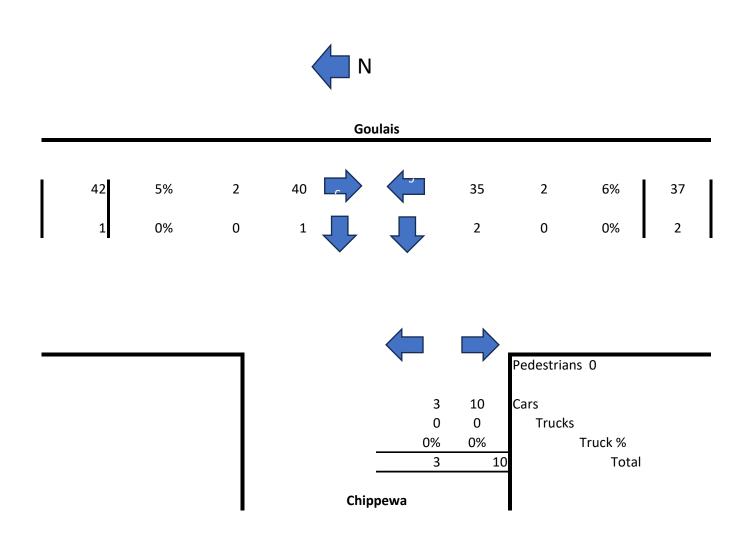
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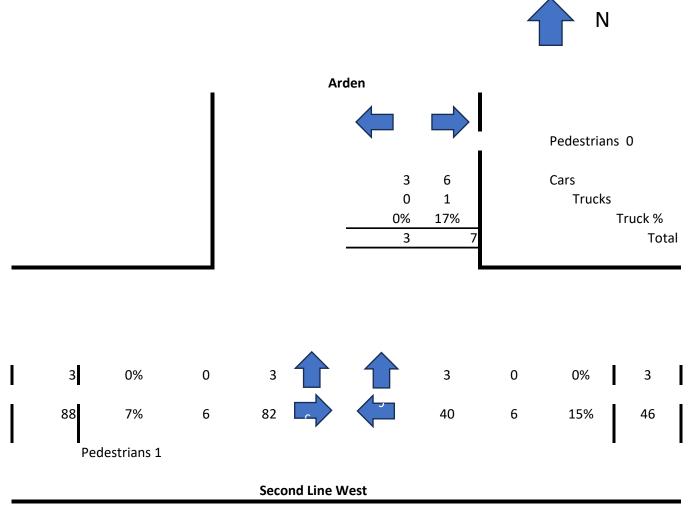
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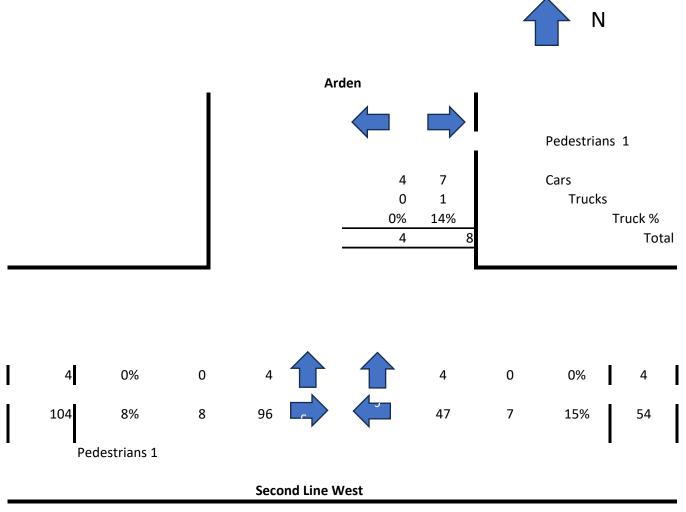
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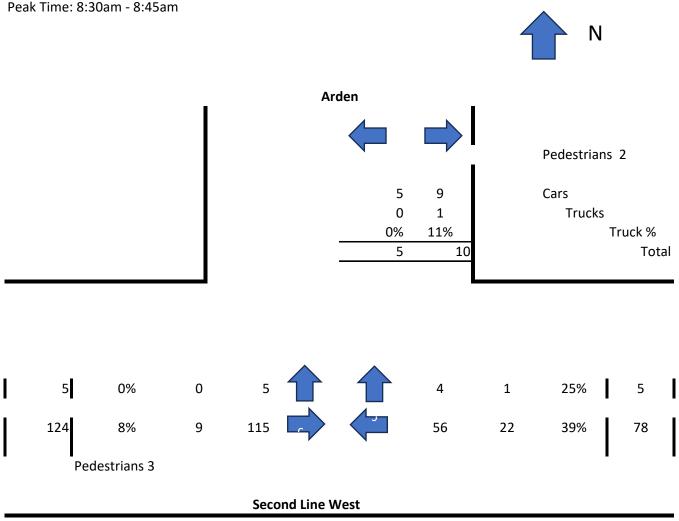
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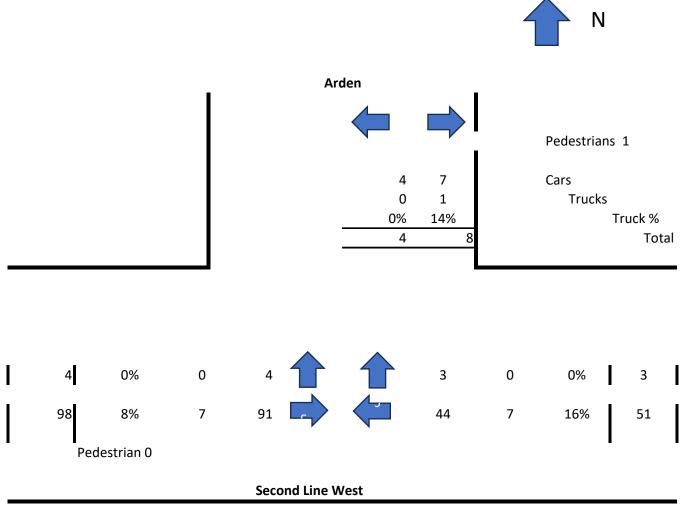
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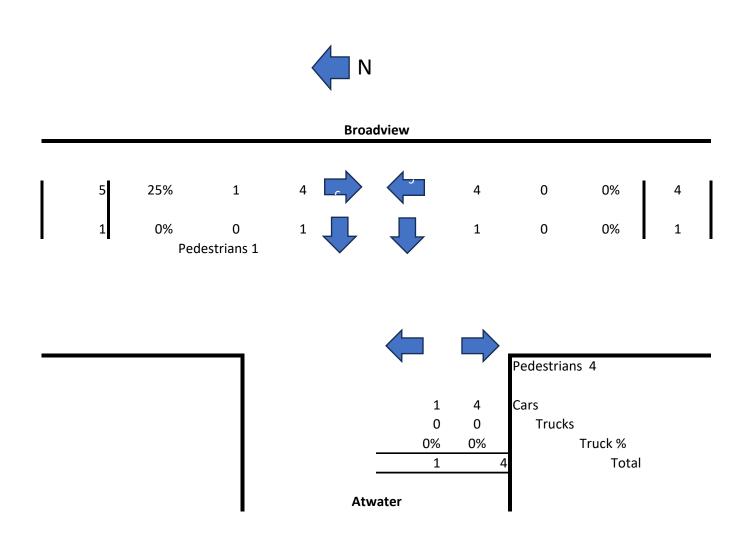
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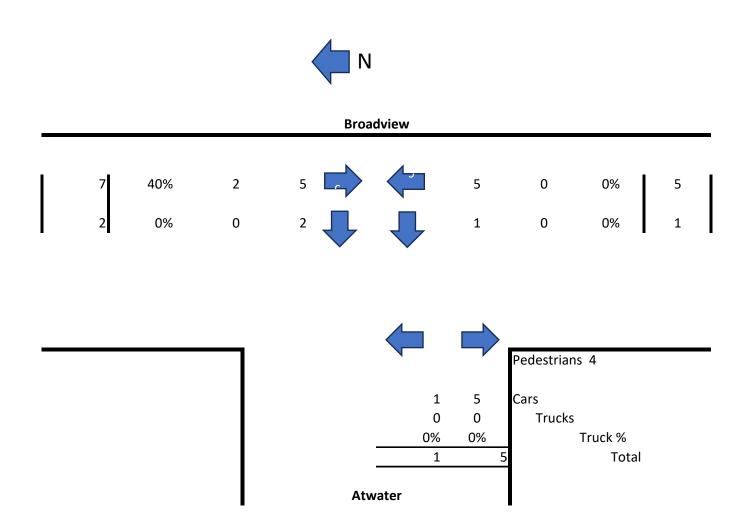
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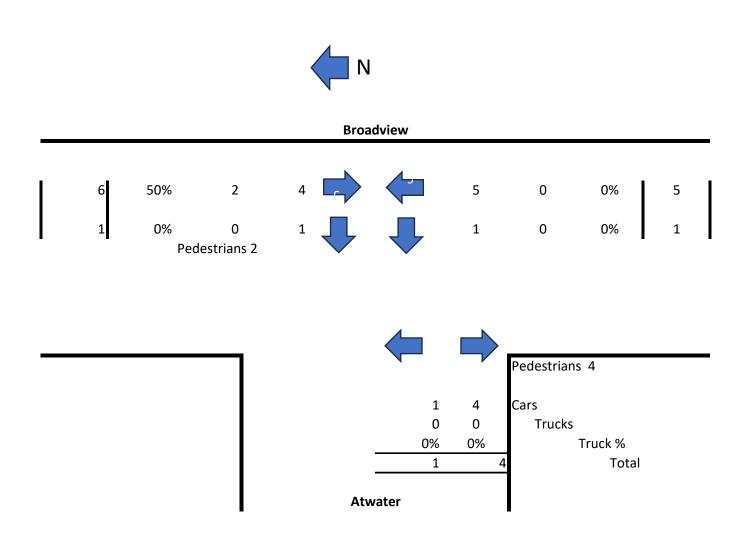
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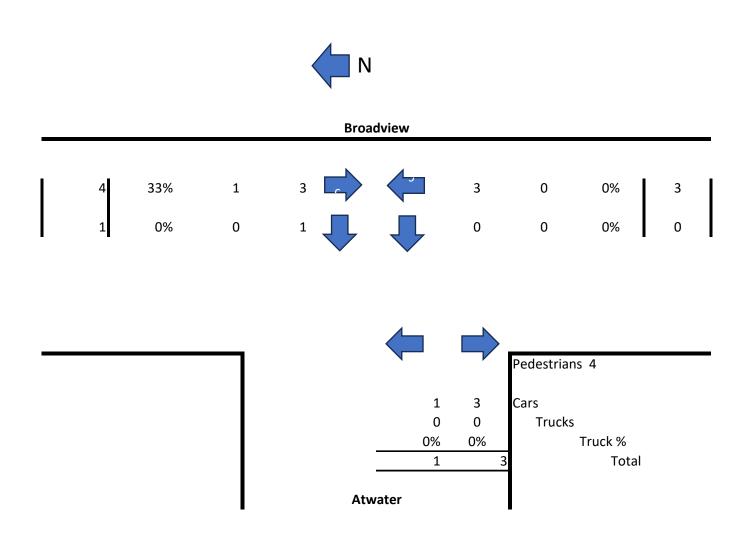
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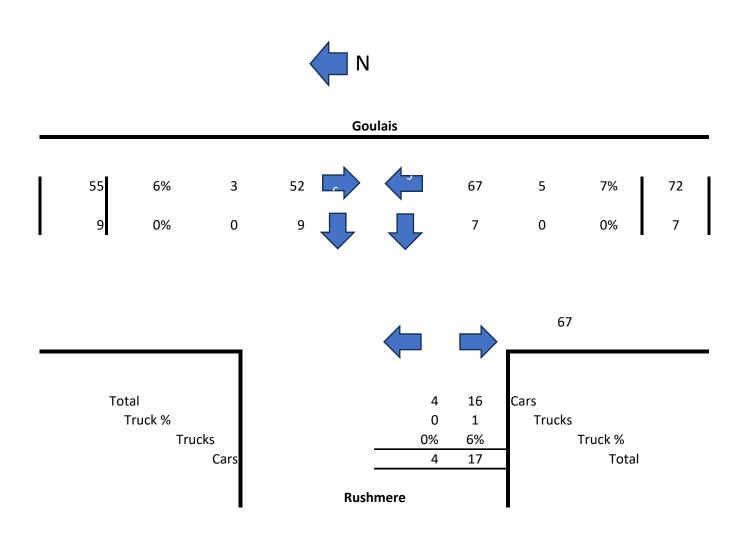
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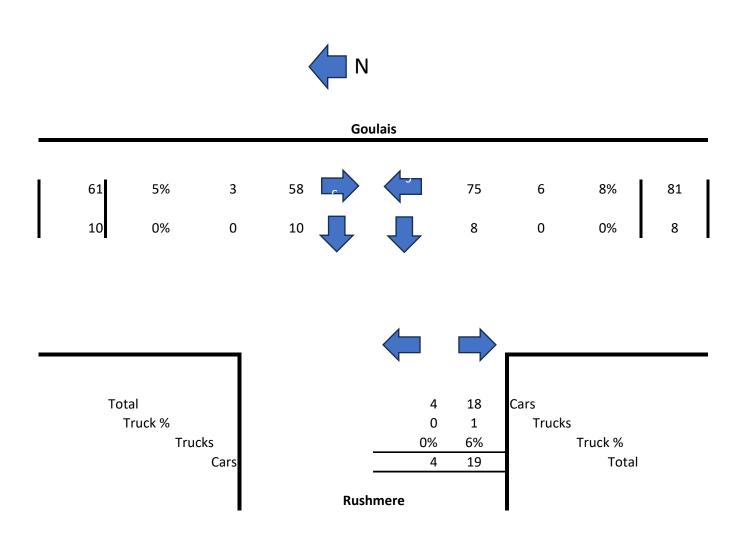
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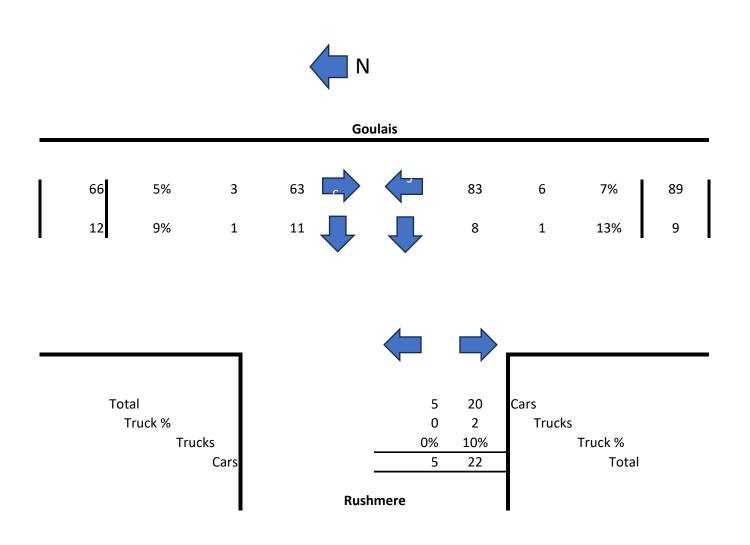
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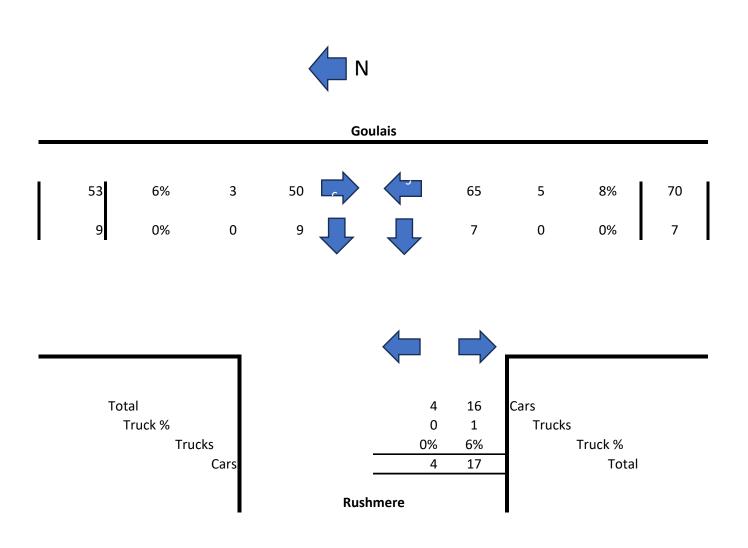
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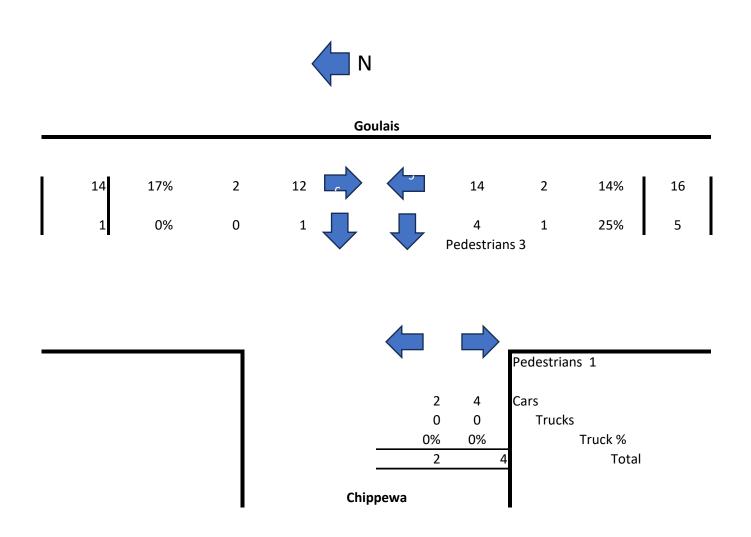
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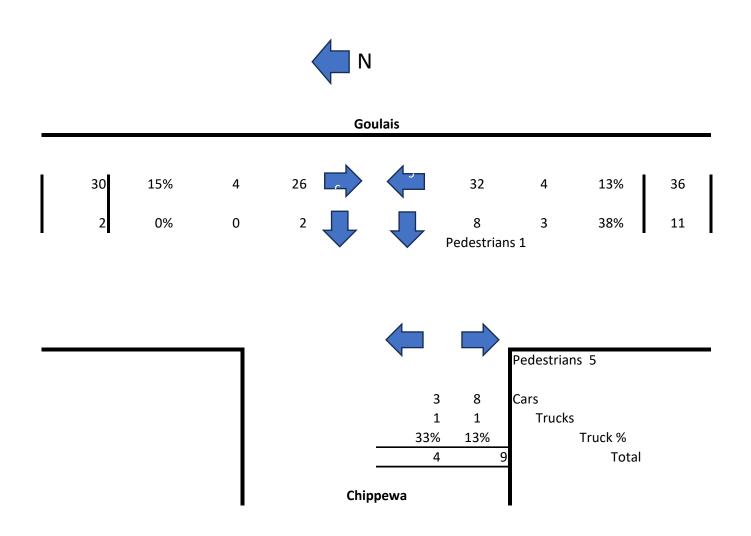
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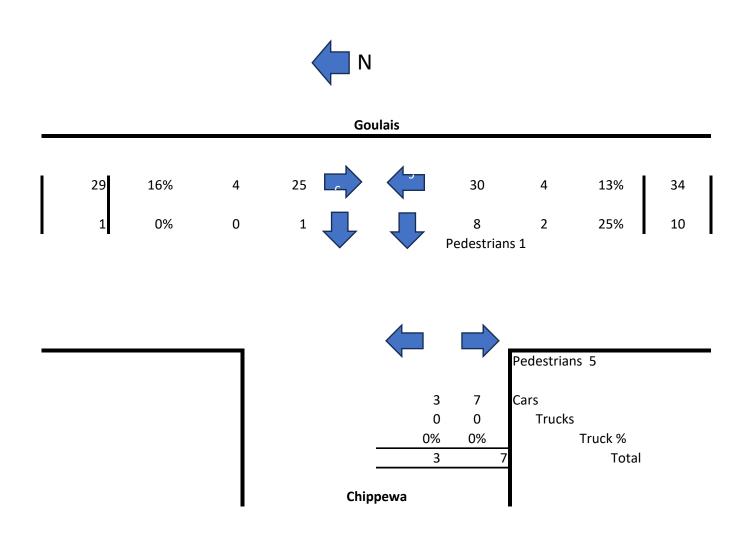
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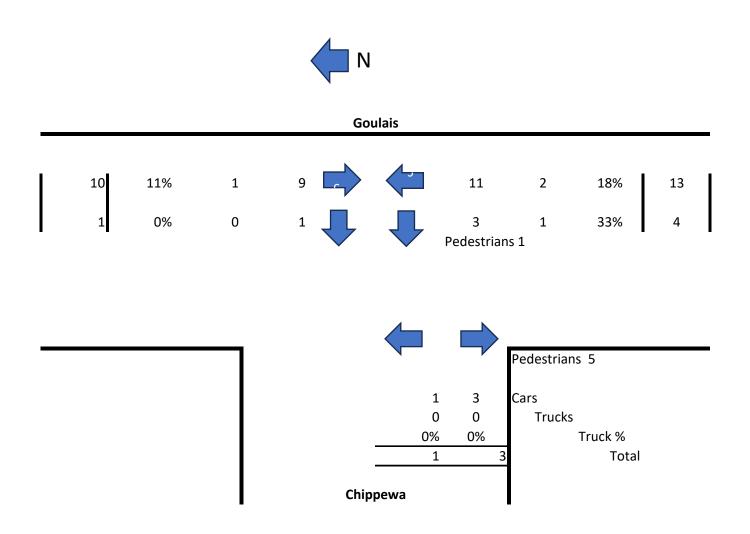
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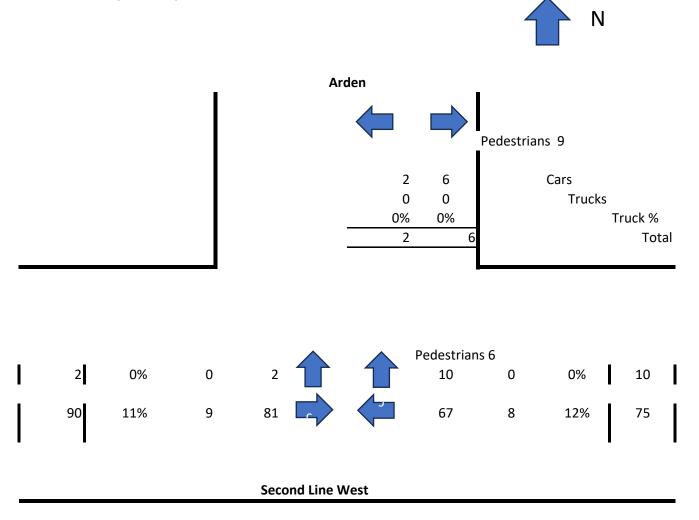
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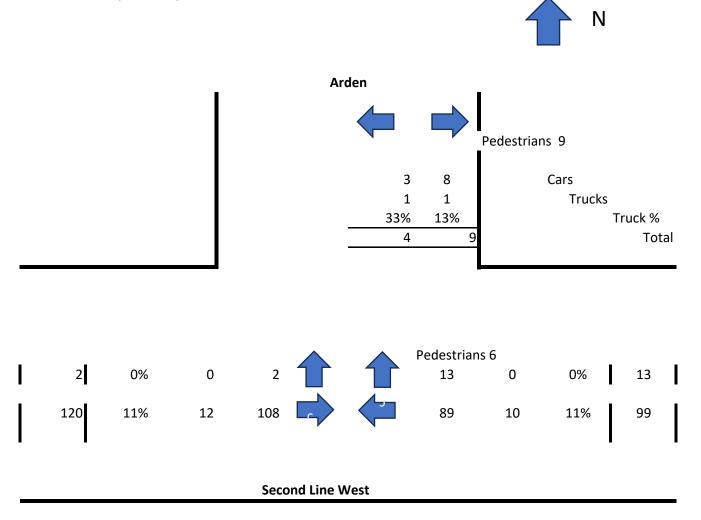
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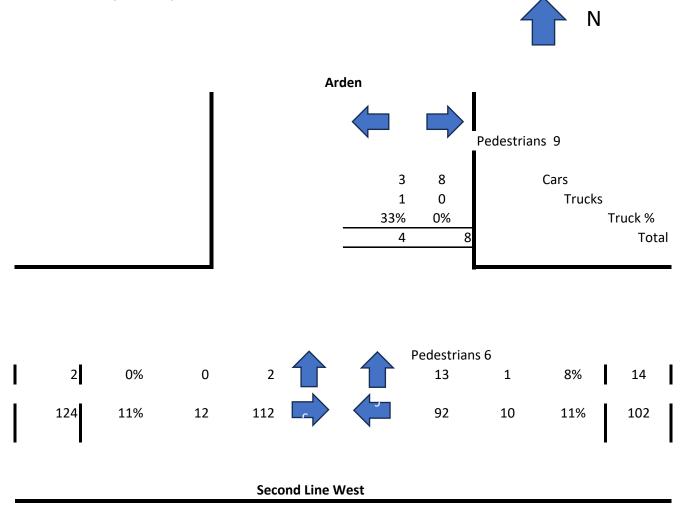
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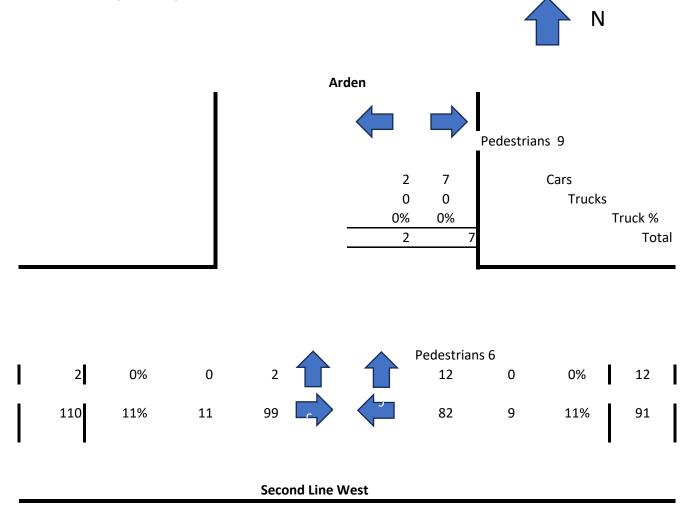
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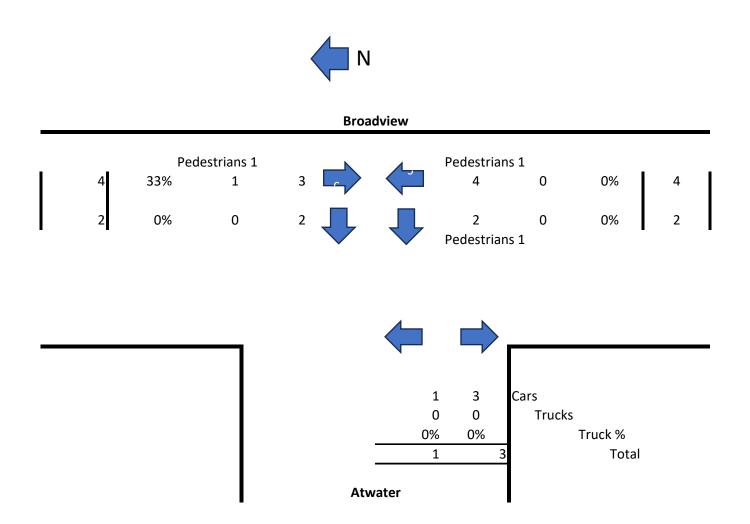
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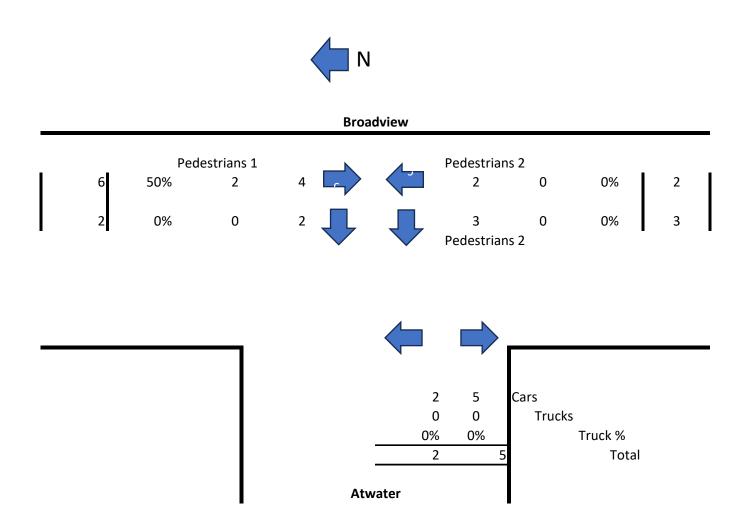
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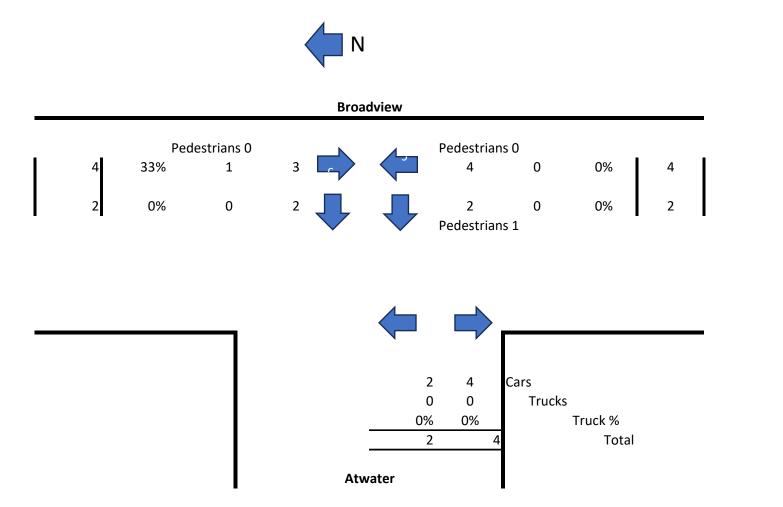
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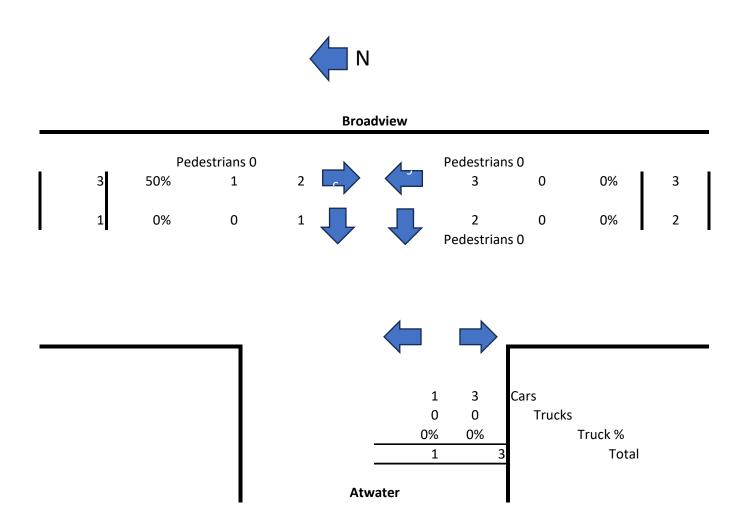
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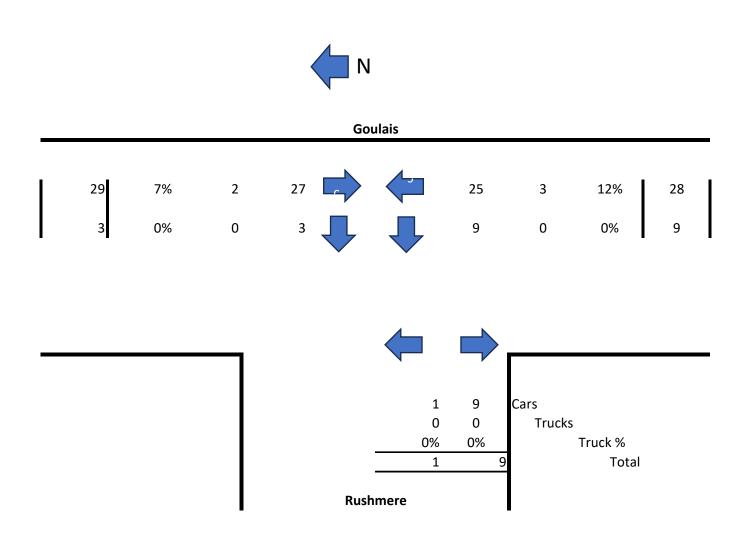
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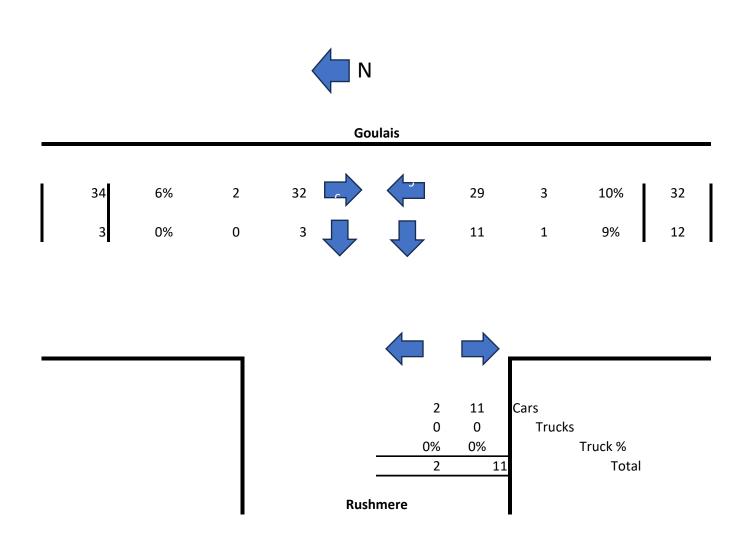
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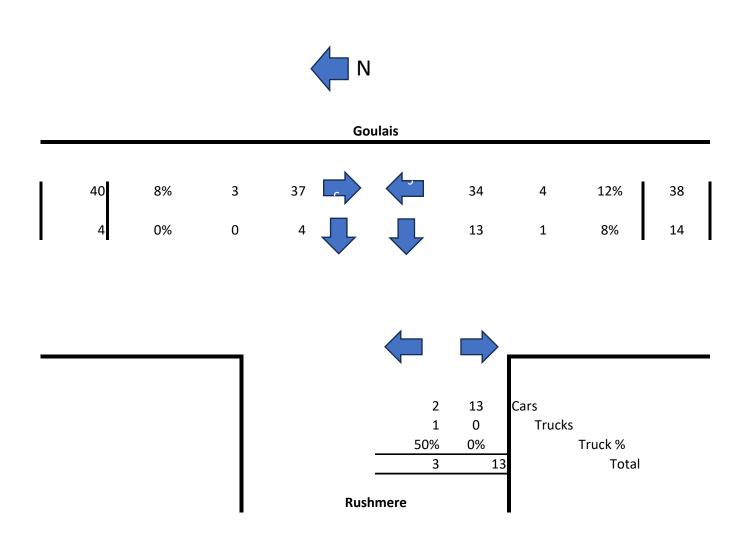
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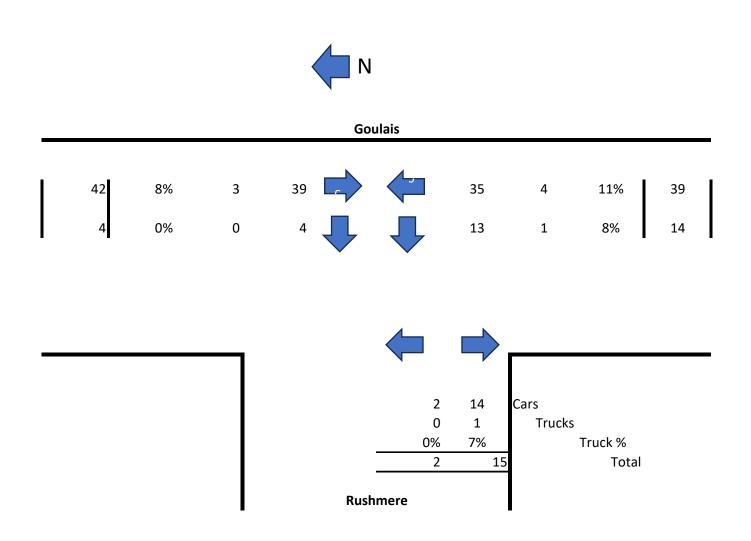
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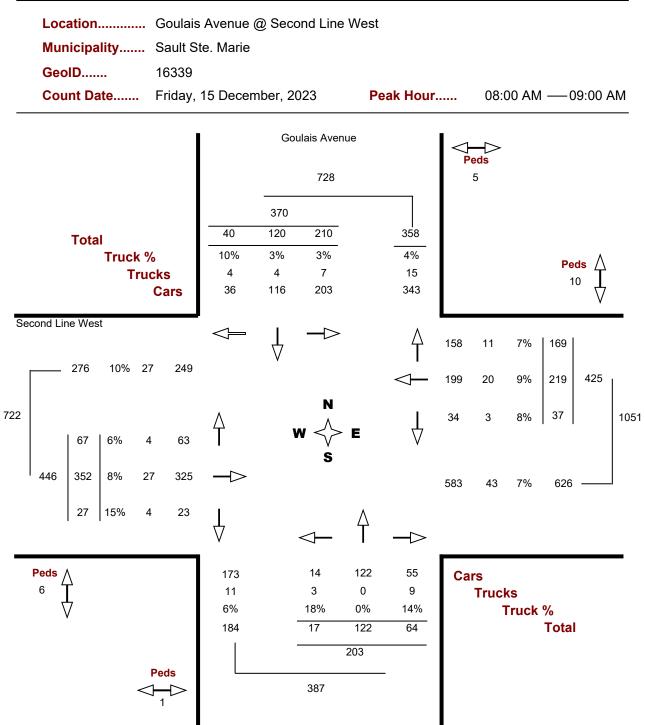
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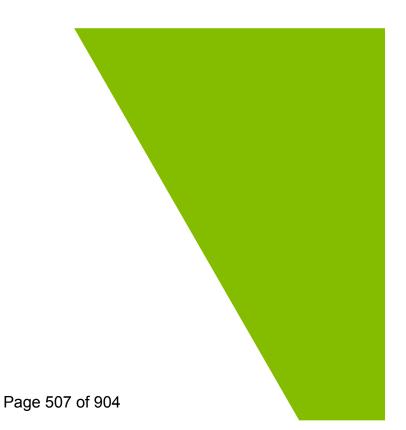




|                                                                                                | Avenue (<br>te. Marie | @ Second L                                          | ine West.                    |                        |                 |                         |        |
|------------------------------------------------------------------------------------------------|-----------------------|-----------------------------------------------------|------------------------------|------------------------|-----------------|-------------------------|--------|
| Count Date Friday,                                                                             | 15 Decen              | nber, 2023                                          | P                            | eak Hour.              | 02              | 2:30 PM — 03:30         | PM     |
|                                                                                                |                       | Goulais A                                           | Avenue<br>35                 |                        | Peds<br>17      | >                       |        |
| Total<br>Truck %<br>Trucks<br>Cars                                                             | 57<br>7%<br>4<br>53   | 438<br>170 21<br>3% 3 <sup>4</sup><br>5 7<br>165 20 | ,                            | 297<br>3%<br>10<br>287 |                 | Peds<br>21              | ۸<br>7 |
| Second Line West                                                                               |                       | $\frac{1}{1}$                                       | $\geq$                       | ∆<br>T<br>⊲—           | 142 6<br>469 22 | 4% 148<br>4% 491 772    |        |
| 109                                                                                            | Δ<br>Τ                | <b>W</b> <                                          | N<br>S<br>E                  | $\downarrow$           | 131 2           | 2% 133                  | 15     |
| 513         441         3%         14         427           32         0%         0         32 |                       | <                                                   | – Å                          |                        | 712 30          | ) 4% 742 —              |        |
| Peds A<br>12 V                                                                                 | 328<br>7<br>2%<br>335 | 46<br>2<br>4%<br>48                                 | 109<br>0<br>0%<br>109<br>247 | 81<br>9<br>10%<br>90   | Cars<br>Tru     | cks<br>Truck %<br>Total |        |
| Peds<br><→→<br>9                                                                               |                       | 582                                                 |                              | _                      |                 |                         |        |

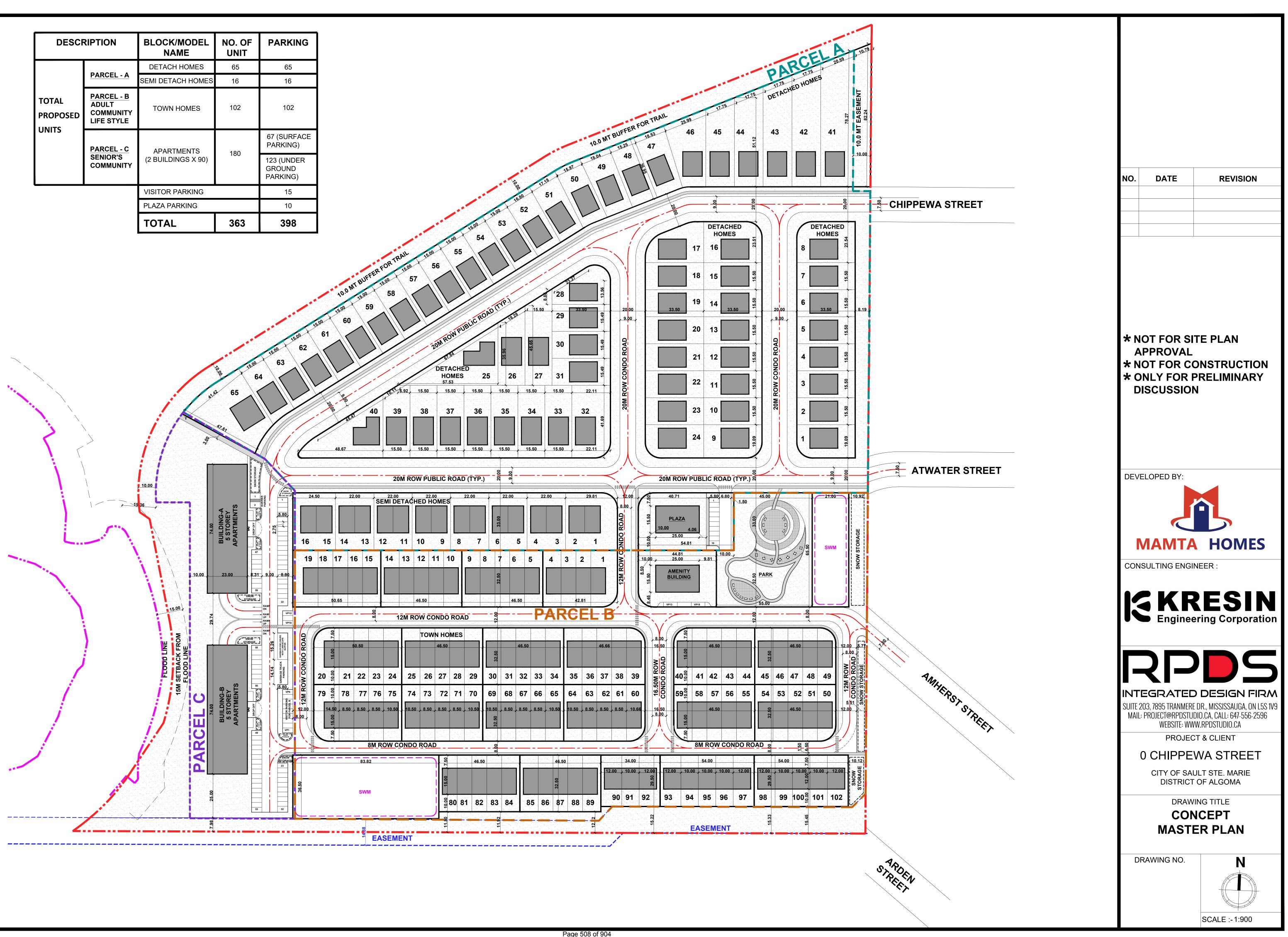


Appendix C Site Plan



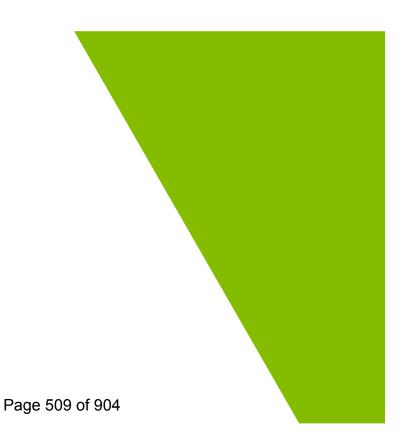


| DESCF             | RIPTION                                               | BLOCK/MODEL<br>NAME | NO. OF<br>UNIT | PARKING                          |
|-------------------|-------------------------------------------------------|---------------------|----------------|----------------------------------|
|                   |                                                       | DETACH HOMES        | 65             | 65                               |
|                   | PARCEL - A                                            | SEMI DETACH HOMES   | 16             | 16                               |
| TOTAL<br>PROPOSED | <u>PARCEL - B</u><br>ADULT<br>COMMUNITY<br>LIFE STYLE | TOWN HOMES          | 102            | 102                              |
| UNITS             | PARCEL - C                                            | APARTMENTS          | 180            | 67 (SURFACE<br>PARKING)          |
|                   | SENIOR'S<br>COMMUNITY                                 | (2 BUILDINGS X 90)  | 100            | 123 (UNDER<br>GROUND<br>PARKING) |
|                   |                                                       | VISITOR PARKING     |                | 15                               |
|                   |                                                       | PLAZA PARKING       |                | 10                               |
|                   |                                                       | TOTAL               | 363            | 398                              |





Appendix D Sightline Assessment





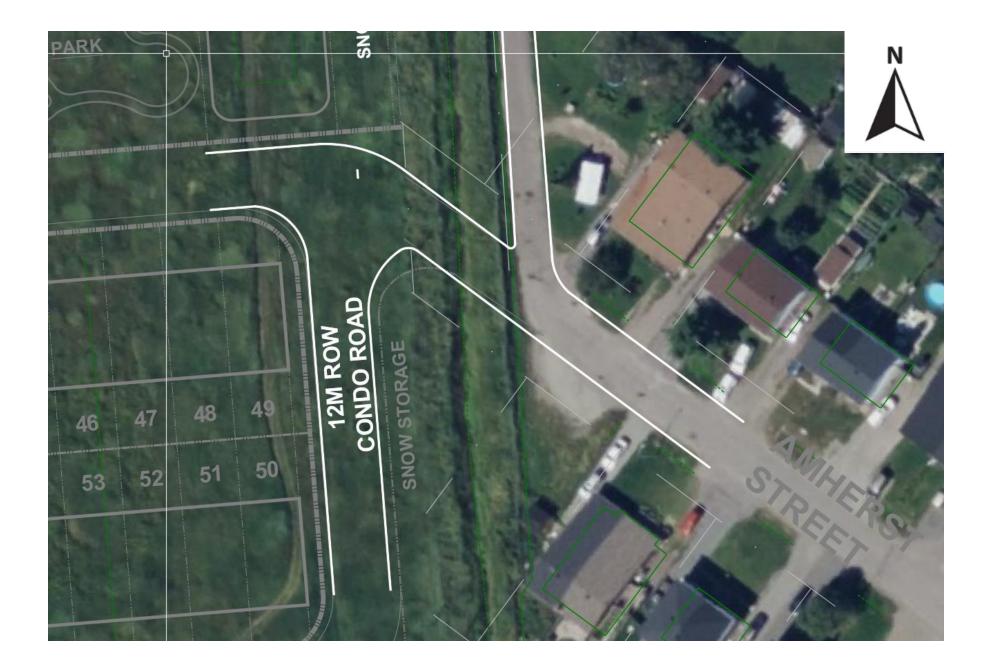




Photo Looking East

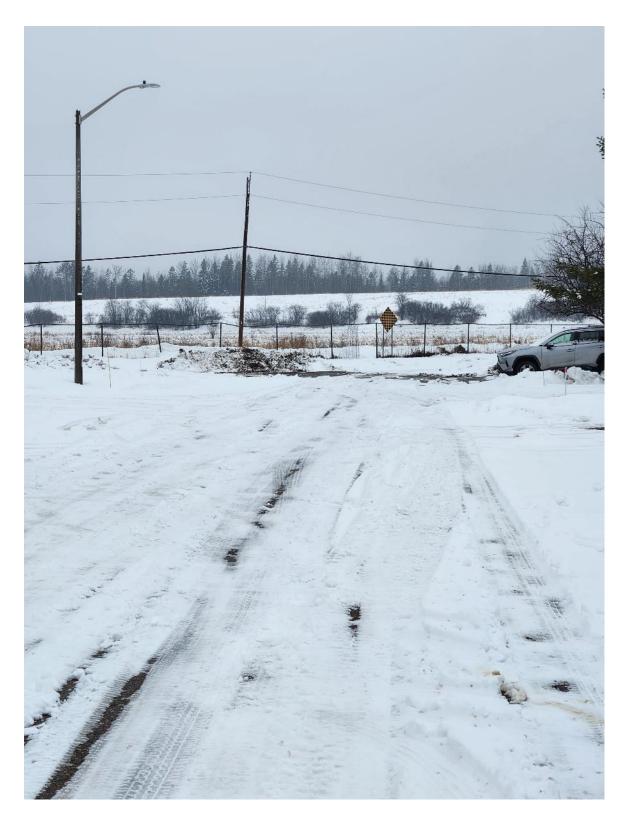


Photo Looking West



Photo Looking South



Photo Looking South from Lane



# Appendix E Existing Synchro and SimTraffic Outputs



## HCM Signalized Intersection Capacity Analysis 3: Goulais Ave & Second Line W

|                              |             |             |              |      |            |            |         |      |      |       | 02 2     | .0 2021 |
|------------------------------|-------------|-------------|--------------|------|------------|------------|---------|------|------|-------|----------|---------|
|                              | ٦           | -           | $\mathbf{r}$ | 4    | ←          | *          | 1       | Ť    | ۲    | 1     | Ļ        | ~       |
| Movement                     | EBL         | EBT         | EBR          | WBL  | WBT        | WBR        | NBL     | NBT  | NBR  | SBL   | SBT      | SBR     |
| Lane Configurations          | ľ           | <b>∱</b> î≽ |              | ľ    | ¢Î         |            | ľ       | ef 👘 |      | 1     | el<br>el |         |
| Traffic Volume (vph)         | 67          | 352         | 27           | 37   | 219        | 169        | 17      | 122  | 64   | 210   | 120      | 40      |
| Future Volume (vph)          | 67          | 352         | 27           | 37   | 219        | 169        | 17      | 122  | 64   | 210   | 120      | 40      |
| Ideal Flow (vphpl)           | 1900        | 1900        | 1900         | 1900 | 1900       | 1900       | 1900    | 1900 | 1900 | 1900  | 1900     | 1900    |
| Total Lost time (s)          | 4.0         | 7.0         |              | 7.0  | 7.0        |            | 6.0     | 6.0  |      | 4.0   | 6.0      |         |
| Lane Util. Factor            | 1.00        | 0.95        |              | 1.00 | 1.00       |            | 1.00    | 1.00 |      | 1.00  | 1.00     |         |
| Frpb, ped/bikes              | 1.00        | 1.00        |              | 1.00 | 0.99       |            | 1.00    | 0.99 |      | 1.00  | 0.99     |         |
| Flpb, ped/bikes              | 1.00        | 1.00        |              | 1.00 | 1.00       |            | 0.99    | 1.00 |      | 1.00  | 1.00     |         |
| Frt                          | 1.00        | 0.99        |              | 1.00 | 0.93       |            | 1.00    | 0.95 |      | 1.00  | 0.96     |         |
| Flt Protected                | 0.95        | 1.00        |              | 0.95 | 1.00       |            | 0.95    | 1.00 |      | 0.95  | 1.00     |         |
| Satd. Flow (prot)            | 1686        | 3367        |              | 1768 | 1686       |            | 1739    | 1746 |      | 1765  | 1763     |         |
| Flt Permitted                | 0.37        | 1.00        |              | 0.51 | 1.00       |            | 0.65    | 1.00 |      | 0.40  | 1.00     |         |
| Satd. Flow (perm)            | 659         | 3367        |              | 950  | 1686       |            | 1186    | 1746 |      | 749   | 1763     |         |
| Peak-hour factor, PHF        | 0.92        | 0.92        | 0.92         | 0.92 | 0.92       | 0.92       | 0.92    | 0.92 | 0.92 | 0.92  | 0.92     | 0.92    |
| Adj. Flow (vph)              | 73          | 383         | 29           | 40   | 238        | 184        | 18      | 133  | 70   | 228   | 130      | 43      |
| RTOR Reduction (vph)         | 0           | 5           | 0            | 0    | 25         | 0          | 0       | 25   | 0    | 0     | 16       | 0       |
| Lane Group Flow (vph)        | 73          | 407         | 0            | 40   | 397        | 0          | 18      | 178  | 0    | 228   | 157      | 0       |
| Confl. Peds. (#/hr)          | 5           |             | 1            | 1    |            | 5          | 6       |      | 10   | 10    |          | 6       |
| Heavy Vehicles (%)           | 7%          | 6%          | 5%           | 2%   | 5%         | 4%         | 3%      | 0%   | 7%   | 2%    | 2%       | 6%      |
| Turn Type                    | pm+pt       | NA          |              | Perm | NA         |            | Perm    | NA   |      | pm+pt | NA       |         |
| Protected Phases             | 5           | 2           |              |      | 6          |            |         | 8    |      | 7     | 4        |         |
| Permitted Phases             | 2           |             |              | 6    |            |            | 8       |      |      | 4     |          |         |
| Actuated Green, G (s)        | 49.6        | 49.6        |              | 40.0 | 40.0       |            | 16.4    | 16.4 |      | 27.4  | 27.4     |         |
| Effective Green, g (s)       | 49.6        | 49.6        |              | 40.0 | 40.0       |            | 16.4    | 16.4 |      | 27.4  | 27.4     |         |
| Actuated g/C Ratio           | 0.55        | 0.55        |              | 0.44 | 0.44       |            | 0.18    | 0.18 |      | 0.30  | 0.30     |         |
| Clearance Time (s)           | 4.0         | 7.0         |              | 7.0  | 7.0        |            | 6.0     | 6.0  |      | 4.0   | 6.0      |         |
| Vehicle Extension (s)        | 3.0         | 3.0         |              | 3.0  | 3.0        |            | 3.0     | 3.0  |      | 3.0   | 3.0      |         |
| Lane Grp Cap (vph)           | 427         | 1855        |              | 422  | 749        |            | 216     | 318  |      | 307   | 536      |         |
| v/s Ratio Prot               | 0.01        | c0.12       |              |      | c0.24      |            |         | 0.10 |      | c0.06 | 0.09     |         |
| v/s Ratio Perm               | 0.08        |             |              | 0.04 |            |            | 0.02    |      |      | c0.17 |          |         |
| v/c Ratio                    | 0.17        | 0.22        |              | 0.09 | 0.53       |            | 0.08    | 0.56 |      | 0.74  | 0.29     |         |
| Uniform Delay, d1            | 10.4        | 10.3        |              | 14.5 | 18.2       |            | 30.6    | 33.5 |      | 27.1  | 23.9     |         |
| Progression Factor           | 1.00        | 1.00        |              | 1.00 | 1.00       |            | 1.00    | 1.00 |      | 1.00  | 1.00     |         |
| Incremental Delay, d2        | 0.2         | 0.3         |              | 0.4  | 2.7        |            | 0.2     | 2.3  |      | 9.3   | 0.3      |         |
| Delay (s)                    | 10.6        | 10.6        |              | 14.9 | 20.8       |            | 30.7    | 35.8 |      | 36.4  | 24.2     |         |
| Level of Service             | В           | В           |              | В    | С          |            | С       | D    |      | D     | С        |         |
| Approach Delay (s)           |             | 10.6        |              |      | 20.3       |            |         | 35.4 |      |       | 31.1     |         |
| Approach LOS                 |             | В           |              |      | С          |            |         | D    |      |       | С        |         |
| Intersection Summary         |             |             |              |      |            |            |         |      |      |       |          |         |
| HCM 2000 Control Delay       |             |             | 22.2         | Н    | CM 2000    | Level of   | Service |      | С    |       |          |         |
| HCM 2000 Volume to Capa      | acity ratio |             | 0.62         |      |            |            |         |      |      |       |          |         |
| Actuated Cycle Length (s)    |             |             | 90.0         | S    | um of lost | t time (s) |         |      | 21.0 |       |          |         |
| Intersection Capacity Utiliz | ation       |             | 77.3%        | IC   | U Level    | of Service | •       |      | D    |       |          |         |
| Analysis Period (min)        |             |             | 15           |      |            |            |         |      |      |       |          |         |
| c Critical Lane Group        |             |             |              |      |            |            |         |      |      |       |          |         |

c Critical Lane Group

Exisiting Conditions AM Model 11:50 pm 01-09-2024 Exisiting Conditions

|                               | ۶     | $\mathbf{i}$ | •            | 1    | Ŧ          | ∢           |   |  |
|-------------------------------|-------|--------------|--------------|------|------------|-------------|---|--|
| Movement                      | EBL   | EBR          | NBL          | NBT  | SBT        | SBR         |   |  |
| Lane Configurations           | Y     |              |              | નુ   | 4          |             |   |  |
| Traffic Volume (veh/h)        | 4     | 16           | 3            | 17   | 22         | 5           |   |  |
| Future Volume (Veh/h)         | 4     | 16           | 3            | 17   | 22         | 5           |   |  |
| Sign Control                  | Stop  |              |              | Free | Free       |             |   |  |
| Grade                         | 0%    |              |              | 0%   | 0%         |             |   |  |
| Peak Hour Factor              | 1.00  | 0.80         | 0.75         | 0.85 | 0.79       | 0.63        |   |  |
| Hourly flow rate (vph)        | 4     | 20           | 4            | 20   | 28         | 8           |   |  |
| Pedestrians                   | 3     |              |              | 16   | 16         |             |   |  |
| Lane Width (m)                | 3.6   |              |              | 3.6  | 3.6        |             |   |  |
| Walking Speed (m/s)           | 1.2   |              |              | 1.2  | 1.2        |             |   |  |
| Percent Blockage              | 0     |              |              | 1    | 1          |             |   |  |
| Right turn flare (veh)        |       |              |              |      |            |             |   |  |
| Median type                   |       |              |              | None | None       |             |   |  |
| Median storage veh)           |       |              |              |      |            |             |   |  |
| Upstream signal (m)           |       |              |              |      |            |             |   |  |
| pX, platoon unblocked         |       |              |              |      |            |             |   |  |
| vC, conflicting volume        | 79    | 51           | 39           |      |            |             |   |  |
| vC1, stage 1 conf vol         |       |              |              |      |            |             |   |  |
| vC2, stage 2 conf vol         |       |              |              |      |            |             |   |  |
| vCu, unblocked vol            | 79    | 51           | 39           |      |            |             |   |  |
| tC, single (s)                | 6.6   | 6.2          | 4.1          |      |            |             |   |  |
| tC, 2 stage (s)               |       |              |              |      |            |             |   |  |
| tF (s)                        | 3.7   | 3.3          | 2.2          |      |            |             |   |  |
| p0 queue free %               | 100   | 98           | 100          |      |            |             |   |  |
| cM capacity (veh/h)           | 854   | 1007         | 1580         |      |            |             |   |  |
| Direction, Lane #             | EB 1  | NB 1         | SB 1         |      |            |             |   |  |
| Volume Total                  | 24    | 24           | 36           |      |            |             |   |  |
| Volume Left                   | 4     | 4            | 0            |      |            |             |   |  |
| Volume Right                  | 20    | 0            | 8            |      |            |             |   |  |
| cSH                           | 977   | 1580         | 1700         |      |            |             |   |  |
| Volume to Capacity            | 0.02  | 0.00         | 0.02         |      |            |             |   |  |
| Queue Length 95th (m)         | 0.6   | 0.1          | 0.0          |      |            |             |   |  |
| Control Delay (s)             | 8.8   | 1.2          | 0.0          |      |            |             |   |  |
| Lane LOS                      | A     | A            | 0.0          |      |            |             |   |  |
| Approach Delay (s)            | 8.8   | 1.2          | 0.0          |      |            |             |   |  |
| Approach LOS                  | A     | 1.2          | 0.0          |      |            |             |   |  |
| Intersection Summary          |       |              |              |      |            |             |   |  |
| Average Delay                 |       |              | 2.9          |      |            |             |   |  |
| Intersection Capacity Utiliza | ation |              | 2.9<br>18.4% | IC   | CU Level o | of Sonvice  | A |  |
|                               | auon  |              |              | IC   | O Level (  | JI SEI VICE | A |  |
| Analysis Period (min)         |       |              | 15           |      |            |             |   |  |

|                                | ٦    | $\mathbf{\hat{z}}$ | •     | t    | ţ          | ∢         |   |
|--------------------------------|------|--------------------|-------|------|------------|-----------|---|
| Movement                       | EBL  | EBR                | NBL   | NBT  | SBT        | SBR       |   |
| Lane Configurations            | Y    |                    |       | 412  | ef 🗧       |           |   |
| Traffic Volume (veh/h)         | 15   | 51                 | 16    | 176  | 200        | 11        |   |
| Future Volume (Veh/h)          | 15   | 51                 | 16    | 176  | 200        | 11        |   |
| Sign Control                   | Stop |                    |       | Free | Free       |           |   |
| Grade                          | 0%   |                    |       | 0%   | 0%         |           |   |
| Peak Hour Factor               | 0.94 | 0.85               | 0.80  | 0.90 | 0.89       | 0.69      |   |
| Hourly flow rate (vph)         | 16   | 60                 | 20    | 196  | 225        | 16        |   |
| Pedestrians                    | 6    |                    |       | 6    | 6          |           |   |
| Lane Width (m)                 | 3.6  |                    |       | 3.6  | 3.6        |           |   |
| Walking Speed (m/s)            | 1.2  |                    |       | 1.2  | 1.2        |           |   |
| Percent Blockage               | 1    |                    |       | 1    | 1          |           |   |
| Right turn flare (veh)         |      |                    |       |      |            |           |   |
| Median type                    |      |                    |       | None | None       |           |   |
| Median storage veh)            |      |                    |       |      |            |           |   |
| Upstream signal (m)            |      |                    |       |      |            |           |   |
| pX, platoon unblocked          |      |                    |       |      |            |           |   |
| vC, conflicting volume         | 383  | 245                | 247   |      |            |           |   |
| vC1, stage 1 conf vol          |      |                    |       |      |            |           |   |
| vC2, stage 2 conf vol          |      |                    |       |      |            |           |   |
| vCu, unblocked vol             | 383  | 245                | 247   |      |            |           |   |
| tC, single (s)                 | 6.8  | 7.0                | 4.6   |      |            |           |   |
| tC, 2 stage (s)                |      |                    |       |      |            |           |   |
| tF (s)                         | 3.5  | 3.3                | 2.4   |      |            |           |   |
| p0 queue free %                | 97   | 92                 | 98    |      |            |           |   |
| cM capacity (veh/h)            | 582  | 742                | 1170  |      |            |           |   |
| Direction, Lane #              | EB 1 | NB 1               | NB 2  | SB 1 |            |           |   |
| Volume Total                   | 76   | 85                 | 131   | 241  |            |           |   |
| Volume Left                    | 16   | 20                 | 0     | 0    |            |           |   |
| Volume Right                   | 60   | 0                  | 0     | 16   |            |           |   |
| cSH                            | 701  | 1170               | 1700  | 1700 |            |           |   |
| Volume to Capacity             | 0.11 | 0.02               | 0.08  | 0.14 |            |           |   |
| Queue Length 95th (m)          | 2.9  | 0.4                | 0.0   | 0.0  |            |           |   |
| Control Delay (s)              | 10.8 | 2.0                | 0.0   | 0.0  |            |           |   |
| Lane LOS                       | В    | А                  |       |      |            |           |   |
| Approach Delay (s)             | 10.8 | 0.8                |       | 0.0  |            |           |   |
| Approach LOS                   | В    |                    |       |      |            |           |   |
| Intersection Summary           |      |                    |       |      |            |           |   |
| Average Delay                  |      |                    | 1.9   |      |            |           |   |
| Intersection Capacity Utilizat | tion |                    | 29.9% | IC   | CU Level o | f Service | А |
| Analysis Period (min)          |      |                    | 15    |      |            |           |   |

|                                   | ٠           | $\mathbf{i}$ | 1           | 1           | ŧ           | ∢          |
|-----------------------------------|-------------|--------------|-------------|-------------|-------------|------------|
| Movement                          | EBL         | EBR          | NBL         | NBT         | SBT         | SBR        |
| Lane Configurations               | Y           |              |             | 4ħ          | <b>≜</b> †⊅ |            |
| Traffic Volume (veh/h)            | 17          | 75           | 31          | 312         | 235         | 40         |
| Future Volume (Veh/h)             | 17          | 75           | 31          | 312         | 235         | 40         |
| Sign Control                      | Stop        |              |             | Free        | Free        |            |
| Grade                             | 0%          |              |             | 0%          | 0%          |            |
| Peak Hour Factor                  | 0.85        | 0.85         | 0.86        | 0.88        | 0.89        | 0.83       |
| Hourly flow rate (vph)            | 20          | 88           | 36          | 355         | 264         | 48         |
| Pedestrians                       |             |              |             |             |             |            |
| Lane Width (m)                    |             |              |             |             |             |            |
| Walking Speed (m/s)               |             |              |             |             |             |            |
| Percent Blockage                  |             |              |             |             |             |            |
| Right turn flare (veh)            |             |              |             |             |             |            |
| Median type                       |             |              |             | None        | None        |            |
| Median storage veh)               |             |              |             |             |             |            |
| Upstream signal (m)               |             |              |             | 371         |             |            |
| pX, platoon unblocked             |             |              |             |             |             |            |
| vC, conflicting volume            | 538         | 156          | 312         |             |             |            |
| vC1, stage 1 conf vol             |             |              |             |             |             |            |
| vC2, stage 2 conf vol             |             |              |             |             |             |            |
| vCu, unblocked vol                | 538         | 156          | 312         |             |             |            |
| tC, single (s)                    | 6.8         | 7.0          | 4.2         |             |             |            |
| tC, 2 stage (s)                   |             |              |             |             |             |            |
| tF (s)                            | 3.5         | 3.4          | 2.2         |             |             |            |
| p0 queue free %                   | 96          | 90           | 97          |             |             |            |
| cM capacity (veh/h)               | 465         | 846          | 1238        |             |             |            |
|                                   |             |              |             |             | 00.0        |            |
| Direction, Lane #<br>Volume Total | EB 1<br>108 | NB 1<br>154  | NB 2<br>237 | SB 1<br>176 | SB 2<br>136 |            |
| Volume Left                       | 20          | 36           | 237         | 0           | 0           |            |
|                                   | 20<br>88    | 0            | 0           | 0           | 48          |            |
| Volume Right<br>cSH               | 735         | 1238         | 1700        |             | 40          |            |
|                                   |             |              |             | 1700        |             |            |
| Volume to Capacity                | 0.15        | 0.03         | 0.14        | 0.10        | 0.08        |            |
| Queue Length 95th (m)             | 4.1         | 0.7          | 0.0         | 0.0         | 0.0         |            |
| Control Delay (s)                 | 10.7        | 2.1          | 0.0         | 0.0         | 0.0         |            |
| Lane LOS                          | B           | A            |             | 0.0         |             |            |
| Approach Delay (s)                | 10.7        | 0.8          |             | 0.0         |             |            |
| Approach LOS                      | В           |              |             |             |             |            |
| Intersection Summary              |             |              |             |             |             |            |
| Average Delay                     |             |              | 1.8         |             |             |            |
| Intersection Capacity Utilization | on          |              | 32.9%       | IC          | CU Level c  | of Service |
| Analysis Period (min)             |             |              | 15          |             |             |            |

|                                    | ۶        | -    | +         | •    | 1         | 4          |
|------------------------------------|----------|------|-----------|------|-----------|------------|
| Movement                           | EBL      | EBT  | WBT       | WBR  | SBL       | SBR        |
| Lane Configurations                |          | र्स  | 4Î        |      | Y         |            |
| Traffic Volume (veh/h)             | 16       | 414  | 216       | 15   | 33        | 16         |
| Future Volume (Veh/h)              | 16       | 414  | 216       | 15   | 33        | 16         |
| Sign Control                       |          | Free | Free      |      | Stop      |            |
| Grade                              |          | 0%   | 0%        |      | 0%        |            |
| Peak Hour Factor                   | 0.80     | 0.83 | 0.73      | 0.75 | 0.83      | 0.80       |
| Hourly flow rate (vph)             | 20       | 499  | 296       | 20   | 40        | 20         |
| Pedestrians                        |          | 4    | 4         |      | 5         |            |
| Lane Width (m)                     |          | 3.6  | 3.6       |      | 3.6       |            |
| Walking Speed (m/s)                |          | 1.2  | 1.2       |      | 1.2       |            |
| Percent Blockage                   |          | 0    | 0         |      | 0         |            |
| Right turn flare (veh)             |          |      |           |      |           |            |
| Median type                        |          | None | None      |      |           |            |
| Median storage veh)                |          |      |           |      |           |            |
| Upstream signal (m)                |          |      |           |      |           |            |
| pX, platoon unblocked              |          |      |           |      |           |            |
| vC, conflicting volume             | 321      |      |           |      | 854       | 315        |
| vC1, stage 1 conf vol              |          |      |           |      |           |            |
| vC2, stage 2 conf vol              |          |      |           |      |           |            |
| vCu, unblocked vol                 | 321      |      |           |      | 854       | 315        |
| tC, single (s)                     | 4.1      |      |           |      | 6.5       | 6.3        |
| tC, 2 stage (s)                    |          |      |           |      |           |            |
| tF (s)                             | 2.2      |      |           |      | 3.6       | 3.4        |
| p0 queue free %                    | 98       |      |           |      | 87        | 97         |
| cM capacity (veh/h)                | 1245     |      |           |      | 311       | 711        |
| Direction, Lane #                  | EB 1     | WB 1 | SB 1      |      | -         |            |
| Volume Total                       | 519      | 316  | 60        |      |           |            |
| Volume Left                        | 20       | 0    | 40        |      |           |            |
| Volume Right                       | 0        | 20   | 20        |      |           |            |
| cSH                                | 1245     | 1700 | 383       |      |           |            |
| Volume to Capacity                 | 0.02     | 0.19 | 0.16      |      |           |            |
| Queue Length 95th (m)              | 0.02     | 0.19 | 4.4       |      |           |            |
|                                    | 0.4      | 0.0  | 16.1      |      |           |            |
| Control Delay (s)<br>Lane LOS      | 0.5<br>A | 0.0  | 10.1<br>C |      |           |            |
|                                    | 0.5      | 0.0  | 16.1      |      |           |            |
| Approach Delay (s)<br>Approach LOS | 0.5      | 0.0  | 10.1<br>C |      |           |            |
| Approach 203                       |          |      | U         |      |           |            |
| Intersection Summary               |          |      |           |      |           |            |
| Average Delay                      |          |      | 1.4       |      |           |            |
| Intersection Capacity Utilization  | ation    |      | 46.0%     | IC   | U Level o | of Service |
| Analysis Period (min)              |          |      | 15        |      |           |            |
| <b>j</b> = = = = (·····)           |          |      |           |      |           |            |

## Intersection: 3: Goulais Ave & Second Line W

| Movement              | EB   | EB    | EB    | WB    | WB    | NB   | NB    | SB    | SB    |
|-----------------------|------|-------|-------|-------|-------|------|-------|-------|-------|
| Directions Served     | L    | Т     | TR    | L     | TR    | L    | TR    | L     | TR    |
| Maximum Queue (m)     | 29.8 | 34.1  | 35.6  | 15.6  | 87.1  | 24.1 | 56.6  | 57.3  | 44.8  |
| Average Queue (m)     | 9.4  | 14.3  | 18.7  | 4.9   | 36.1  | 4.7  | 30.1  | 31.2  | 20.9  |
| 95th Queue (m)        | 23.2 | 27.7  | 32.9  | 12.8  | 67.0  | 15.8 | 50.5  | 51.9  | 37.9  |
| Link Distance (m)     |      | 588.4 |       | 792.4 | 792.4 |      | 392.5 | 354.3 | 354.3 |
| Upstream Blk Time (%) |      |       |       |       |       |      |       |       |       |
| Queuing Penalty (veh) |      |       |       |       |       |      |       |       |       |
| Storage Bay Dist (m)  | 90.0 |       | 124.0 |       |       | 50.0 |       |       |       |
| Storage Blk Time (%)  |      |       |       |       |       |      | 1     |       |       |
| Queuing Penalty (veh) |      |       |       |       |       |      | 0     |       |       |

## Intersection: 6: Broadview Dr & Atwater St

| Movement              | EB    |
|-----------------------|-------|
| Directions Served     | LR    |
| Maximum Queue (m)     | 15.8  |
| Average Queue (m)     | 4.6   |
| 95th Queue (m)        | 12.7  |
| Link Distance (m)     | 339.8 |
| Upstream Blk Time (%) |       |
| Queuing Penalty (veh) |       |
| Storage Bay Dist (m)  |       |
| Storage Blk Time (%)  |       |
| Queuing Penalty (veh) |       |

### Intersection: 7: Goulais Ave & Chippewa St

| Movement              | EB    | ND    | ND    | CD    |
|-----------------------|-------|-------|-------|-------|
| Movement              | EB    | NB    | NB    | SB    |
| Directions Served     | LR    | LT    | Т     | TR    |
| Maximum Queue (m)     | 19.0  | 9.1   | 1.8   | 1.7   |
| Average Queue (m)     | 8.3   | 0.8   | 0.1   | 0.1   |
| 95th Queue (m)        | 14.3  | 4.9   | 1.3   | 1.2   |
| Link Distance (m)     | 380.6 | 515.6 | 515.6 | 423.6 |
| Upstream Blk Time (%) |       |       |       |       |
| Queuing Penalty (veh) |       |       |       |       |
| Storage Bay Dist (m)  |       |       |       |       |
| Storage Blk Time (%)  |       |       |       |       |
| Queuing Penalty (veh) |       |       |       |       |

## Intersection: 8: Goulais Ave & Rushmere Dr

| Movement              | EB    | NB    |
|-----------------------|-------|-------|
| Directions Served     | LR    | LT    |
| Maximum Queue (m)     | 23.0  | 12.1  |
| Average Queue (m)     | 10.2  | 1.8   |
| 95th Queue (m)        | 16.9  | 8.2   |
| Link Distance (m)     | 304.9 | 354.3 |
| Upstream Blk Time (%) |       |       |
| Queuing Penalty (veh) |       |       |
| Storage Bay Dist (m)  |       |       |
| Storage Blk Time (%)  |       |       |
| Queuing Penalty (veh) |       |       |

## Intersection: 11: Second Line W & Arden St

| Movement              | EB    | WB    | SB    |
|-----------------------|-------|-------|-------|
| Directions Served     | LT    | TR    | LR    |
| Maximum Queue (m)     | 15.8  | 7.8   | 22.6  |
| Average Queue (m)     | 1.2   | 0.4   | 8.7   |
| 95th Queue (m)        | 8.1   | 3.7   | 17.2  |
| Link Distance (m)     | 978.1 | 588.4 | 347.2 |
| Upstream Blk Time (%) |       |       |       |
| Queuing Penalty (veh) |       |       |       |
| Storage Bay Dist (m)  |       |       |       |
| Storage Blk Time (%)  |       |       |       |
| Queuing Penalty (veh) |       |       |       |

### Zone Summary

Zone wide Queuing Penalty: 0

## HCM Signalized Intersection Capacity Analysis 3: Goulais Ave & Second Line W

| Future Volume (vph) 40 441 32 133 491 148 48 109 90 211 170 57                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                       |       |             |              |          |         |            |         |      |      |      | 02 2 |      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-------|-------------|--------------|----------|---------|------------|---------|------|------|------|------|------|
| Lane Configurations         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y                                                                                                                                                                                                                                                                       |                       | ٦     | -           | $\mathbf{r}$ | 1        | -       | •          | 1       | 1    | ۲    | 1    | Ŧ    | ~    |
| Traffic Volume (vph)       40       441       32       133       491       148       48       109       90       211       170       57         Future Volume (vph)       40       441       32       133       491       148       48       109       90       211       170       57         fedae How (vph)       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1300       130       145                                                                                                                                                                                                                                                | Movement              | EBL   | EBT         | EBR          | WBL      | WBT     | WBR        | NBL     | NBT  | NBR  | SBL  | SBT  | SBR  |
| Future Volume (vph)         40         441         32         133         491         148         48         109         90         211         170         57           Ideal Flow (vphpl)         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900                                                                                                                                                | Lane Configurations   | ሻ     | <b>∱</b> î∌ |              | ሻ        | ef 👘    |            | ሻ       | 4    |      | ሻ    | 4    |      |
| Ideal Flow (vphpl)       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1900       1                                                                                                                                                                                                                         |                       | 40    | 441         |              | 133      | 491     | 148        | 48      | 109  | 90   | 211  | 170  | 57   |
| Total Lost time (s)         4.0         7.0         7.0         7.0         6.0         6.0         4.0         6.0           Lane Util, Factor         1.00         0.05         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         0.99         1.00         0.99         1.00         0.99         1.00         0.99         1.00         0.99         1.00         0.99         1.00         0.99         1.00         0.99         1.00         0.99         1.00         0.99         1.00         0.99         1.00         0.99         1.00         0.99         1.00         0.99         1.00         0.95         1.00         0.95         1.00         0.95         1.00         0.95         1.00         0.95         1.00         0.95         1.00         0.95         1.00         0.95         1.00         0.95         1.00         0.38         1.00         Satd. Flow (pern)         276         3365         855         173         1101         1691         706         1757         Peak-hour factor, PHF         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92                                                                                                                                        | Future Volume (vph)   |       | 441         | 32           | 133      | 491     | 148        | 48      | 109  | 90   | 211  | 170  | 57   |
| Lane Util. Factor         1.00         0.95         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         0.99         1.00         0.99         1.00         0.99         1.00         0.99         1.00         0.99         1.00         0.99         1.00         0.99         1.00         0.99         1.00         0.99         1.00         0.99         1.00         0.99         1.00         0.99         1.00         0.99         1.00         0.99         1.00         0.99         1.00         0.99         1.00         0.99         1.00         0.99         1.00         0.95         1.00         0.95         1.00         0.95         1.00         0.95         1.00         0.95         1.00         0.95         1.00         0.95         1.00         0.95         1.00         0.95         1.00         0.38         1.00         0.38         1.00         0.38         1.00         0.38         1.00         0.33         1.00         1.00         0.38         0         1.60         1.00         0.36         0.00         1.00         0.38         0         0.16         0.00                                                                                                                                          | Ideal Flow (vphpl)    | 1900  | 1900        | 1900         | 1900     | 1900    | 1900       | 1900    | 1900 | 1900 | 1900 | 1900 | 1900 |
| Frpb, ped/bikes       1.00       1.00       0.99       1.00       0.99       1.00       0.99         Flpb, ped/bikes       1.00       1.00       0.99       1.00       0.99       1.00       0.99       1.00       0.99         Flt       1.00       0.99       1.00       0.95       1.00       0.95       1.00       0.95       1.00       0.95       1.00       0.95       1.00       0.95       1.00       0.95       1.00       0.95       1.00       0.95       1.00       0.95       1.00       0.95       1.00       0.95       1.00       0.95       1.00       0.95       1.00       0.95       1.00       0.95       1.00       0.95       1.00       0.95       1.00       0.95       1.00       0.95       1.00       0.95       1.00       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92                                                                                                                                                                                                                                            | Total Lost time (s)   | 4.0   | 7.0         |              | 7.0      | 7.0     |            | 6.0     | 6.0  |      | 4.0  | 6.0  |      |
| Fipb, ped/bikes       1.00       1.00       0.99       1.00       0.99       1.00       1.00       1.00         Fit       1.00       0.99       1.00       0.97       1.00       0.93       1.00       0.96         Fit Protected       0.95       1.00       0.95       1.00       0.95       1.00       0.96         Satd. Flow (prot)       1687       3365       1756       1739       1728       1691       1761       1757         Fit Permitted       0.16       1.00       0.46       1.00       0.61       1.00       0.38       1.00         Satd. Flow (perm)       276       3365       855       1739       1101       1691       706       1757         Peak-hour factor, PHF       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92                                                                                                                                                                                                                                                       |                       | 1.00  | 0.95        |              | 1.00     | 1.00    |            | 1.00    | 1.00 |      | 1.00 | 1.00 |      |
| Frt         1.00         0.99         1.00         0.97         1.00         0.93         1.00         0.96           FIt Protected         0.95         1.00         0.95         1.00         0.95         1.00         0.96         1.00         0.96         1.00         0.96         1.00         0.95         1.00         0.95         1.00         0.95         1.00         0.95         1.00         0.95         1.00         0.95         1.00         0.95         1.00         0.95         1.00         0.95         1.00         0.95         1.00         0.95         1.00         0.95         1.00         0.95         1.00         0.38         1.00         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92                                                                                                                                                    | Frpb, ped/bikes       | 1.00  | 1.00        |              | 1.00     | 0.99    |            | 1.00    | 0.99 |      | 1.00 | 0.99 |      |
| Fit Protected       0.95       1.00       0.95       1.00       0.95       1.00       0.95       1.00         Satd. Flow (prot)       1687       3365       1756       1739       1728       1691       1761       1757         Elt Permitted       0.16       1.00       0.46       1.00       0.61       1.00       0.38       1.00         Satd. Flow (perm)       276       3365       855       1739       1101       1691       776       1757         Peak-hour factor, PHF       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92 <th0.92< th="">       0.92       0.</th0.92<>                                                                                                                                                                                                                       | Flpb, ped/bikes       | 1.00  | 1.00        |              | 0.99     | 1.00    |            | 0.99    | 1.00 |      | 1.00 | 1.00 |      |
| Satd. Flow (prot)         1687         3365         1756         1739         1728         1691         1761         1757           FIt Permitted         0.16         1.00         0.46         1.00         0.38         1.00           Satd. Flow (perm)         276         3365         855         1739         1101         1691         706         1757           Peak-hour factor, PHF         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.9                                                                                                                                               | Frt                   | 1.00  | 0.99        |              | 1.00     | 0.97    |            | 1.00    | 0.93 |      | 1.00 | 0.96 |      |
| Fit Permitted       0.16       1.00       0.46       1.00       0.61       1.00       0.38       1.00         Satd. Flow (perm)       276       3365       855       1739       1101       1691       706       1757         Peak-hour factor, PHF       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0.92       0                                                                                                                                                                                                                                | Flt Protected         | 0.95  | 1.00        |              | 0.95     | 1.00    |            | 0.95    | 1.00 |      | 0.95 | 1.00 |      |
| Satd. Flow (perm)         276         3365         855         1739         1101         1691         706         1757           Peak-hour factor, PHF         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         <                                                                                                                                    | Satd. Flow (prot)     | 1687  | 3365        |              | 1756     | 1739    |            | 1728    | 1691 |      | 1761 | 1757 |      |
| Peak-hour factor, PHF         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92         0.92                                                                                                                                | Flt Permitted         | 0.16  | 1.00        |              | 0.46     | 1.00    |            | 0.61    | 1.00 |      | 0.38 | 1.00 |      |
| Adj. Flow (vph)       43       479       35       145       534       161       52       118       98       229       185       62         RTOR Reduction (vph)       0       5       0       0       10       0       0       38       0       0       16       0         Lane Group Flow (vph)       43       509       0       145       685       0       52       178       0       229       231       0         Confl. Peds. (#/n)       17       9       9       17       12       21       21       21       12         Heavy Vehicles (%)       7%       6%       5%       2%       5%       4%       3%       0%       7%       2%       2%       6%         Turn Type       pm+pt       NA       Perm       NA       Perm       NA       pm+pt       NA         Protected Phases       5       2       6       8       7       4         Actuated Green, G (s)       49.4       41.2       41.2       16.6       16.6       27.6       27.6         Effective Green, g (s)       40.4       7.0       7.0       7.0       6.0       6.0       4.0       6.0 </td <td>Satd. Flow (perm)</td> <td>276</td> <td>3365</td> <td></td> <td>855</td> <td>1739</td> <td></td> <td>1101</td> <td>1691</td> <td></td> <td>706</td> <td>1757</td> <td></td>                                                                                                                        | Satd. Flow (perm)     | 276   | 3365        |              | 855      | 1739    |            | 1101    | 1691 |      | 706  | 1757 |      |
| Adj. Flow (vph)       43       479       35       145       534       161       52       118       98       229       185       62         RTOR Reduction (vph)       0       5       0       0       10       0       0       38       0       0       16       0         Lane Group Flow (vph)       43       509       0       145       685       0       52       178       0       229       231       0         Confl. Peds. (#/n)       17       9       9       17       12       21       21       21       12         Heavy Vehicles (%)       7%       6%       5%       2%       5%       4%       3%       0%       7%       2%       2%       6%         Turn Type       pm+pt       NA       Perm       NA       Perm       NA       pm+pt       NA         Protected Phases       5       2       6       8       7       4         Actuated Green, G (s)       49.4       41.2       41.2       16.6       16.6       27.6       27.6         Effective Green, g (s)       40.4       7.0       7.0       7.0       6.0       6.0       4.0       6.0 </td <td>Peak-hour factor, PHF</td> <td>0.92</td>                                                                                                 | Peak-hour factor, PHF | 0.92  | 0.92        | 0.92         | 0.92     | 0.92    | 0.92       | 0.92    | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| RTOR Reduction (vph)         0         5         0         0         10         0         38         0         0         16         0           Lane Group Flow (vph)         43         509         0         145         685         0         52         178         0         229         231         00           Confl. Peds. (#/hr)         17         9         9         17         12         21         21         21         21         02           Heavy Vehicles (%)         7%         6%         5%         2%         5%         4%         3%         0%         7%         2%         2%         6%           Turn Type         pm+pt         NA         Perm<                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                       |       |             |              |          |         |            |         |      |      |      |      |      |
| Lane Group Flow (vph)       43       509       0       145       685       0       52       178       0       229       231       0         Confit. Peds. (#/hr)       17       9       9       17       12       21       21       12       12         Heavy Vehicles (%)       7%       6%       5%       2%       5%       4%       3%       0%       7%       2%       6%         Turn Type       pm+pt       NA       Perm       NA       Perm       NA       pm+pt       NA         Protected Phases       5       2       6       8       7       4         Actuated Green, G (s)       49.4       41.2       41.2       16.6       16.6       27.6       27.6         Effective Green, g (s)       49.4       41.2       41.2       16.6       16.6       27.6       27.6         Actuated g/C Ratio       0.55       0.55       0.46       0.46       0.18       0.18       0.31       0.31         Clearance Time (s)       4.0       7.0       7.0       6.0       6.0       4.0       6.0         Vehicle Extension (s)       3.0       3.0       3.0       3.0       3.0                                                                                                                                                                                                                                                                                               |                       |       |             |              |          |         |            |         |      |      |      |      |      |
| Confl. Peds. (#/hr)         17         9         9         17         12         21         21         12           Heavy Vehicles (%)         7%         6%         5%         2%         5%         4%         3%         0%         7%         2%         2%         6%           Turn Type         pm+pt         NA         Perm         NA         Perm         NA         pm+pt         NA           Protected Phases         5         2         6         8         7         4           Actuated Green, G (s)         49.4         41.2         41.2         16.6         16.6         27.6         27.6           Effective Green, g (s)         49.4         49.4         41.2         16.6         16.6         27.6         27.6           Clearance Time (s)         4.0         7.0         7.0         7.0         6.0         6.0         4.0         6.0           Vehicle Extension (s)         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0                                                                                                                                                                                                 |                       |       |             |              |          |         |            |         |      |      |      |      |      |
| Heavy Vehicles (%)         7%         6%         5%         2%         5%         4%         3%         0%         7%         2%         2%         6%           Turn Type         pm+pt         NA         Perm         NA         Perm         NA         pm+pt         NA           Protected Phases         5         2         6         8         7         4           Actuated Green, G (s)         49.4         41.2         41.2         16.6         16.6         27.6         27.6           Effective Green, g (s)         49.4         49.4         41.2         41.2         16.6         16.6         27.6         27.6           Actuated g/C Ratio         0.55         0.55         0.46         0.46         0.18         0.31         0.31           Clearance Time (s)         4.0         7.0         7.0         7.0         6.0         6.0         4.0         6.0           Vis Ratio Prot         0.01         c0.15         c0.39         0.11         c0.06         0.13           v/s Ratio Perm         0.10         0.17         0.05         c0.18         v/c Ratio         0.20         0.28         0.37         0.86         0.26         0.57                                                                                                                                                                                                |                       |       |             |              |          |         |            |         |      | 21   |      |      |      |
| Turn Type         pm+pt         NA         Perm         NA         Perm         NA         pm+pt         NA           Protected Phases         5         2         6         8         7         4           Permitted Phases         2         6         8         7         4           Permitted Phases         2         6         8         4           Actuated Green, G (s)         49.4         41.2         41.2         16.6         16.6         27.6         27.6           Effective Green, g (s)         49.4         41.2         41.2         16.6         16.6         27.6         27.6           Actuated g/C Ratio         0.55         0.55         0.46         0.46         0.18         0.18         0.31         0.31           Clearance Time (s)         4.0         7.0         7.0         6.0         6.0         4.0         6.0           Vehicle Extension (s)         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0           vis Ratio Port         0.01         c0.17         0.05         c0.18         v/c Ratio         0.20         0.28         0.37         0.86                                                                                                                                                                                                        |                       |       | 6%          |              |          | 5%      |            |         | 0%   |      |      | 2%   |      |
| Protected Phases         5         2         6         8         7         4           Permitted Phases         2         6         8         4         Actuated Green, G (s)         49.4         49.4         41.2         41.2         16.6         16.6         27.6         27.6           Effective Green, g (s)         49.4         49.4         41.2         41.2         16.6         16.6         27.6         27.6           Actuated g/C Ratio         0.55         0.55         0.46         0.46         0.18         0.18         0.31         0.31         0.31           Clearance Time (s)         4.0         7.0         7.0         6.0         6.0         4.0         6.0           Vehicle Extension (s)         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0 <td> · _ · · ·</td> <td></td>                               | · _ · · ·             |       |             |              |          |         |            |         |      |      |      |      |      |
| Permitted Phases         2         6         8         4           Actuated Green, G (s)         49.4         49.4         41.2         41.2         16.6         16.6         27.6         27.6           Effective Green, g (s)         49.4         49.4         41.2         41.2         16.6         16.6         27.6         27.6           Actuated g/C Ratio         0.55         0.55         0.46         0.46         0.18         0.18         0.31         0.31           Clearance Time (s)         4.0         7.0         7.0         7.0         6.0         6.0         4.0         6.0           Vehicle Extension (s)         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0                                                                                                                                                                             |                       |       |             |              |          |         |            |         |      |      |      |      |      |
| Actuated Green, G (s)       49.4       49.4       41.2       41.2       16.6       16.6       27.6       27.6         Effective Green, g (s)       49.4       49.4       41.2       41.2       16.6       16.6       27.6       27.6         Actuated g/C Ratio       0.55       0.55       0.46       0.46       0.18       0.18       0.31       0.31         Clearance Time (s)       4.0       7.0       7.0       7.0       6.0       6.0       4.0       6.0         Vehicle Extension (s)       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0 <td></td> <td></td> <td>_</td> <td></td> <td>6</td> <td>Ŭ</td> <td></td> <td>8</td> <td>Ŭ</td> <td></td> <td>-</td> <td>•</td> <td></td>                                                                                                                   |                       |       | _           |              | 6        | Ŭ       |            | 8       | Ŭ    |      | -    | •    |      |
| Effective Green, g (s)       49.4       49.4       41.2       41.2       16.6       16.6       27.6       27.6         Actuated g/C Ratio       0.55       0.55       0.46       0.46       0.18       0.18       0.31       0.31         Clearance Time (s)       4.0       7.0       7.0       7.0       6.0       6.0       4.0       6.0         Vehicle Extension (s)       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0                                                                                                                                                                                                                                                                    |                       |       | 49.4        |              |          | 412     |            |         | 16.6 |      |      | 27.6 |      |
| Actuated g/C Ratio       0.55       0.55       0.46       0.46       0.18       0.18       0.31       0.31         Clearance Time (s)       4.0       7.0       7.0       7.0       6.0       6.0       4.0       6.0         Vehicle Extension (s)       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.0       3.                                                                                                                                                                                                                                                                    |                       |       |             |              |          |         |            |         |      |      |      |      |      |
| Clearance Time (s)         4.0         7.0         7.0         7.0         6.0         6.0         4.0         6.0           Vehicle Extension (s)         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         <                                                                                                                                                                        |                       |       |             |              |          |         |            |         |      |      |      |      |      |
| Vehicle Extension (s)         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0         3.0                                                                                                                                                                           |                       |       |             |              |          |         |            |         |      |      |      |      |      |
| Lane Grp Cap (vph)         217         1847         391         796         203         311         298         538           v/s Ratio Prot         0.01         c0.15         c0.39         0.11         c0.06         0.13           v/s Ratio Perm         0.10         0.17         0.05         c0.18           v/c Ratio         0.20         0.28         0.37         0.86         0.26         0.57         0.77         0.43           Uniform Delay, d1         13.9         10.8         15.9         21.8         31.4         33.5         27.2         24.9           Progression Factor         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00                                                                                                                                                                   |                       |       |             |              |          |         |            |         |      |      |      |      |      |
| v/s Ratio Prot       0.01       c0.15       c0.39       0.11       c0.06       0.13         v/s Ratio Perm       0.10       0.17       0.05       c0.18         v/c Ratio       0.20       0.28       0.37       0.86       0.26       0.57       0.77       0.43         Uniform Delay, d1       13.9       10.8       15.9       21.8       31.4       33.5       27.2       24.9         Progression Factor       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00         Incremental Delay, d2       0.5       0.4       2.7       11.8       0.7       2.5       11.3       0.6         Delay (s)       14.4       11.2       18.6       33.6       32.1       36.0       38.5       25.5         Level of Service       B       B       B       C       D       D       C         Approach LOS       11.4       31.0       35.2       31.7       Approach LOS       B       C       D       C         Intersection Summary       26.6       HCM 2000 Level of Service       C       C       C       C         HCM 2000 Volume to Capacity ratio       0.83       0.83       C </td <td></td>                                                                                                                        |                       |       |             |              |          |         |            |         |      |      |      |      |      |
| v/s Ratio Perm       0.10       0.17       0.05       c0.18         v/c Ratio       0.20       0.28       0.37       0.86       0.26       0.57       0.77       0.43         Uniform Delay, d1       13.9       10.8       15.9       21.8       31.4       33.5       27.2       24.9         Progression Factor       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00                                                                                                                                                                                                                                          |                       |       |             |              | 001      |         |            | 200     |      |      |      |      |      |
| v/c Ratio       0.20       0.28       0.37       0.86       0.26       0.57       0.77       0.43         Uniform Delay, d1       13.9       10.8       15.9       21.8       31.4       33.5       27.2       24.9         Progression Factor       1.00       1.00       1.00       1.00       1.00       1.00       1.00       1.00         Incremental Delay, d2       0.5       0.4       2.7       11.8       0.7       2.5       11.3       0.6         Delay (s)       14.4       11.2       18.6       33.6       32.1       36.0       38.5       25.5         Level of Service       B       B       B       C       C       D       D       C         Approach Delay (s)       11.4       31.0       35.2       31.7       Approach LOS       B       C       D       C       C       D       C       C       D       C       C       D       C       C       D       C       C       D       C       C       D       C       C       D       C       D       C       D       C       D       C       D       C       D       C       D       C       D       <                                                                                                                                                                                                                                                                                                         |                       |       | 00.10       |              | 0 17     | 00.00   |            | 0.05    | 0.11 |      |      | 0.10 |      |
| Uniform Delay, d1       13.9       10.8       15.9       21.8       31.4       33.5       27.2       24.9         Progression Factor       1.00       1.00       1.00       1.00       1.00       1.00       1.00         Incremental Delay, d2       0.5       0.4       2.7       11.8       0.7       2.5       11.3       0.6         Delay (s)       14.4       11.2       18.6       33.6       32.1       36.0       38.5       25.5         Level of Service       B       B       B       C       C       D       D       C         Approach Delay (s)       11.4       31.0       35.2       31.7       31.7       Approach LOS       B       C       D       C       C       D       C       C       D       C       C       D       C       C       D       C       C       D       C       C       D       C       C       D       C       D       C       C       D       C       C       D       C       C       D       C       D       C       D       C       D       C       D       C       D       C       D       C       D       D       <                                                                                                                                                                                                                                                                                                                   |                       |       | 0.28        |              |          | 0.86    |            |         | 0.57 |      |      | 0.43 |      |
| Progression Factor         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00 <td></td> |                       |       |             |              |          |         |            |         |      |      |      |      |      |
| Incremental Delay, d2         0.5         0.4         2.7         11.8         0.7         2.5         11.3         0.6           Delay (s)         14.4         11.2         18.6         33.6         32.1         36.0         38.5         25.5           Level of Service         B         B         C         C         D         D         C           Approach Delay (s)         11.4         31.0         35.2         31.7           Approach LOS         B         C         D         C         C           Intersection Summary         26.6         HCM 2000 Level of Service         C         C           HCM 2000 Volume to Capacity ratio         0.83         0.83         C         C         C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                       |       |             |              |          |         |            |         |      |      |      |      |      |
| Delay (s)         14.4         11.2         18.6         33.6         32.1         36.0         38.5         25.5           Level of Service         B         B         C         C         D         D         C           Approach Delay (s)         11.4         31.0         35.2         31.7           Approach LOS         B         C         D         C           Intersection Summary         Z6.6         HCM 2000 Level of Service         C           HCM 2000 Volume to Capacity ratio         0.83         0.83         0.83         0.83                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                       |       |             |              |          |         |            |         |      |      |      |      |      |
| Level of ServiceBBBCCDCApproach Delay (s)11.431.035.231.7Approach LOSBCDCIntersection SummaryHCM 2000 Control Delay26.6HCM 2000 Level of ServiceCHCM 2000 Volume to Capacity ratio0.830.83C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                       |       |             |              |          |         |            |         |      |      |      |      |      |
| Approach Delay (s)11.431.035.231.7Approach LOSBCDCIntersection SummaryHCM 2000 Control Delay26.6HCM 2000 Level of ServiceCHCM 2000 Volume to Capacity ratio0.83CC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                       |       |             |              |          |         |            |         |      |      |      |      |      |
| Approach LOSBCDCIntersection SummaryHCM 2000 Control Delay26.6HCM 2000 Level of ServiceCHCM 2000 Volume to Capacity ratio0.83                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                       | U     |             |              | U        |         |            | U       |      |      | U    |      |      |
| Intersection Summary         HCM 2000 Control Delay       26.6       HCM 2000 Level of Service       C         HCM 2000 Volume to Capacity ratio       0.83                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                       |       |             |              |          |         |            |         |      |      |      |      |      |
| HCM 2000 Control Delay26.6HCM 2000 Level of ServiceCHCM 2000 Volume to Capacity ratio0.83                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                       |       | U           |              |          | 0       |            |         | U    |      |      | U    |      |
| HCM 2000 Volume to Capacity ratio 0.83                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                       |       |             |              | <u> </u> |         |            |         |      |      |      |      |      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                       |       |             |              | Н        | CM 2000 | Level of   | Service |      | С    |      |      |      |
| Actuated Cycle Length (s) 90.0 Sum of lost time (s) 21.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | , ,                   |       |             | -            |          |         |            |         |      |      |      | _    |      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                       |       |             |              |          |         |            |         |      |      |      |      |      |
| Intersection Capacity Utilization 87.6% ICU Level of Service E                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                       | ation |             |              | IC       | U Level | ot Service | 9       |      | E    |      |      | _    |
| Analysis Period (min) 15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                       |       |             | 15           |          |         |            |         |      |      |      |      |      |

c Critical Lane Group

Exisiting Conditions PM Model 11:50 pm 01-09-2024 Exisiting Conditions

|                               | ٦     | $\mathbf{r}$ | •      | 1    | ţ          | ∢          |
|-------------------------------|-------|--------------|--------|------|------------|------------|
| Movement                      | EBL   | EBR          | NBL    | NBT  | SBT        | SBR        |
| Lane Configurations           | Ϋ́    |              |        | र्स  | 4          |            |
| Traffic Volume (veh/h)        | 6     | 15           | 9      | 13   | 17         | 7          |
| Future Volume (Veh/h)         | 6     | 15           | 9      | 13   | 17         | 7          |
| Sign Control                  | Stop  |              |        | Free | Free       |            |
| Grade                         | 0%    |              |        | 0%   | 0%         |            |
| Peak Hour Factor              | 0.75  | 0.75         | 0.75   | 0.81 | 0.71       | 0.88       |
| Hourly flow rate (vph)        | 8     | 20           | 12     | 16   | 24         | 8          |
| Pedestrians                   | 4     |              |        | 3    | 2          |            |
| Lane Width (m)                | 3.6   |              |        | 3.6  | 3.6        |            |
| Walking Speed (m/s)           | 1.2   |              |        | 1.2  | 1.2        |            |
| Percent Blockage              | 0     |              |        | 0    | 0          |            |
| Right turn flare (veh)        |       |              |        |      |            |            |
| Median type                   |       |              |        | None | None       |            |
| Median storage veh)           |       |              |        |      |            |            |
| Upstream signal (m)           |       |              |        |      |            |            |
| pX, platoon unblocked         |       |              |        |      |            |            |
| vC, conflicting volume        | 74    | 35           | 36     |      |            |            |
| vC1, stage 1 conf vol         |       |              |        |      |            |            |
| vC2, stage 2 conf vol         |       |              |        |      |            |            |
| vCu, unblocked vol            | 74    | 35           | 36     |      |            |            |
| tC, single (s)                | 6.6   | 6.2          | 4.1    |      |            |            |
| tC, 2 stage (s)               | 0.0   | •.=          |        |      |            |            |
| tF (s)                        | 3.7   | 3.3          | 2.2    |      |            |            |
| p0 queue free %               | 99    | 98           | 99     |      |            |            |
| cM capacity (veh/h)           | 865   | 1038         | 1583   |      |            |            |
| ,                             |       |              |        |      |            |            |
| Direction, Lane #             | EB 1  | NB 1         | SB 1   |      |            |            |
| Volume Total                  | 28    | 28           | 32     |      |            |            |
| Volume Left                   | 8     | 12           | 0      |      |            |            |
| Volume Right                  | 20    | 0            | 8      |      |            |            |
| cSH                           | 982   | 1583         | 1700   |      |            |            |
| Volume to Capacity            | 0.03  | 0.01         | 0.02   |      |            |            |
| Queue Length 95th (m)         | 0.7   | 0.2          | 0.0    |      |            |            |
| Control Delay (s)             | 8.8   | 3.2          | 0.0    |      |            |            |
| Lane LOS                      | А     | A            |        |      |            |            |
| Approach Delay (s)            | 8.8   | 3.2          | 0.0    |      |            |            |
| Approach LOS                  | А     |              |        |      |            |            |
| Intersection Summary          |       |              |        |      |            |            |
| Average Delay                 |       |              | 3.8    |      |            |            |
| Intersection Capacity Utiliza | ation |              | 18.8%  | 10   | CU Level o | of Service |
| Analysis Period (min)         |       |              | 10.070 |      |            |            |
|                               |       |              | 10     |      |            |            |

|                                  | ۶    | $\mathbf{\hat{z}}$ | •     | t            | Ŧ          | ∢         |   |  |
|----------------------------------|------|--------------------|-------|--------------|------------|-----------|---|--|
| Movement                         | EBL  | EBR                | NBL   | NBT          | SBT        | SBR       |   |  |
| Lane Configurations              | - Y  |                    |       | - <b>4</b> ↑ | ¢Î,        |           |   |  |
| Traffic Volume (veh/h)           | 10   | 23                 | 30    | 177          | 182        | 5         |   |  |
| Future Volume (Veh/h)            | 10   | 23                 | 30    | 177          | 182        | 5         |   |  |
| Sign Control                     | Stop |                    |       | Free         | Free       |           |   |  |
| Grade                            | 0%   |                    |       | 0%           | 0%         |           |   |  |
| Peak Hour Factor                 | 0.63 | 0.64               | 0.68  | 0.69         | 0.69       | 0.63      |   |  |
| Hourly flow rate (vph)           | 16   | 36                 | 44    | 257          | 264        | 8         |   |  |
| Pedestrians                      | 6    |                    |       | 6            | 6          |           |   |  |
| Lane Width (m)                   | 3.6  |                    |       | 3.6          | 3.6        |           |   |  |
| Walking Speed (m/s)              | 1.2  |                    |       | 1.2          | 1.2        |           |   |  |
| Percent Blockage                 | 1    |                    |       | 1            | 1          |           |   |  |
| Right turn flare (veh)           |      |                    |       |              |            |           |   |  |
| Median type                      |      |                    |       | None         | None       |           |   |  |
| Median storage veh)              |      |                    |       |              |            |           |   |  |
| Upstream signal (m)              |      |                    |       |              |            |           |   |  |
| pX, platoon unblocked            |      |                    |       |              |            |           |   |  |
| vC, conflicting volume           | 496  | 280                | 278   |              |            |           |   |  |
| vC1, stage 1 conf vol            |      |                    |       |              |            |           |   |  |
| vC2, stage 2 conf vol            |      |                    |       |              |            |           |   |  |
| vCu, unblocked vol               | 496  | 280                | 278   |              |            |           |   |  |
| tC, single (s)                   | 6.8  | 7.0                | 4.6   |              |            |           |   |  |
| tC, 2 stage (s)                  |      |                    |       |              |            |           |   |  |
| tF (s)                           | 3.5  | 3.3                | 2.4   |              |            |           |   |  |
| p0 queue free %                  | 97   | 95                 | 96    |              |            |           |   |  |
| cM capacity (veh/h)              | 483  | 704                | 1137  |              |            |           |   |  |
| Direction, Lane #                | EB 1 | NB 1               | NB 2  | SB 1         |            |           |   |  |
| Volume Total                     | 52   | 130                | 171   | 272          |            |           |   |  |
| Volume Left                      | 16   | 44                 | 0     | 0            |            |           |   |  |
| Volume Right                     | 36   | 0                  | 0     | 8            |            |           |   |  |
| cSH                              | 617  | 1137               | 1700  | 1700         |            |           |   |  |
| Volume to Capacity               | 0.08 | 0.04               | 0.10  | 0.16         |            |           |   |  |
| Queue Length 95th (m)            | 2.2  | 1.0                | 0.0   | 0.0          |            |           |   |  |
| Control Delay (s)                | 11.4 | 3.0                | 0.0   | 0.0          |            |           |   |  |
| Lane LOS                         | В    | A                  |       |              |            |           |   |  |
| Approach Delay (s)               | 11.4 | 1.3                |       | 0.0          |            |           |   |  |
| Approach LOS                     | В    |                    |       |              |            |           |   |  |
| Intersection Summary             |      |                    |       |              |            |           |   |  |
| Average Delay                    |      |                    | 1.6   |              |            |           |   |  |
| Intersection Capacity Utilizatio | n    |                    | 31.4% | IC           | CU Level o | f Service | А |  |
| Analysis Period (min)            |      |                    | 15    |              |            |           |   |  |

|                               | ٦    | $\mathbf{i}$ | 1           | t      | ţ           | ∢         |
|-------------------------------|------|--------------|-------------|--------|-------------|-----------|
| Movement                      | EBL  | EBR          | NBL         | NBT    | SBT         | SBR       |
| Lane Configurations           | ¥    |              |             | 41     | <b>≜</b> †⊅ |           |
| Traffic Volume (veh/h)        | 8    | 48           | 49          | 215    | 244         | 14        |
| Future Volume (Veh/h)         | 8    | 48           | 49          | 215    | 244         | 14        |
| Sign Control                  | Stop |              |             | Free   | Free        |           |
| Grade                         | 0%   |              |             | 0%     | 0%          |           |
| Peak Hour Factor              | 0.67 | 0.80         | 0.88        | 0.88   | 0.86        | 0.88      |
| Hourly flow rate (vph)        | 12   | 60           | 56          | 244    | 284         | 16        |
| Pedestrians                   |      |              |             |        |             |           |
| Lane Width (m)                |      |              |             |        |             |           |
| Walking Speed (m/s)           |      |              |             |        |             |           |
| Percent Blockage              |      |              |             |        |             |           |
| Right turn flare (veh)        |      |              |             |        |             |           |
| Median type                   |      |              |             | None   | None        |           |
| Median storage veh)           |      |              |             | 110110 |             |           |
| Upstream signal (m)           |      |              |             | 371    |             |           |
| pX, platoon unblocked         |      |              |             | 571    |             |           |
| vC, conflicting volume        | 526  | 150          | 300         |        |             |           |
| vC1, stage 1 conf vol         | 020  | 100          | 000         |        |             |           |
| vC2, stage 2 conf vol         |      |              |             |        |             |           |
| vCu, unblocked vol            | 526  | 150          | 300         |        |             |           |
| tC, single (s)                | 6.8  | 7.0          | 4.2         |        |             |           |
| tC, 2 stage (s)               | 0.0  | 1.0          | T. <b>4</b> |        |             |           |
| tF (s)                        | 3.5  | 3.4          | 2.2         |        |             |           |
| p0 queue free %               | 97   | 93           | 96          |        |             |           |
| cM capacity (veh/h)           | 465  | 854          | 1251        |        |             |           |
| ,                             |      |              |             |        |             |           |
| Direction, Lane #             | EB 1 | NB 1         | NB 2        | SB 1   | SB 2        |           |
| Volume Total                  | 72   | 137          | 163         | 189    | 111         |           |
| Volume Left                   | 12   | 56           | 0           | 0      | 0           |           |
| Volume Right                  | 60   | 0            | 0           | 0      | 16          |           |
| cSH                           | 749  | 1251         | 1700        | 1700   | 1700        |           |
| Volume to Capacity            | 0.10 | 0.04         | 0.10        | 0.11   | 0.07        |           |
| Queue Length 95th (m)         | 2.5  | 1.1          | 0.0         | 0.0    | 0.0         |           |
| Control Delay (s)             | 10.3 | 3.5          | 0.0         | 0.0    | 0.0         |           |
| Lane LOS                      | В    | А            |             |        |             |           |
| Approach Delay (s)            | 10.3 | 1.6          |             | 0.0    |             |           |
| Approach LOS                  | В    |              |             |        |             |           |
| Intersection Summary          |      |              |             |        |             |           |
| Average Delay                 |      |              | 1.8         |        |             |           |
| Intersection Capacity Utiliza | tion |              | 28.0%       | IC     | CU Level c  | f Service |
| Analysis Period (min)         |      |              | 15          |        |             |           |

## Intersection: 3: Goulais Ave & Second Line W

| Movement              | EB   | EB    | EB    | WB    | WB    | NB   | NB    | SB    | SB    |  |
|-----------------------|------|-------|-------|-------|-------|------|-------|-------|-------|--|
| Directions Served     | L    | Т     | TR    | L     | TR    | L    | TR    | L     | TR    |  |
| Maximum Queue (m)     | 26.7 | 41.1  | 46.9  | 77.2  | 178.0 | 38.1 | 54.8  | 59.2  | 59.4  |  |
| Average Queue (m)     | 8.8  | 20.7  | 26.2  | 21.9  | 87.5  | 11.4 | 28.2  | 29.7  | 28.1  |  |
| 95th Queue (m)        | 20.2 | 35.6  | 44.0  | 61.9  | 162.2 | 26.4 | 47.3  | 49.0  | 48.0  |  |
| Link Distance (m)     |      | 588.4 |       | 792.4 | 792.4 |      | 392.5 | 354.3 | 354.3 |  |
| Upstream Blk Time (%) |      |       |       |       |       |      |       |       |       |  |
| Queuing Penalty (veh) |      |       |       |       |       |      |       |       |       |  |
| Storage Bay Dist (m)  | 90.0 |       | 124.0 |       |       | 50.0 |       |       |       |  |
| Storage Blk Time (%)  |      |       |       |       |       | 0    | 1     |       |       |  |
| Queuing Penalty (veh) |      |       |       |       |       | 0    | 0     |       |       |  |

## Intersection: 6: Broadview Dr & Atwater St

| Movement              | EB    | NB    |
|-----------------------|-------|-------|
| Directions Served     | LR    | LT    |
| Maximum Queue (m)     | 20.6  | 1.7   |
| Average Queue (m)     | 5.7   | 0.1   |
| 95th Queue (m)        | 14.8  | 1.2   |
| Link Distance (m)     | 339.8 | 424.4 |
| Upstream Blk Time (%) |       |       |
| Queuing Penalty (veh) |       |       |
| Storage Bay Dist (m)  |       |       |
| Storage Blk Time (%)  |       |       |
| Queuing Penalty (veh) |       |       |

### Intersection: 7: Goulais Ave & Chippewa St

| Movement              | EB    | NB    | NB    | SB    |
|-----------------------|-------|-------|-------|-------|
| Directions Served     | LR    | LT    | Т     | TR    |
| Maximum Queue (m)     | 12.3  | 20.1  | 4.8   | 1.9   |
| Average Queue (m)     | 5.8   | 2.4   | 0.2   | 0.1   |
| 95th Queue (m)        | 12.2  | 11.5  | 2.8   | 1.3   |
| Link Distance (m)     | 380.6 | 515.6 | 515.6 | 423.6 |
| Upstream Blk Time (%) |       |       |       |       |
| Queuing Penalty (veh) |       |       |       |       |
| Storage Bay Dist (m)  |       |       |       |       |
| Storage Blk Time (%)  |       |       |       |       |
| Queuing Penalty (veh) |       |       |       |       |

## Intersection: 8: Goulais Ave & Rushmere Dr

| Movement              | EB    | NB    |
|-----------------------|-------|-------|
| Directions Served     | LR    | LT    |
| Maximum Queue (m)     | 17.7  | 12.8  |
| Average Queue (m)     | 8.7   | 2.7   |
| 95th Queue (m)        | 16.0  | 10.0  |
| Link Distance (m)     | 304.9 | 354.3 |
| Upstream Blk Time (%) |       |       |
| Queuing Penalty (veh) |       |       |
| Storage Bay Dist (m)  |       |       |
| Storage Blk Time (%)  |       |       |
| Queuing Penalty (veh) |       |       |

## Intersection: 11: Second Line W & Arden St

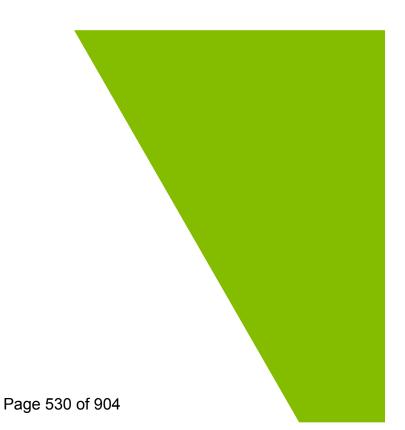
| Movement              | EB    | WB    | SB    |
|-----------------------|-------|-------|-------|
| Directions Served     | LT    | TR    | LR    |
| Maximum Queue (m)     | 18.5  | 27.5  | 19.0  |
| Average Queue (m)     | 2.8   | 3.2   | 7.7   |
| 95th Queue (m)        | 11.6  | 14.7  | 16.4  |
| Link Distance (m)     | 978.1 | 588.4 | 347.2 |
| Upstream Blk Time (%) |       |       |       |
| Queuing Penalty (veh) |       |       |       |
| Storage Bay Dist (m)  |       |       |       |
| Storage Blk Time (%)  |       |       |       |
| Queuing Penalty (veh) |       |       |       |
|                       |       |       |       |

#### Zone Summary

Zone wide Queuing Penalty: 0

F

Appendix F Signal Timing Plans





| Intersection Location:             | Seco                                                              | nd Line @ Sackville Rd     |  |  |  |
|------------------------------------|-------------------------------------------------------------------|----------------------------|--|--|--|
| Control Type:                      | Coordianted and Actuated                                          |                            |  |  |  |
| Signal Timing Plan Effect Day:     | Monday to Friday                                                  |                            |  |  |  |
| If Coordianted                     |                                                                   |                            |  |  |  |
| Coordi                             | nate Street:                                                      | Second Line                |  |  |  |
|                                    | Offset (s):                                                       | 19                         |  |  |  |
| Cycle Length (s):                  |                                                                   | 90                         |  |  |  |
|                                    |                                                                   |                            |  |  |  |
|                                    |                                                                   |                            |  |  |  |
|                                    |                                                                   | 15 am & 9:30 am - 11:30 am |  |  |  |
| Signal Timing effect Time period : | & 1 pm - 2                                                        | 2:40 pm & 5:40 pm - 10 pm  |  |  |  |
| Northbound Direction Street Name:  |                                                                   | Sackville Rd               |  |  |  |
| Total Split (s):<br>Arrow Greer    |                                                                   | 43                         |  |  |  |
|                                    |                                                                   | 7                          |  |  |  |
|                                    | Ainimum(s):<br><tension (s):<="" td=""><td>/<br/>/</td></tension> | /<br>/                     |  |  |  |
|                                    | laximum(s):                                                       | 4                          |  |  |  |
| Arrow Amber Time (s):              | uximum(s).                                                        | 3                          |  |  |  |
| Arrow All-Red Time (s)             |                                                                   | 1                          |  |  |  |
| Through Gree                       | n                                                                 | <u> </u>                   |  |  |  |
|                                    | <br>linimum (s):                                                  | 15                         |  |  |  |
|                                    | ktension (s):                                                     |                            |  |  |  |
|                                    | laximum(s):                                                       | 35-40                      |  |  |  |
|                                    |                                                                   | 4.3                        |  |  |  |
| Through All Red (s):               | 1.7                                                               |                            |  |  |  |
| Pedestrian Walk (s)                | 13                                                                |                            |  |  |  |
| Pedestrian Flash-Do Not Walk (s)   | 8                                                                 |                            |  |  |  |
| Southbound Direction Street Name:  | Sackville Rd                                                      |                            |  |  |  |
| Total Split (s)                    |                                                                   | 43                         |  |  |  |
| Arrow Greer                        | Ì                                                                 |                            |  |  |  |
| Minimum Gre                        | en Time (s):                                                      | 7                          |  |  |  |
| E                                  | xtension (s): 4                                                   |                            |  |  |  |
|                                    | een Time(s): <mark>35-40</mark>                                   |                            |  |  |  |
| Arrow Amber Time (s):              |                                                                   | 3                          |  |  |  |
| Arrow All-Red Time (s)             |                                                                   | 1                          |  |  |  |
| Through Gree                       |                                                                   |                            |  |  |  |
|                                    | linimum (s):                                                      | 15                         |  |  |  |
|                                    | ctension (s):                                                     | 4                          |  |  |  |
|                                    | laximum(s):                                                       |                            |  |  |  |
| Through Amber (s):                 | 4.3                                                               |                            |  |  |  |
| Through All Red (s):               | 1.7                                                               |                            |  |  |  |
| Pedestrian Walk (s)                | 13                                                                |                            |  |  |  |
| Pedestrian Flash-Do Not Walk (s)   | 8                                                                 |                            |  |  |  |
| Eastbound Direction Street Name:   |                                                                   | Second Line                |  |  |  |
| Total Split (s)<br>Arrow Greer     |                                                                   | 47                         |  |  |  |
| Minimum Gree                       |                                                                   | 7                          |  |  |  |
| ivinimum Gre                       | en nine (s):                                                      |                            |  |  |  |

| E                                  | xtension (s): 4                 |  |  |  |  |  |  |  |  |  |
|------------------------------------|---------------------------------|--|--|--|--|--|--|--|--|--|
|                                    | een Time(s): <mark>35-40</mark> |  |  |  |  |  |  |  |  |  |
| Arrow Amber Time (s):              | 3                               |  |  |  |  |  |  |  |  |  |
| Arrow All-Red Time (s)             | 1                               |  |  |  |  |  |  |  |  |  |
| Through Green                      |                                 |  |  |  |  |  |  |  |  |  |
| M                                  | linimum (s): 20                 |  |  |  |  |  |  |  |  |  |
|                                    | (tension (s): 4                 |  |  |  |  |  |  |  |  |  |
| M                                  | laximum(s): <mark>40-50</mark>  |  |  |  |  |  |  |  |  |  |
| Through Amber (s):                 | 5.4                             |  |  |  |  |  |  |  |  |  |
| Through All Red (s):               | 1.6                             |  |  |  |  |  |  |  |  |  |
| Pedestrian Walk (s)                | 13                              |  |  |  |  |  |  |  |  |  |
| Pedestrian Flash-Do Not Walk (s)   | 8                               |  |  |  |  |  |  |  |  |  |
| Westbound Direction Street Name:   | Second Line                     |  |  |  |  |  |  |  |  |  |
| Total Split (s)                    | 47                              |  |  |  |  |  |  |  |  |  |
| ArrowGreen                         |                                 |  |  |  |  |  |  |  |  |  |
| Minimum Gre                        | en Time (s): 7                  |  |  |  |  |  |  |  |  |  |
|                                    | xtension (s): 4                 |  |  |  |  |  |  |  |  |  |
|                                    | een Time(s): <mark>35-40</mark> |  |  |  |  |  |  |  |  |  |
| Arrow Amber Time (s):              | 3                               |  |  |  |  |  |  |  |  |  |
| Arrow All-Red Time (s)             | 1                               |  |  |  |  |  |  |  |  |  |
| Through Green                      |                                 |  |  |  |  |  |  |  |  |  |
| Minimum (s):                       |                                 |  |  |  |  |  |  |  |  |  |
| Extension (s):                     |                                 |  |  |  |  |  |  |  |  |  |
| <i>Maximum(s):</i> 40-50           |                                 |  |  |  |  |  |  |  |  |  |
| Through Amber (s):                 | 5.4                             |  |  |  |  |  |  |  |  |  |
| Through All Red (s):               | 1.6                             |  |  |  |  |  |  |  |  |  |
| Pedestrian Walk (s) 13             |                                 |  |  |  |  |  |  |  |  |  |
| Pedestrian Flash-Do Not Walk (s) 8 |                                 |  |  |  |  |  |  |  |  |  |

| Intersection Location:             | Seco                          | nd Line @ Sackville Rd       |  |  |  |  |
|------------------------------------|-------------------------------|------------------------------|--|--|--|--|
| Control Type:                      |                               |                              |  |  |  |  |
| Signal Timing Plan Effect Day:     |                               | Monday to Friday             |  |  |  |  |
| If Coordianted                     |                               |                              |  |  |  |  |
| Coordi                             | nate Street:                  | Second Line                  |  |  |  |  |
|                                    | Offset (s):                   | 9                            |  |  |  |  |
| Cycle Length (s):                  |                               | 100                          |  |  |  |  |
| Signal Timing effect Time period : | 8:15 am - 9                   | 9:30 am & 11:30 an - 1:00 pm |  |  |  |  |
| Northbound Direction Street Name:  |                               | Sackville Rd                 |  |  |  |  |
| Total Split (s):                   |                               | 46                           |  |  |  |  |
| Arrow Greer                        | 1                             |                              |  |  |  |  |
| Ŵ                                  | 1inimum(s):                   | 14                           |  |  |  |  |
|                                    | (tension (s):                 | 4                            |  |  |  |  |
| M                                  | laximum(s):                   | 35-40                        |  |  |  |  |
| Arrow Amber Time (s):              |                               | 3                            |  |  |  |  |
| Arrow All-Red Time (s)             |                               | 1.7                          |  |  |  |  |
| Through Gree                       | n                             |                              |  |  |  |  |
| M                                  | linimum (s):                  | 15                           |  |  |  |  |
|                                    | ctension (s):                 | 4                            |  |  |  |  |
|                                    | laximum(s):                   | 35-40                        |  |  |  |  |
| Through Amber (s):                 |                               | 4.3                          |  |  |  |  |
| Through All Red (s):               |                               | 1.7                          |  |  |  |  |
| Pedestrian Walk (s)                |                               | 13                           |  |  |  |  |
| Pedestrian Flash-Do Not Walk (s)   |                               | 8                            |  |  |  |  |
| Southbound Direction Street Name:  |                               | Sackville Rd                 |  |  |  |  |
| Total Split (s)                    |                               | 46                           |  |  |  |  |
| Arrow Greer                        |                               |                              |  |  |  |  |
| Minimum Gre                        |                               | 14                           |  |  |  |  |
|                                    | xtension (s):<br>een Time(s): | 25.40                        |  |  |  |  |
| Arrow Amber Time (s):              | en nine(s).                   | 3                            |  |  |  |  |
| Arrow All-Red Time (s).            |                               | 1                            |  |  |  |  |
| Through Gree                       | n                             |                              |  |  |  |  |
|                                    | linimum (s):                  | 15                           |  |  |  |  |
|                                    | tension (s):                  | 4                            |  |  |  |  |
|                                    | laximum(s):                   | 35-40                        |  |  |  |  |
| Through Amber (s):                 |                               | 4.3                          |  |  |  |  |
| Through All Red (s):               |                               | 1.7                          |  |  |  |  |
| Pedestrian Walk (s)                |                               | 13                           |  |  |  |  |
| Pedestrian Flash-Do Not Walk (s)   |                               | 8                            |  |  |  |  |
| Eastbound Direction Street Name:   |                               | Second Line                  |  |  |  |  |
| Total Split (s)                    |                               | 54                           |  |  |  |  |
| Arrow Greer                        |                               |                              |  |  |  |  |
| Minimum Gre                        | en Time (s):                  | 13                           |  |  |  |  |

| Ex                               | xtension (s): 4                 |  |  |  |  |  |  |  |
|----------------------------------|---------------------------------|--|--|--|--|--|--|--|
| Max Gre                          | een Time(s): <mark>35-40</mark> |  |  |  |  |  |  |  |
| Arrow Amber Time (s):            | 3                               |  |  |  |  |  |  |  |
| Arrow All-Red Time (s)           | 1                               |  |  |  |  |  |  |  |
| Through Gree                     | n                               |  |  |  |  |  |  |  |
| Μ                                | linimum (s): 20                 |  |  |  |  |  |  |  |
| Ех                               | tension (s): 4                  |  |  |  |  |  |  |  |
| Μ                                | laximum(s): <mark>40-50</mark>  |  |  |  |  |  |  |  |
| Through Amber (s):               | 5.4                             |  |  |  |  |  |  |  |
| Through All Red (s):             | 1.6                             |  |  |  |  |  |  |  |
| Pedestrian Walk (s)              | 13                              |  |  |  |  |  |  |  |
| Pedestrian Flash-Do Not Walk (s) | 8                               |  |  |  |  |  |  |  |
| Westbound Direction Street Name: | Second Line                     |  |  |  |  |  |  |  |
| Total Split (s)                  | 54                              |  |  |  |  |  |  |  |
| ArrowGreen                       |                                 |  |  |  |  |  |  |  |
| Minimum Green Time (s):          |                                 |  |  |  |  |  |  |  |
|                                  | xtension (s): 4                 |  |  |  |  |  |  |  |
| Max Green Time(s): 35-40         |                                 |  |  |  |  |  |  |  |
| Arrow Amber Time (s):            | 3                               |  |  |  |  |  |  |  |
| Arrow All-Red Time (s)           | 1                               |  |  |  |  |  |  |  |
| Through Gree                     | n                               |  |  |  |  |  |  |  |
|                                  | linimum (s): 20                 |  |  |  |  |  |  |  |
|                                  | atension (s): 4                 |  |  |  |  |  |  |  |
| Maximum(s): 40-50                |                                 |  |  |  |  |  |  |  |
| Through Amber (s):               | 5.4                             |  |  |  |  |  |  |  |
| Through All Red (s):             | 1.6                             |  |  |  |  |  |  |  |
| Pedestrian Walk (s)              | 13                              |  |  |  |  |  |  |  |
| Pedestrian Flash-Do Not Walk (s) | 8                               |  |  |  |  |  |  |  |

| Intersection Location:                     | Second Line @ Goulais Ave       |  |  |  |  |
|--------------------------------------------|---------------------------------|--|--|--|--|
| Control Type:                              | Coordianted and Actuated        |  |  |  |  |
| Signal Timing Plan Effect Day:             |                                 |  |  |  |  |
| If Coordianted                             |                                 |  |  |  |  |
| Coordi                                     | nate Street: Second Line        |  |  |  |  |
|                                            | Offset (s): 15                  |  |  |  |  |
| Cycle Length (s):                          | 90                              |  |  |  |  |
| Signal Timing effect Time period :         | 6:45 - 22:00                    |  |  |  |  |
| Northbound Direction Street Name:          | Goulais Ave                     |  |  |  |  |
| Total Split (s):                           | 45                              |  |  |  |  |
| Arrow Greer                                | 1                               |  |  |  |  |
| ٨                                          | 1inimum(s): 0                   |  |  |  |  |
| E>                                         | tension (s): 0                  |  |  |  |  |
| M                                          | laximum(s): 0                   |  |  |  |  |
| Arrow Amber Time (s):                      | 0                               |  |  |  |  |
| Arrow All-Red Time (s)                     | 0                               |  |  |  |  |
| Through Gree                               |                                 |  |  |  |  |
|                                            | <i>linimum</i> (s): 12          |  |  |  |  |
|                                            | atension (s): 3                 |  |  |  |  |
|                                            | aximum(s): 45-55<br>4.3         |  |  |  |  |
| Through Amber (s):<br>Through All Red (s): | 4.3                             |  |  |  |  |
| Pedestrian Walk (s)                        | 7                               |  |  |  |  |
| Pedestrian Flash-Do Not Walk (s)           | 20                              |  |  |  |  |
| Southbound Direction Street Name:          | Goulais Ave                     |  |  |  |  |
| Total Split (s)                            | 45                              |  |  |  |  |
| Arrow Greer                                |                                 |  |  |  |  |
| Minimum Gre                                | en Time (s): 7                  |  |  |  |  |
| E                                          | ktension (s): 3                 |  |  |  |  |
| Max Gre                                    | een Time(s): <mark>35-45</mark> |  |  |  |  |
| Arrow Amber Time (s):                      | 3                               |  |  |  |  |
| Arrow All-Red Time (s)                     | 1                               |  |  |  |  |
| Through Gree                               |                                 |  |  |  |  |
|                                            | <i>linimum (s):</i> 12          |  |  |  |  |
|                                            | atension (s): 3                 |  |  |  |  |
| Through Amber (s):                         | aximum(s): 45-55                |  |  |  |  |
| Through All Red (s):                       | 4.3                             |  |  |  |  |
| Pedestrian Walk (s)                        | 7                               |  |  |  |  |
| Pedestrian Flash-Do Not Walk (s)           | 20                              |  |  |  |  |
| Eastbound Direction Street Name:           | Second Line                     |  |  |  |  |
| Total Split (s)                            | 45                              |  |  |  |  |
| Arrow Greer                                |                                 |  |  |  |  |
| Minimum Gre                                | en Time (s): 7                  |  |  |  |  |
|                                            |                                 |  |  |  |  |

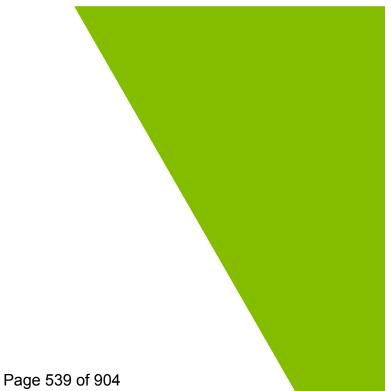
| F                                | ktension (s):      |  |  |  |  |  |  |  |  |
|----------------------------------|--------------------|--|--|--|--|--|--|--|--|
|                                  | een Time(s): 35-45 |  |  |  |  |  |  |  |  |
| Arrow Amber Time (s):            | 3                  |  |  |  |  |  |  |  |  |
| Arrow All-Red Time (s)           | 1                  |  |  |  |  |  |  |  |  |
| Through Gree                     | n                  |  |  |  |  |  |  |  |  |
|                                  | inimum (s): 12     |  |  |  |  |  |  |  |  |
| Ex                               | tension (s): 3     |  |  |  |  |  |  |  |  |
|                                  | aximum(s): 45-55   |  |  |  |  |  |  |  |  |
| Through Amber (s):               | 5.4                |  |  |  |  |  |  |  |  |
| Through All Red (s):             | 1.6                |  |  |  |  |  |  |  |  |
| Pedestrian Walk (s)              | 7                  |  |  |  |  |  |  |  |  |
| Pedestrian Flash-Do Not Walk (s) | 19                 |  |  |  |  |  |  |  |  |
| Westbound Direction Street Name: | Second Line        |  |  |  |  |  |  |  |  |
| Total Split (s)                  | 45                 |  |  |  |  |  |  |  |  |
| ArrowGreen                       |                    |  |  |  |  |  |  |  |  |
| Minimum Green Time (s):          |                    |  |  |  |  |  |  |  |  |
| E                                | ktension (s): 0    |  |  |  |  |  |  |  |  |
| Max Green Time(s):               |                    |  |  |  |  |  |  |  |  |
| Arrow Amber Time (s):            | 0                  |  |  |  |  |  |  |  |  |
| Arrow All-Red Time (s)           | 0                  |  |  |  |  |  |  |  |  |
| Through Gree                     | n                  |  |  |  |  |  |  |  |  |
|                                  | inimum (s): 12     |  |  |  |  |  |  |  |  |
| Extension (s):                   |                    |  |  |  |  |  |  |  |  |
| Maximum(s): 45-55                |                    |  |  |  |  |  |  |  |  |
| Through Amber (s):               | 5.4                |  |  |  |  |  |  |  |  |
| Through All Red (s):             | 1.6                |  |  |  |  |  |  |  |  |
| Pedestrian Walk (s)              | 7                  |  |  |  |  |  |  |  |  |
| Pedestrian Flash-Do Not Walk (s) | 19                 |  |  |  |  |  |  |  |  |

| Intersection Location:                          |                               |  |  |  |  |  |  |  |  |
|-------------------------------------------------|-------------------------------|--|--|--|--|--|--|--|--|
| Control Type:                                   |                               |  |  |  |  |  |  |  |  |
| Signal Timing Plan Effect Day:                  |                               |  |  |  |  |  |  |  |  |
| If Coordianted                                  |                               |  |  |  |  |  |  |  |  |
| Coordi                                          | nate Street:                  |  |  |  |  |  |  |  |  |
|                                                 | Offset (s):                   |  |  |  |  |  |  |  |  |
| Cycle Length (s):                               |                               |  |  |  |  |  |  |  |  |
|                                                 |                               |  |  |  |  |  |  |  |  |
|                                                 |                               |  |  |  |  |  |  |  |  |
| Signal Timing effect Time period :              |                               |  |  |  |  |  |  |  |  |
| Northbound Direction Street Name:               |                               |  |  |  |  |  |  |  |  |
| Total Split (s):                                |                               |  |  |  |  |  |  |  |  |
| Arrow Green                                     |                               |  |  |  |  |  |  |  |  |
|                                                 |                               |  |  |  |  |  |  |  |  |
|                                                 | Ainimum(s):<br>ktension (s):  |  |  |  |  |  |  |  |  |
|                                                 |                               |  |  |  |  |  |  |  |  |
| Arrow Amber Time (s):                           | laximum(s):                   |  |  |  |  |  |  |  |  |
| Arrow Amber Time (s).<br>Arrow All-Red Time (s) |                               |  |  |  |  |  |  |  |  |
| Through Gree                                    | n                             |  |  |  |  |  |  |  |  |
|                                                 | linimum (s):                  |  |  |  |  |  |  |  |  |
|                                                 |                               |  |  |  |  |  |  |  |  |
|                                                 | Extension (s):<br>Maximum(s): |  |  |  |  |  |  |  |  |
| Through Amber (s):                              |                               |  |  |  |  |  |  |  |  |
| Through All Red (s):                            |                               |  |  |  |  |  |  |  |  |
| Pedestrian Walk (s)                             |                               |  |  |  |  |  |  |  |  |
| Pedestrian Flash-Do Not Walk (s)                |                               |  |  |  |  |  |  |  |  |
| Southbound Direction Street Name:               |                               |  |  |  |  |  |  |  |  |
| Total Split (s)                                 |                               |  |  |  |  |  |  |  |  |
| Arrow Green                                     |                               |  |  |  |  |  |  |  |  |
| Minimum Gre                                     |                               |  |  |  |  |  |  |  |  |
|                                                 | xtension (s):                 |  |  |  |  |  |  |  |  |
|                                                 | een Time(s):                  |  |  |  |  |  |  |  |  |
| Arrow Amber Time (s):                           |                               |  |  |  |  |  |  |  |  |
| Arrow All-Red Time (s)                          |                               |  |  |  |  |  |  |  |  |
| Through Gree                                    | n                             |  |  |  |  |  |  |  |  |
|                                                 | linimum (s):                  |  |  |  |  |  |  |  |  |
|                                                 | ktension (s):                 |  |  |  |  |  |  |  |  |
|                                                 | laximum(s):                   |  |  |  |  |  |  |  |  |
| Through Amber (s):                              |                               |  |  |  |  |  |  |  |  |
| Through All Red (s):                            |                               |  |  |  |  |  |  |  |  |
| Pedestrian Walk (s)                             |                               |  |  |  |  |  |  |  |  |
| Pedestrian Flash-Do Not Walk (s)                |                               |  |  |  |  |  |  |  |  |
| Eastbound Direction Street Name:                |                               |  |  |  |  |  |  |  |  |
| Total Split (s)                                 |                               |  |  |  |  |  |  |  |  |
| Arrow Green                                     |                               |  |  |  |  |  |  |  |  |
| Minimum Gre                                     |                               |  |  |  |  |  |  |  |  |
|                                                 |                               |  |  |  |  |  |  |  |  |

| Ex                               | tension (s): |  |  |  |  |  |  |  |
|----------------------------------|--------------|--|--|--|--|--|--|--|
|                                  | een Time(s): |  |  |  |  |  |  |  |
| Arrow Amber Time (s):            |              |  |  |  |  |  |  |  |
| Arrow All-Red Time (s)           |              |  |  |  |  |  |  |  |
| Through Greer                    | n            |  |  |  |  |  |  |  |
| Minimum (s):                     |              |  |  |  |  |  |  |  |
| Extension (s):                   |              |  |  |  |  |  |  |  |
| M                                | aximum(s):   |  |  |  |  |  |  |  |
| Through Amber (s):               |              |  |  |  |  |  |  |  |
| Through All Red (s):             |              |  |  |  |  |  |  |  |
| Pedestrian Walk (s)              |              |  |  |  |  |  |  |  |
| Pedestrian Flash-Do Not Walk (s) |              |  |  |  |  |  |  |  |
| Westbound Direction Street Name: |              |  |  |  |  |  |  |  |
| Total Split (s)                  |              |  |  |  |  |  |  |  |
| ArrowGreen                       |              |  |  |  |  |  |  |  |
| Minimum Gree                     | en Time (s): |  |  |  |  |  |  |  |
|                                  | tension (s): |  |  |  |  |  |  |  |
|                                  | een Time(s): |  |  |  |  |  |  |  |
| Arrow Amber Time (s):            |              |  |  |  |  |  |  |  |
| Arrow All-Red Time (s)           |              |  |  |  |  |  |  |  |
| Through Greer                    |              |  |  |  |  |  |  |  |
| Minimum (s):                     |              |  |  |  |  |  |  |  |
|                                  | tension (s): |  |  |  |  |  |  |  |
| Maximum(s):                      |              |  |  |  |  |  |  |  |
| Through Amber (s):               |              |  |  |  |  |  |  |  |
| Through All Red (s):             |              |  |  |  |  |  |  |  |
| Pedestrian Walk (s)              |              |  |  |  |  |  |  |  |
| Pedestrian Flash-Do Not Walk (s) |              |  |  |  |  |  |  |  |



Appendix G 2032 Future Background Synchro and SimTraffic Outputs





## HCM Signalized Intersection Capacity Analysis 3: Goulais Ave & Second Line W

|                              | ٦           | -           | $\mathbf{r}$ | 4         | -                                     | •          | 1         | 1         | ۲    | 1     | Ļ         | ~    |
|------------------------------|-------------|-------------|--------------|-----------|---------------------------------------|------------|-----------|-----------|------|-------|-----------|------|
| Movement                     | EBL         | EBT         | EBR          | WBL       | WBT                                   | WBR        | NBL       | NBT       | NBR  | SBL   | SBT       | SBR  |
| Lane Configurations          | ሻ           | <b>∱</b> î≽ |              | <u>۲</u>  | 4                                     |            | ሻ         | eî 👘      |      | ሻ     | eî 👘      |      |
| Traffic Volume (vph)         | 73          | 385         | 30           | 40        | 240                                   | 185        | 19        | 133       | 70   | 230   | 131       | 44   |
| Future Volume (vph)          | 73          | 385         | 30           | 40        | 240                                   | 185        | 19        | 133       | 70   | 230   | 131       | 44   |
| Ideal Flow (vphpl)           | 1900        | 1900        | 1900         | 1900      | 1900                                  | 1900       | 1900      | 1900      | 1900 | 1900  | 1900      | 1900 |
| Total Lost time (s)          | 4.0         | 7.0         |              | 7.0       | 7.0                                   |            | 6.0       | 6.0       |      | 4.0   | 6.0       |      |
| Lane Util. Factor            | 1.00        | 0.95        |              | 1.00      | 1.00                                  |            | 1.00      | 1.00      |      | 1.00  | 1.00      |      |
| Frpb, ped/bikes              | 1.00        | 1.00        |              | 1.00      | 0.99                                  |            | 1.00      | 0.99      |      | 1.00  | 0.99      |      |
| Flpb, ped/bikes              | 1.00        | 1.00        |              | 1.00      | 1.00                                  |            | 0.99      | 1.00      |      | 1.00  | 1.00      |      |
| Frt                          | 1.00        | 0.99        |              | 1.00      | 0.93                                  |            | 1.00      | 0.95      |      | 1.00  | 0.96      |      |
| Flt Protected                | 0.95        | 1.00        |              | 0.95      | 1.00                                  |            | 0.95      | 1.00      |      | 0.95  | 1.00      |      |
| Satd. Flow (prot)            | 1686        | 3365        |              | 1768      | 1686                                  |            | 1739      | 1746      |      | 1766  | 1761      |      |
| Flt Permitted                | 0.33        | 1.00        |              | 0.49      | 1.00                                  |            | 0.64      | 1.00      |      | 0.38  | 1.00      |      |
| Satd. Flow (perm)            | 588         | 3365        |              | 915       | 1686                                  |            | 1168      | 1746      |      | 702   | 1761      |      |
| Peak-hour factor, PHF        | 0.92        | 0.92        | 0.92         | 0.92      | 0.92                                  | 0.92       | 0.92      | 0.92      | 0.92 | 0.92  | 0.92      | 0.92 |
| Adj. Flow (vph)              | 79          | 418         | 33           | 43        | 261                                   | 201        | 21        | 145       | 76   | 250   | 142       | 48   |
| RTOR Reduction (vph)         | 0           | 5           | 0            | 0         | 25                                    | 0          | 0         | 24        | 0    | 0     | 16        | 0    |
| Lane Group Flow (vph)        | 79          | 446         | 0            | 43        | 437                                   | 0          | 21        | 197       | 0    | 250   | 174       | 0    |
| Confl. Peds. (#/hr)          | 5           |             | 1            | 1         |                                       | 5          | 6         |           | 10   | 10    |           | 6    |
| Heavy Vehicles (%)           | 7%          | 6%          | 5%           | 2%        | 5%                                    | 4%         | 3%        | 0%        | 7%   | 2%    | 2%        | 6%   |
| Turn Type                    | pm+pt       | NA          |              | Perm      | NA                                    |            | Perm      | NA        |      | pm+pt | NA        |      |
| Protected Phases             | 5           | 2           |              |           | 6                                     |            |           | 8         |      | 7     | 4         |      |
| Permitted Phases             | 2           | _           |              | 6         | , , , , , , , , , , , , , , , , , , , |            | 8         | Ū.        |      | 4     | •         |      |
| Actuated Green, G (s)        | 49.0        | 49.0        |              | 39.4      | 39.4                                  |            | 17.0      | 17.0      |      | 28.0  | 28.0      |      |
| Effective Green, g (s)       | 49.0        | 49.0        |              | 39.4      | 39.4                                  |            | 17.0      | 17.0      |      | 28.0  | 28.0      |      |
| Actuated g/C Ratio           | 0.54        | 0.54        |              | 0.44      | 0.44                                  |            | 0.19      | 0.19      |      | 0.31  | 0.31      |      |
| Clearance Time (s)           | 4.0         | 7.0         |              | 7.0       | 7.0                                   |            | 6.0       | 6.0       |      | 4.0   | 6.0       |      |
| Vehicle Extension (s)        | 3.0         | 3.0         |              | 3.0       | 3.0                                   |            | 3.0       | 3.0       |      | 3.0   | 3.0       |      |
| Lane Grp Cap (vph)           | 388         | 1832        |              | 400       | 738                                   |            | 220       | 329       |      | 301   | 547       |      |
| v/s Ratio Prot               | 0.01        | c0.13       |              | 400       | c0.26                                 |            | 220       | 0.11      |      | c0.06 | 0.10      |      |
| v/s Ratio Perm               | 0.10        | 00.10       |              | 0.05      | 00.20                                 |            | 0.02      | 0.11      |      | c0.19 | 0.10      |      |
| v/c Ratio                    | 0.10        | 0.24        |              | 0.00      | 0.59                                  |            | 0.10      | 0.60      |      | 0.83  | 0.32      |      |
| Uniform Delay, d1            | 11.1        | 10.8        |              | 14.9      | 19.2                                  |            | 30.1      | 33.4      |      | 27.9  | 23.7      |      |
| Progression Factor           | 1.00        | 1.00        |              | 1.00      | 1.00                                  |            | 1.00      | 1.00      |      | 1.00  | 1.00      |      |
| Incremental Delay, d2        | 0.3         | 0.3         |              | 0.5       | 3.5                                   |            | 0.2       | 2.9       |      | 17.4  | 0.3       |      |
| Delay (s)                    | 11.3        | 11.1        |              | 15.5      | 22.7                                  |            | 30.3      | 36.3      |      | 45.3  | 24.0      |      |
| Level of Service             | В           | B           |              | 10.0<br>B | C                                     |            | 00.0<br>C | 00.0<br>D |      |       | 24.0<br>C |      |
| Approach Delay (s)           | U           | 11.1        |              | U         | 22.1                                  |            | U         | 35.8      |      | U     | 36.1      |      |
| Approach LOS                 |             | B           |              |           | 22.1<br>C                             |            |           | 00.0<br>D |      |       | 50.1<br>D |      |
| Intersection Summary         |             | D           |              |           | U                                     |            |           | U         |      |       | U         |      |
| · · · · ·                    |             |             | 04.0         |           | 014 0000                              |            | 0         |           | 0    |       |           |      |
| HCM 2000 Control Delay       | 11          |             | 24.2         | Н         | CM 2000                               | Level of   | Service   |           | С    |       |           |      |
| HCM 2000 Volume to Capa      | acity ratio |             | 0.69         | ~         |                                       | ( / )      |           |           | 04.0 |       |           |      |
| Actuated Cycle Length (s)    |             |             | 90.0         |           | um of lost                            |            |           |           | 21.0 |       |           |      |
| Intersection Capacity Utiliz | ation       |             | 79.1%        | IC        | CU Level of                           | of Service | )         |           | D    |       |           |      |
| Analysis Period (min)        |             |             | 15           |           |                                       |            |           |           |      |       |           |      |

c Critical Lane Group

2032 Future Background Conditions AM Model 11:50 pm 01-09-2024 2032 Future Background Conditions

|                               | ٦     | $\mathbf{\hat{z}}$ | •     | t    | Ļ          | ∢          |  |
|-------------------------------|-------|--------------------|-------|------|------------|------------|--|
| Movement                      | EBL   | EBR                | NBL   | NBT  | SBT        | SBR        |  |
| Lane Configurations           | ۲     |                    |       | र्स  | eî.        |            |  |
| Traffic Volume (veh/h)        | 4     | 17                 | 3     | 19   | 24         | 5          |  |
| Future Volume (Veh/h)         | 4     | 17                 | 3     | 19   | 24         | 5          |  |
| Sign Control                  | Stop  |                    |       | Free | Free       |            |  |
| Grade                         | 0%    |                    |       | 0%   | 0%         |            |  |
| Peak Hour Factor              | 1.00  | 0.80               | 0.75  | 0.85 | 0.79       | 0.63       |  |
| Hourly flow rate (vph)        | 4     | 21                 | 4     | 22   | 30         | 8          |  |
| Pedestrians                   | 3     |                    |       | 16   | 16         |            |  |
| Lane Width (m)                | 3.6   |                    |       | 3.6  | 3.6        |            |  |
| Walking Speed (m/s)           | 1.2   |                    |       | 1.2  | 1.2        |            |  |
| Percent Blockage              | 0     |                    |       | 1    | 1          |            |  |
| Right turn flare (veh)        |       |                    |       |      |            |            |  |
| Median type                   |       |                    |       | None | None       |            |  |
| Median storage veh)           |       |                    |       |      |            |            |  |
| Upstream signal (m)           |       |                    |       |      |            |            |  |
| pX, platoon unblocked         |       |                    |       |      |            |            |  |
| vC, conflicting volume        | 83    | 53                 | 41    |      |            |            |  |
| vC1, stage 1 conf vol         |       |                    |       |      |            |            |  |
| vC2, stage 2 conf vol         |       |                    |       |      |            |            |  |
| vCu, unblocked vol            | 83    | 53                 | 41    |      |            |            |  |
| tC, single (s)                | 6.6   | 6.2                | 4.1   |      |            |            |  |
| tC, 2 stage (s)               |       |                    |       |      |            |            |  |
| tF (s)                        | 3.7   | 3.3                | 2.2   |      |            |            |  |
| p0 queue free %               | 100   | 98                 | 100   |      |            |            |  |
| cM capacity (veh/h)           | 849   | 1004               | 1577  |      |            |            |  |
|                               |       |                    |       |      |            |            |  |
| Direction, Lane #             | EB 1  | NB 1               | SB 1  |      |            |            |  |
| Volume Total                  | 25    | 26                 | 38    |      |            |            |  |
| Volume Left                   | 4     | 4                  | 0     |      |            |            |  |
| Volume Right                  | 21    | 0                  | 8     |      |            |            |  |
| cSH                           | 976   | 1577               | 1700  |      |            |            |  |
| Volume to Capacity            | 0.03  | 0.00               | 0.02  |      |            |            |  |
| Queue Length 95th (m)         | 0.6   | 0.1                | 0.0   |      |            |            |  |
| Control Delay (s)             | 8.8   | 1.1                | 0.0   |      |            |            |  |
| Lane LOS                      | А     | А                  |       |      |            |            |  |
| Approach Delay (s)            | 8.8   | 1.1                | 0.0   |      |            |            |  |
| Approach LOS                  | А     |                    |       |      |            |            |  |
| Intersection Summary          |       |                    |       |      |            |            |  |
| Average Delay                 |       |                    | 2.8   |      |            |            |  |
| Intersection Capacity Utiliza | ation |                    | 18.4% | IC   | CU Level o | of Service |  |
| Analysis Period (min)         |       |                    | 15    |      |            |            |  |
|                               |       |                    | 10    |      |            |            |  |

|                                   | ۶         | $\mathbf{\hat{z}}$ | •     | 1    | ŧ          | ∢            |   |
|-----------------------------------|-----------|--------------------|-------|------|------------|--------------|---|
| Movement                          | EBL       | EBR                | NBL   | NBT  | SBT        | SBR          |   |
| Lane Configurations               | Y         |                    |       | 4Þ   | 4Î         |              |   |
| Traffic Volume (veh/h)            | 16        | 56                 | 17    | 192  | 219        | 12           |   |
| Future Volume (Veh/h)             | 16        | 56                 | 17    | 192  | 219        | 12           |   |
| Sign Control                      | Stop      |                    |       | Free | Free       |              |   |
| Grade                             | 0%        |                    |       | 0%   | 0%         |              |   |
| Peak Hour Factor                  | 0.94      | 0.85               | 0.80  | 0.90 | 0.89       | 0.69         |   |
| Hourly flow rate (vph)            | 17        | 66                 | 21    | 213  | 246        | 17           |   |
| Pedestrians                       | 6         |                    |       | 6    | 6          |              |   |
| Lane Width (m)                    | 3.6       |                    |       | 3.6  | 3.6        |              |   |
| Walking Speed (m/s)               | 1.2       |                    |       | 1.2  | 1.2        |              |   |
| Percent Blockage                  | 1         |                    |       | 1    | 1          |              |   |
| Right turn flare (veh)            |           |                    |       |      |            |              |   |
| Median type                       |           |                    |       | None | None       |              |   |
| Median storage veh)               |           |                    |       |      |            |              |   |
| Upstream signal (m)               |           |                    |       |      |            |              |   |
| pX, platoon unblocked             |           |                    |       |      |            |              |   |
| vC, conflicting volume            | 415       | 266                | 269   |      |            |              |   |
| vC1, stage 1 conf vol             |           |                    |       |      |            |              |   |
| vC2, stage 2 conf vol             |           |                    |       |      |            |              |   |
| vCu, unblocked vol                | 415       | 266                | 269   |      |            |              |   |
| tC, single (s)                    | 6.8       | 7.0                | 4.6   |      |            |              |   |
| tC, 2 stage (s)                   |           |                    |       |      |            |              |   |
| tF (s)                            | 3.5       | 3.3                | 2.4   |      |            |              |   |
| p0 queue free %                   | 97        | 91                 | 98    |      |            |              |   |
| cM capacity (veh/h)               | 555       | 718                | 1146  |      |            |              |   |
| Direction, Lane #                 | EB 1      | NB 1               | NB 2  | SB 1 |            |              |   |
| Volume Total                      | 83        | 92                 | 142   | 263  |            |              |   |
| Volume Left                       | 17        | 21                 | 0     | 200  |            |              |   |
| Volume Right                      | 66        | 0                  | 0     | 17   |            |              |   |
| cSH                               | 677       | 1146               | 1700  | 1700 |            |              |   |
| Volume to Capacity                | 0.12      | 0.02               | 0.08  | 0.15 |            |              |   |
| Queue Length 95th (m)             | 3.3       | 0.02               | 0.00  | 0.15 |            |              |   |
| Control Delay (s)                 | 11.1      | 2.0                | 0.0   | 0.0  |            |              |   |
| Lane LOS                          | B         | 2.0<br>A           | 0.0   | 0.0  |            |              |   |
| Approach Delay (s)                | ы<br>11.1 | A<br>0.8           |       | 0.0  |            |              |   |
| Approach LOS                      | B         | 0.0                |       | 0.0  |            |              |   |
|                                   | D         |                    |       |      |            |              |   |
| Intersection Summary              |           |                    |       |      |            |              |   |
| Average Delay                     |           |                    | 1.9   |      |            | ( <b>0</b> ) |   |
| Intersection Capacity Utilization | on        |                    | 31.4% | IC   | CU Level c | t Service    | A |
| Analysis Period (min)             |           |                    | 15    |      |            |              |   |

| Lane Configurations       Y       Image: control independence of the independ |                        | ٦    | $\mathbf{i}$ | 1    | t            | ŧ           | ∢          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|------|--------------|------|--------------|-------------|------------|
| Traffic Volume (veh/h)       19       82       34       341       257       44         Future Volume (Veh/h)       19       82       34       341       257       44         Sign Control       Stop       Free       Free       Free       Free         Grade       0%       0%       0%       0%       0%         Peak Hour Factor       0.85       0.85       0.86       0.88       0.89       0.83         Pedestrians       296       40       388       289       53         Pedestrians       296       40       388       289       53         Percent Blockage       Right turn flare (veh)       Wedian type       None       None       None         Wedian storage veh)       Upstream signal (m)       371       342                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Movement               | EBL  | EBR          | NBL  | NBT          | SBT         | SBR        |
| Traffic Volume (veh/h)       19       82       34       341       257       44         Future Volume (Veh/h)       19       82       34       341       257       44         Sign Control       Stop       Free       Free       Free       Free         Grade       0%       0%       0%       0%       0%         Peak Hour Factor       0.85       0.85       0.86       0.88       0.89       0.83         Pedestrians       296       40       388       289       53         Pedestrians       296       40       388       289       53         Percent Blockage       Right turn flare (veh)       Wedian type       None       None       None         Wedian storage veh)       Upstream signal (m)       371       342                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Lane Configurations    | ¥    |              |      | - <b>€</b> † | <b>≜1</b> } |            |
| Future Volume (Veh/h)       19       82       34       341       257       44         Sign Control       Stop       Free       Free       Free       Free         Grade       0%       0%       0%       0%       0%         Peak Hour Factor       0.85       0.85       0.86       0.88       0.89       0.83         Pedestrians       296       40       388       289       53         Pedestrians       296       40       388       289       53         Pedestrians       296       40       388       289       53         Pedestrians       50       171       388       289       53         Percent Blockage       Right turn flare (veh)       Wedian storage veh)       0x, platoon unblocked       70       371       50         VC1, stage 1 conf vol       72       590       171       342       71       74         VC2, stage 2 conf vol       72       53       3.4       2.2       70       72         VC2, stage 1 conf vol       29       827       1207       70       70       70         VC2, stage 2 conf vol       22       40       0       0       0       0 <td>Traffic Volume (veh/h)</td> <td></td> <td>82</td> <td>34</td> <td></td> <td></td> <td>44</td>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Traffic Volume (veh/h) |      | 82           | 34   |              |             | 44         |
| Grade       0%       0%       0%         Peak Hour Factor       0.85       0.85       0.86       0.88       0.89       0.83         Hourly flow rate (vph)       22       96       40       388       289       53         Pedestrians       289       53       53       53       53         Pedestrians       289       53       53         Lane Width (m)       Walking Speed (m/s)       50       53         Percent Blockage       None       None       None         Median type       None       None       None         Median storage veh)       0%, platoon unblocked       71       342       71         vC, conflicting volume       590       171       342       72         vC, stage 1 conf vol       72       74       74       74         vC, stage 1 conf vol       70       70       70       70       70         vC, stage 1 conf vol       70       71       342       74       74         vC, stage 1 conf vol       70       71       342       74       74         vC, stage (s)       59       171       342       74       74         vC, stage (s)       <                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Future Volume (Veh/h)  | 19   | 82           | 34   | 341          | 257         | 44         |
| Peak Hour Factor       0.85       0.85       0.86       0.88       0.89       0.83         Hourly flow rate (vph)       22       96       40       388       289       53         Pedestrians       22       96       40       388       289       53         Pedestrians       289       53       53       53         Pedestrians       296       40       388       289       53         Pedestrians       289       53       53         Pedestrians       289       53       53         Percent Blockage       Right turn flare (veh)       Wedian storage veh)       96       None       None         Wedian storage veh)       Upstream signal (m)       371       342       7       7         vC1, stage 1 conf vol       vC2, stage 2 conf vol       vC4, stage 1 conf vol       vC2, stage 2 conf vol       vC4, unblocked vol       590       171       342       7       7       7         VC2, stage 1 conf vol       vC2, stage 2       00       171       342       7       7       7       7       7       7       7       7       7       7       7       7       7       7       7       7       7 <td< td=""><td>Sign Control</td><td>Stop</td><td></td><td></td><td>Free</td><td>Free</td><td></td></td<>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Sign Control           | Stop |              |      | Free         | Free        |            |
| Hourly flow rate (vph) 22 96 40 388 289 53<br>Pedestrians<br>Lane Width (m)<br>Walking Speed (m/s)<br>Percent Blockage<br>Right turn flare (veh)<br>Median storage veh)<br>Upstream signal (m) 371<br>VX, platoon unblocked<br>VC, conflicting volume 590 171 342<br>VC, conflicting volume 590 171 342<br>VC, single (s) 6.8 7.0 4.2<br>C, single (s) 6.8 7.0 4.2<br>C, 2 stage (s)<br>IF (s) 3.5 3.4 2.2<br>D0 queue free % 95 88 97<br>CM capacity (veh/h) 429 827 1207<br>Direction, Lane # EB1 NB 1 NB 2 SB 1 SB 2<br>Volume Total 118 169 259 193 149<br>Volume Left 22 40 0 0 0<br>Volume Right 96 0 0 0 53<br>cSH 705 1207 1700 1700<br>Volume Capacity 0.17 0.03 0.15 0.11 0.09<br>Queue Length 95th (m) 4.8 0.8 0.0 0.0<br>Control Delay (s) 11.1 0.8 0.0<br>Approach LOS B<br>Intersection Summary<br>Average Delay 1.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Grade                  | 0%   |              |      | 0%           | 0%          |            |
| Pedestrians         Lane Width (m)         Walking Speed (m/s)         Percent Blockage         Right turn flare (veh)         Median storage veh)         Upstream signal (m)         X, platon unblocked         VC, conflicting volume         VC, conflicting volume         VC, conflicting volume         VC, conflicting volume         VC, stage 1 conf vol         VC2, stage 2 conf vol         VC2, stage 2 conf vol         VC2, stage (s)         EF (s)       3.5         Oqueue free %       95         95       88         97         CM capacity (veh/h)       429         827       1207         Direction, Lane #       EB 1       NB 1       NB 2       SB 1       SB 2         Volume Total       118       169       259       193       149         Volume Left       22       40       0       0       0         Volume Right       96       0       0       0       0       0         Volume Left       22       40       0       0       0       0       0       0       0       0       0       0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Peak Hour Factor       | 0.85 | 0.85         | 0.86 | 0.88         | 0.89        | 0.83       |
| Pedestrians         Lane Width (m)         Walking Speed (m/s)         Percent Blockage         Right turn flare (veh)         Median type       None         Median storage veh)         Upstream signal (m)       371         x0x, platoon unblocked         vC1, stage 1 conf vol         vC2, stage 2 conf vol         vC4, unblocked vol       590         VC2, stage 2 conf vol         vC4, unblocked vol       590         VC2, stage 2 conf vol         vC4, unblocked vol       590         VC2, stage (s)         F(s)       3.5         S.5       3.4         2.2       200 queue free %         95       88         97       200 queue free %         98       827         201 queue free %       95         98       97         202 40       0       0         203 queue free       95         217       <                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Hourly flow rate (vph) | 22   | 96           | 40   | 388          | 289         | 53         |
| Walking Speed (m/s)         Percent Blockage         Right turn flare (veh)         Median storage veh)         Upstream signal (m)       371         DX, platon unblocked         vC, conflicting volume       590       171       342         vC1, stage 1 conf vol         vC2, stage 2 conf vol       vC4, unblocked vol       590       171       342         vC2, stage 2 conf vol       vC4, unblocked vol       590       171       342         VC2, stage 2 conf vol       vC4, unblocked vol       590       171       342         VC2, stage 2 conf vol       vC4, unblocked vol       590       171       342         VC2, stage (s)       58       7.0       4.2       4.2         VC, single (s)       6.8       7.0       4.2       4.2         VC, stage (s)       58       97       50       90       95       88       97         cM capacity (veh/h)       429       827       1207       1207       1207       1207       1207       1207       149       Volume Left       22       40       0       0       0       0       0       111       100       1700       1700       1700       1700       1700                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Pedestrians            |      |              |      |              |             |            |
| Walking Speed (m/s)         Percent Blockage         Right turn flare (veh)         Median type       None         Median storage veh)         Upstream signal (m)       371         DX, platoon unblocked         vC, conflicting volume       590       171       342         vC1, stage 1 conf vol       vC2, stage 2 conf vol       vC4, unblocked vol       590       171       342         vC2, stage 2 conf vol       vC4, unblocked vol       590       171       342       VC6, single (s)       6.8       7.0       4.2         C2, stage (s)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Lane Width (m)         |      |              |      |              |             |            |
| Percent Blockage         Right turn flare (veh)         Median type       None       None         Median storage veh)       371       371         Upstream signal (m)       371       371         pX, platoon unblocked       70       342         vC1, stage 1 conf vol       70       71         vC2, stage 2 conf vol       70       4.2         vC1, unblocked vol       590       171       342         vC, single (s)       6.8       7.0       4.2         vC, 2 stage (s)       88       97       70         EF (s)       3.5       3.4       2.2         p0 queue free %       95       88       97         CM capacity (veh/h)       429       827       1207         Direction, Lane #       EB 1       NB 1       NB 2       SB 1       SB 2         Volume Total       118       169       259       193       149         Volume Left       22       40       0       0       0         Volume to Capacity       0.17       0.03       0.15       0.11       0.09         Queue Length 95th (m)       4.8       0.8       0.0       0.0       0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                        |      |              |      |              |             |            |
| Right turn flare (veh)       None       None       None         Median storage veh)       371       371         Upstream signal (m)       371       371         pX, platoon unblocked       590       171       342         vC1, stage 1 conf vol       590       171       342         vC2, stage 2 conf vol       vCu, unblocked vol       590       171       342         vCu, unblocked vol       590       171       342       50       171       342         VC, stage 2 conf vol       vCu, unblocked vol       590       171       342       50       171       342       50       171       342       50       171       342       50       171       342       50       171       342       50       171       342       50       171       342       50       171       342       50       171       342       50       171       342       50       171       342       50       171       342       50       171       342       50       171       342       50       50       171       342       50       50       171       342       50       50       171       50       50       50       171 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                        |      |              |      |              |             |            |
| Median type         None         None           Median storage veh)         371         371           Upstream signal (m)         371         371           pox, platoon unblocked         590         171         342           vC1, stage 1 conf vol         vC2, stage 2 conf vol         vC2, stage 2 conf vol           vC2, stage 2 conf vol         590         171         342           tC, single (s)         6.8         7.0         4.2           tC, single (s)         6.8         7.0         4.2           tC, stage (s)         827         1207           Direction, Lane #         EB 1         NB 1         NB 2         SB 1         SB 2           Volume Total         118         169         259         193         149           Volume Left         22         40         0         0         0           Volume Right         96         0         0         0         53           cSH         705         1207         1700         1700         1700           Volume Left         96         0         0         0         0         0           Queue Length 95th (m)         4.8         0.8         0.0         0.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                        |      |              |      |              |             |            |
| Median storage veh)       371         Upstream signal (m)       371         pX, platoon unblocked       590       171       342         vC1, stage 1 conf vol       vC2, stage 2 conf vol       vC4, unblocked vol       590       171       342         vC2, stage 2 conf vol       vC4, unblocked vol       590       171       342       171       342         vC4, unblocked vol       590       171       342       171       342       171       342       171       342       171       342       171       342       171       342       171       342       171       342       171       342       171       342       171       342       171       342       171       342       171       342       171       342       171       342       171       342       171       342       171       342       171       342       171       342       170       170       170       170       171       342       171       171       342       171       171       171       171       171       171       171       171       171       171       171       171       171       171       171       171       171       171<                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                        |      |              |      | None         | None        |            |
| Upstream signal (m)       371         pX, platoon unblocked       590       171       342         vC1, stage 1 conf vol       vC2, stage 2 conf vol       vC4, unblocked vol       590       171       342         vC2, stage 2 conf vol       vC4, unblocked vol       590       171       342       342         VC3, stage 2 conf vol       vC4, unblocked vol       590       171       342       342         C6, single (s)       6.8       7.0       4.2       4.2       4.2       4.2         VC4, unblocked vol       95       8.8       97       5.5       3.4       2.2       5.5       5.6       5.6       7.0       4.2       5.5       5.6       7.0       4.2       5.5       5.6       7.0       4.2       5.5       5.6       7.0       4.2       5.7       7.0       7.0       7.0       7.0       7.0       7.0       7.0       7.0       7.0       7.0       7.0       7.0       7.0       7.0       7.0       7.0       7.00       7.00       7.00       7.00       7.00       7.00       7.00       7.00       7.00       7.00       7.00       7.00       7.00       7.00       7.00       7.00       7.00       7.00 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                        |      |              |      |              |             |            |
| DX, platoon unblocked         VC, conflicting volume       590       171       342         VC1, stage 1 conf vol       VC2, stage 2 conf vol       VC2, stage 2 conf vol         VC2, stage 2 conf vol       VC1, unblocked vol       590       171       342         IC, single (s)       6.8       7.0       4.2       4.2         IC, 2 stage (s)       IF (s)       3.5       3.4       2.2         p0 queue free %       95       88       97         CM capacity (veh/h)       429       827       1207         Direction, Lane #       EB 1       NB 1       NB 2       SB 1       SB 2         Volume Total       118       169       259       193       149         Volume Left       22       40       0       0       0         Volume Right       96       0       0       0       0         Volume Kight       96       0       0.0       0.0       0         Volume Right       96       0       0       0       0       0         Volume Kight       96       0       0.0       0.0       0.0       0.0         Volume Left       22       40       0       0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                        |      |              |      | 371          |             |            |
| vC, conflicting volume       590       171       342         vC1, stage 1 conf vol       vC2, stage 2 conf vol       vCu, unblocked vol       590       171       342         vCu, unblocked vol       590       171       342                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        |      |              |      |              |             |            |
| vC1, stage 1 conf vol       vC2, stage 2 conf vol         vC2, stage 2 conf vol       vCu, unblocked vol       590       171       342         vC2, single (s)       6.8       7.0       4.2         tC, 2 stage (s)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                        | 590  | 171          | 342  |              |             |            |
| vC2, stage 2 conf vol         vCu, unblocked vol       590       171       342         iC, single (s)       6.8       7.0       4.2         iC, 2 stage (s)       it       it       2.2         p0 queue free %       95       88       97         p0 queue free %       95       88       97         p1 cm capacity (veh/h)       429       827       1207         p1 cm ction, Lane #       EB 1       NB 1       NB 2       SB 1       SB 2         Volume Total       118       169       259       193       149         Volume Left       22       40       0       0       0         Volume Right       96       0       0       0       53         cSH       705       1207       1700       1700       1700         Volume to Capacity       0.17       0.03       0.15       0.11       0.09         Queue Length 95th (m)       4.8       0.8       0.0       0.0       0.0         Control Delay (s)       11.1       2.1       0.0       0.0       0.0         Lane LOS       B       A       A       Approach LOS       B       A       A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                        |      |              |      |              |             |            |
| vCu, unblocked vol       590       171       342         iC, single (s)       6.8       7.0       4.2         iC, 2 stage (s)       if (s)       3.5       3.4       2.2         p0 queue free %       95       88       97         p0 queue free %       95       88       97         p0 queue free %       95       88       97         p0 queue free %       95       827       1207         Direction, Lane #       EB 1       NB 1       NB 2       SB 1       SB 2         Volume Total       118       169       259       193       149         Volume Left       22       40       0       0       0         Volume Right       96       0       0       0       53         cSH       705       1207       1700       1700       1700         Volume to Capacity       0.17       0.03       0.15       0.11       0.09         Queue Length 95th (m)       4.8       0.8       0.0       0.0       0.0         Control Delay (s)       11.1       2.1       0.0       0.0       0.0         Lane LOS       B       A       A       0.0       0.0 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                        |      |              |      |              |             |            |
| tC, single (s)       6.8       7.0       4.2         tC, 2 stage (s)       3.5       3.4       2.2         p0 queue free %       95       88       97         p1 cm capacity (veh/h)       429       827       1207         Direction, Lane #       EB 1       NB 1       NB 2       SB 1       SB 2         Volume Total       118       169       259       193       149         Volume Left       22       40       0       0       0         Volume Right       96       0       0       0       53         cSH       705       1207       1700       1700       1700         Volume to Capacity       0.17       0.03       0.15       0.11       0.09         Queue Length 95th (m)       4.8       0.8       0.0       0.0       0.0         Control Delay (s)       11.1       2.1       0.0       0.0       0.0         Lane LOS       B       A       A       0.0       A       0.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | vCu, unblocked vol     | 590  | 171          | 342  |              |             |            |
| IC, 2 stage (s)<br>IF (s) 3.5 3.4 2.2<br>p0 queue free % 95 88 97<br>CM capacity (veh/h) 429 827 1207<br>Direction, Lane # EB 1 NB 1 NB 2 SB 1 SB 2<br>Volume Total 118 169 259 193 149<br>Volume Left 22 40 0 0 0<br>Volume Right 96 0 0 0 53<br>CSH 705 1207 1700 1700 1700<br>Volume to Capacity 0.17 0.03 0.15 0.11 0.09<br>Queue Length 95th (m) 4.8 0.8 0.0 0.0 0.0<br>Control Delay (s) 11.1 2.1 0.0 0.0 0.0<br>Lane LOS B A<br>Approach Delay (s) 11.1 0.8 0.0<br>Intersection Summary<br>Average Delay 1.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | ,                      |      |              |      |              |             |            |
| IF (s)       3.5       3.4       2.2         p0 queue free %       95       88       97         p2 cM capacity (veh/h)       429       827       1207         Direction, Lane #       EB 1       NB 1       NB 2       SB 1       SB 2         Volume Total       118       169       259       193       149         Volume Left       22       40       0       0       0         Volume Right       96       0       0       53       cSH         CSH       705       1207       1700       1700       1700         Volume to Capacity       0.17       0.03       0.15       0.11       0.09         Queue Length 95th (m)       4.8       0.8       0.0       0.0       0.0         Control Delay (s)       11.1       2.1       0.0       0.0       0.0         Lane LOS       B       A       A       Approach Delay (s)       11.1       0.8       0.0         Approach LOS       B       A       1.9       1.9       1.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | - · · ·                |      |              |      |              |             |            |
| Diversion       95       88       97         CM capacity (veh/h)       429       827       1207         Direction, Lane #       EB 1       NB 1       NB 2       SB 1       SB 2         Volume Total       118       169       259       193       149         Volume Total       118       169       259       193       149         Volume Left       22       40       0       0       0         Volume Right       96       0       0       53       53         cSH       705       1207       1700       1700       1700         Volume to Capacity       0.17       0.03       0.15       0.11       0.09         Queue Length 95th (m)       4.8       0.8       0.0       0.0       0.0         Control Delay (s)       11.1       2.1       0.0       0.0       0.0         Lane LOS       B       A       A       0.0       0.0       0.0         Approach Delay (s)       11.1       0.8       0.0       0.0       0.0         Approach LOS       B       A       1.9       1.9       1.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | tF (s)                 | 3.5  | 3.4          | 2.2  |              |             |            |
| CM capacity (veh/h)       429       827       1207         Direction, Lane #       EB 1       NB 1       NB 2       SB 1       SB 2         Volume Total       118       169       259       193       149         Volume Left       22       40       0       0       0         Volume Right       96       0       0       0       53         CSH       705       1207       1700       1700       1700         Volume to Capacity       0.17       0.03       0.15       0.11       0.09         Queue Length 95th (m)       4.8       0.8       0.0       0.0       0.0         Control Delay (s)       11.1       2.1       0.0       0.0       0.0         Lane LOS       B       A       0.8       0.0       0.0         Approach Delay (s)       11.1       0.8       0.0       0.0         Approach LOS       B       A       0.10       0.0       0.0         Average Delay       1.9       1.9       1.9       1.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                        |      |              |      |              |             |            |
| Direction, Lane #         EB 1         NB 1         NB 2         SB 1         SB 2           Volume Total         118         169         259         193         149           Volume Left         22         40         0         0         0           Volume Right         96         0         0         0         53           cSH         705         1207         1700         1700         1700           Volume to Capacity         0.17         0.03         0.15         0.11         0.09           Queue Length 95th (m)         4.8         0.8         0.0         0.0         10           Control Delay (s)         11.1         2.1         0.0         0.0         0.0           Lane LOS         B         A         A         0.0         0.0         0.0           Approach Delay (s)         11.1         0.8         0.0         0.0         0.0           Approach LOS         B         A         0.0         0.0         0.0           Average Delay         1.9         1.9         1.9         1.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                        |      |              |      |              |             |            |
| Volume Total         118         169         259         193         149           Volume Left         22         40         0         0         0           Volume Right         96         0         0         0         53           cSH         705         1207         1700         1700         1700           Volume to Capacity         0.17         0.03         0.15         0.11         0.09           Queue Length 95th (m)         4.8         0.8         0.0         0.0         0.0           Control Delay (s)         11.1         2.1         0.0         0.0         0.0           Lane LOS         B         A         Approach Delay (s)         11.1         0.8         0.0           Approach LOS         B         A         11.1         0.8         0.0         0.0           Approach LOS         B         A         0.0         0.0         0.0         0.0           Average Delay         1.9         1.9         1.9         1.9         1.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ,                      |      |              |      |              | 00.0        |            |
| Volume Left         22         40         0         0         0           Volume Right         96         0         0         0         53           cSH         705         1207         1700         1700         1700           Volume to Capacity         0.17         0.03         0.15         0.11         0.09           Queue Length 95th (m)         4.8         0.8         0.0         0.0         0.0           Control Delay (s)         11.1         2.1         0.0         0.0         0.0           Lane LOS         B         A         Approach Delay (s)         11.1         0.8         0.0           Approach LOS         B         A         11.1         0.8         0.0         0.0           Approach LOS         B         A         11.1         0.8         0.0         0.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                        |      |              |      |              |             |            |
| Volume Right         96         0         0         53           cSH         705         1207         1700         1700         1700           Volume to Capacity         0.17         0.03         0.15         0.11         0.09           Queue Length 95th (m)         4.8         0.8         0.0         0.0         0.0           Control Delay (s)         11.1         2.1         0.0         0.0         0.0           Lane LOS         B         A         Approach Delay (s)         11.1         0.8         0.0           Approach LOS         B         A         4.8         0.8         0.0         0.0           Average Delay         1.9         1.9         1.9         1.9         1.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                        |      |              |      |              |             |            |
| CSH     705     1207     1700     1700       Volume to Capacity     0.17     0.03     0.15     0.11     0.09       Queue Length 95th (m)     4.8     0.8     0.0     0.0     0.0       Control Delay (s)     11.1     2.1     0.0     0.0     0.0       Lane LOS     B     A       Approach Delay (s)     11.1     0.8     0.0       Approach LOS     B     0.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                        |      |              |      |              |             |            |
| Volume to Capacity         0.17         0.03         0.15         0.11         0.09           Queue Length 95th (m)         4.8         0.8         0.0         0.0         0.0           Control Delay (s)         11.1         2.1         0.0         0.0         0.0           Lane LOS         B         A         Approach Delay (s)         11.1         0.8         0.0           Approach LOS         B         A         Intersection Summary         1.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                        |      |              |      |              |             |            |
| Queue Length 95th (m)         4.8         0.8         0.0         0.0         0.0           Control Delay (s)         11.1         2.1         0.0         0.0         0.0           Lane LOS         B         A         A         0.0         0.0         0.0           Approach Delay (s)         11.1         0.8         0.0         0.0         0.0         0.0           Intersection Summary         Average Delay         1.9         1.9         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                        |      |              |      |              |             |            |
| Control Delay (s)         11.1         2.1         0.0         0.0         0.0           Lane LOS         B         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                        |      |              |      |              |             |            |
| Lane LOS B A<br>Approach Delay (s) 11.1 0.8 0.0<br>Approach LOS B<br>Intersection Summary<br>Average Delay 1.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | •                      |      |              |      |              |             |            |
| Approach Delay (s)       11.1       0.8       0.0         Approach LOS       B       Intersection Summary         Average Delay       1.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | • • • •                | _    |              | 0.0  | 0.0          | 0.0         |            |
| Approach LOS B<br>Intersection Summary<br>Average Delay 1.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                        |      |              |      |              |             |            |
| Intersection Summary<br>Average Delay 1.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                        |      | 0.8          |      | 0.0          |             |            |
| Average Delay 1.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Approach LOS           | В    |              |      |              |             |            |
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| 0.4  | 0.0                                                                                                                                                       | 5.3                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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| 0.5  | 0.0                                                                                                                                                       | 17.7                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|      |                                                                                                                                                           | С                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|      |                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|      |                                                                                                                                                           | 1.4                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| on   |                                                                                                                                                           | 48.9%                                                                                                                                                                                                                                                                                                                                                                                                             | IC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | U Level o                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | of Service                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|      |                                                                                                                                                           | 15                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|      | EBL<br>17<br>17<br>0.80<br>21<br>0.80<br>21<br>349<br>349<br>4.1<br>2.2<br>98<br>1216<br>EB 1<br>567<br>21<br>0<br>1216<br>0.02<br>0.4<br>0.5<br>A<br>0.5 | EBL       EBT         17       453         17       453         17       453         17       453         17       453         17       453         17       453         17       453         17       453         17       453         17       453         17       453         0%       0.83         21       546         4       3.6         1.2       0         0       1.2         0       None         349 | EBL         EBT         WBT           17         453         236           17         453         236           17         453         236           17         453         236           17         453         236           17         453         236           17         453         236           Free         Free         0%         0%           0.80         0.83         0.73         21           21         546         323         4           4         4         3.6         3.6           1.2         1.2         0         0           0         0         0         0           349         4.1         -         -           349         4.1         -         -           2.2         98         -         -           349         -         -         -           349         -         -         -           2.2         98         -         -           349         -         -         -           2.1         0         43         - | EBL         EBT         WBT         WBR           17         453         236         16           17         453         236         16           17         453         236         16           17         453         236         16           17         453         236         16           Free         Free         0%         0%           0.80         0.83         0.73         0.75           21         546         323         21           4         4         3.6         3.6           1.2         1.2         0         0           None         None         None         None           349         4.1         349         349           349         4.1         349         349           349         4.1         349         349           349         4.1         349         349           32.2         98         349         349           1216         70         347         043           0         21         21         121           1216         1700         347 <t< td=""><td>EBL         EBT         WBT         WBR         SBL           17         453         236         16         36           17         453         236         16         36           17         453         236         16         36           17         453         236         16         36           17         453         236         16         36           17         453         236         16         36           17         453         236         16         36           17         453         236         16         36           17         50.83         0.73         0.75         0.83           21         546         323         21         43           4         4         5         3.6         3.6           3.6         3.6         3.6         3.6         3.6           349         930         930         4.1         6.5           2.2         3.6         85         36         36           98         85         1216         280         36           EB 1         WB 1         SB 1         5</td></t<> | EBL         EBT         WBT         WBR         SBL           17         453         236         16         36           17         453         236         16         36           17         453         236         16         36           17         453         236         16         36           17         453         236         16         36           17         453         236         16         36           17         453         236         16         36           17         453         236         16         36           17         50.83         0.73         0.75         0.83           21         546         323         21         43           4         4         5         3.6         3.6           3.6         3.6         3.6         3.6         3.6           349         930         930         4.1         6.5           2.2         3.6         85         36         36           98         85         1216         280         36           EB 1         WB 1         SB 1         5 |

| Movement              | EB   | EB    | EB    | WB    | WB    | NB   | NB    | SB    | SB    |  |
|-----------------------|------|-------|-------|-------|-------|------|-------|-------|-------|--|
| Directions Served     | L    | Т     | TR    | L     | TR    | L    | TR    | L     | TR    |  |
| Maximum Queue (m)     | 34.5 | 39.0  | 42.1  | 20.5  | 84.8  | 23.5 | 78.2  | 62.2  | 50.9  |  |
| Average Queue (m)     | 12.2 | 18.0  | 21.9  | 6.0   | 41.0  | 4.7  | 35.6  | 33.6  | 22.5  |  |
| 95th Queue (m)        | 26.3 | 32.7  | 39.3  | 14.1  | 71.8  | 15.3 | 62.3  | 55.5  | 41.5  |  |
| Link Distance (m)     |      | 588.4 |       | 792.4 | 792.4 |      | 392.5 | 354.3 | 354.3 |  |
| Upstream Blk Time (%) |      |       |       |       |       |      |       |       |       |  |
| Queuing Penalty (veh) |      |       |       |       |       |      |       |       |       |  |
| Storage Bay Dist (m)  | 90.0 |       | 124.0 |       |       | 50.0 |       |       |       |  |
| Storage Blk Time (%)  |      |       |       |       |       |      | 3     |       |       |  |
| Queuing Penalty (veh) |      |       |       |       |       |      | 1     |       |       |  |

#### Intersection: 6: Broadview Dr & Atwater St

| Movement              | EB    |
|-----------------------|-------|
| Directions Served     | LR    |
| Maximum Queue (m)     | 12.9  |
| Average Queue (m)     | 4.9   |
| 95th Queue (m)        | 12.9  |
| Link Distance (m)     | 339.8 |
| Upstream Blk Time (%) |       |
| Queuing Penalty (veh) |       |
| Storage Bay Dist (m)  |       |
| Storage Blk Time (%)  |       |
| Queuing Penalty (veh) |       |

| Movement              | EB    | ND    | ND    | CD    |
|-----------------------|-------|-------|-------|-------|
| Movement              | ED    | NB    | NB    | SB    |
| Directions Served     | LR    | LT    | Т     | TR    |
| Maximum Queue (m)     | 17.0  | 14.0  | 1.7   | 9.4   |
| Average Queue (m)     | 8.2   | 1.4   | 0.1   | 0.5   |
| 95th Queue (m)        | 13.9  | 7.9   | 1.2   | 4.6   |
| Link Distance (m)     | 380.6 | 515.6 | 515.6 | 423.6 |
| Upstream Blk Time (%) |       |       |       |       |
| Queuing Penalty (veh) |       |       |       |       |
| Storage Bay Dist (m)  |       |       |       |       |
| Storage Blk Time (%)  |       |       |       |       |
| Queuing Penalty (veh) |       |       |       |       |

| Movement              | EB    | NB    | SB    |
|-----------------------|-------|-------|-------|
| Directions Served     | LR    | LT    | TR    |
| Maximum Queue (m)     | 19.0  | 12.9  | 1.3   |
| Average Queue (m)     | 10.5  | 2.9   | 0.0   |
| 95th Queue (m)        | 16.7  | 10.2  | 0.9   |
| Link Distance (m)     | 304.9 | 354.3 | 515.6 |
| Upstream Blk Time (%) |       |       |       |
| Queuing Penalty (veh) |       |       |       |
| Storage Bay Dist (m)  |       |       |       |
| Storage Blk Time (%)  |       |       |       |
| Queuing Penalty (veh) |       |       |       |

#### Intersection: 11: Second Line W & Arden St

| Movement              | EB    | WB    | SB    |
|-----------------------|-------|-------|-------|
| Directions Served     | LT    | TR    | LR    |
| Maximum Queue (m)     | 17.0  | 6.0   | 22.8  |
| Average Queue (m)     | 1.2   | 0.2   | 8.8   |
| 95th Queue (m)        | 8.0   | 3.0   | 17.9  |
| Link Distance (m)     | 978.1 | 588.4 | 347.2 |
| Upstream Blk Time (%) |       |       |       |
| Queuing Penalty (veh) |       |       |       |
| Storage Bay Dist (m)  |       |       |       |
| Storage Blk Time (%)  |       |       |       |
| Queuing Penalty (veh) |       |       |       |
|                       |       |       |       |

#### Zone Summary

|                              | ٦           | -           | $\mathbf{r}$ | 4    | +          | •          | •       | 1    | ۲    | 1     | ţ    | ~    |
|------------------------------|-------------|-------------|--------------|------|------------|------------|---------|------|------|-------|------|------|
| Movement                     | EBL         | EBT         | EBR          | WBL  | WBT        | WBR        | NBL     | NBT  | NBR  | SBL   | SBT  | SBR  |
| Lane Configurations          | ሻ           | <b>∱</b> ĵ≽ |              | ٦    | et 🗧       |            | ٦       | el 🗧 |      | ٦     | el 🗧 |      |
| Traffic Volume (vph)         | 44          | 482         | 35           | 145  | 537        | 162        | 52      | 119  | 98   | 231   | 186  | 62   |
| Future Volume (vph)          | 44          | 482         | 35           | 145  | 537        | 162        | 52      | 119  | 98   | 231   | 186  | 62   |
| Ideal Flow (vphpl)           | 1900        | 1900        | 1900         | 1900 | 1900       | 1900       | 1900    | 1900 | 1900 | 1900  | 1900 | 1900 |
| Total Lost time (s)          | 4.0         | 7.0         |              | 7.0  | 7.0        |            | 6.0     | 6.0  |      | 4.0   | 6.0  |      |
| Lane Util. Factor            | 1.00        | 0.95        |              | 1.00 | 1.00       |            | 1.00    | 1.00 |      | 1.00  | 1.00 |      |
| Frpb, ped/bikes              | 1.00        | 1.00        |              | 1.00 | 0.99       |            | 1.00    | 0.99 |      | 1.00  | 0.99 |      |
| Flpb, ped/bikes              | 1.00        | 1.00        |              | 0.99 | 1.00       |            | 0.99    | 1.00 |      | 1.00  | 1.00 |      |
| Frt                          | 1.00        | 0.99        |              | 1.00 | 0.97       |            | 1.00    | 0.93 |      | 1.00  | 0.96 |      |
| Flt Protected                | 0.95        | 1.00        |              | 0.95 | 1.00       |            | 0.95    | 1.00 |      | 0.95  | 1.00 |      |
| Satd. Flow (prot)            | 1687        | 3365        |              | 1757 | 1739       |            | 1728    | 1691 |      | 1763  | 1758 |      |
| Flt Permitted                | 0.10        | 1.00        |              | 0.44 | 1.00       |            | 0.59    | 1.00 |      | 0.35  | 1.00 |      |
| Satd. Flow (perm)            | 173         | 3365        |              | 816  | 1739       |            | 1080    | 1691 |      | 654   | 1758 |      |
| Peak-hour factor, PHF        | 0.92        | 0.92        | 0.92         | 0.92 | 0.92       | 0.92       | 0.92    | 0.92 | 0.92 | 0.92  | 0.92 | 0.92 |
| Adj. Flow (vph)              | 48          | 524         | 38           | 158  | 584        | 176        | 57      | 129  | 107  | 251   | 202  | 67   |
| RTOR Reduction (vph)         | 0           | 5           | 0            | 0    | 9          | 0          | 0       | 38   | 0    | 0     | 16   | 0    |
| Lane Group Flow (vph)        | 48          | 557         | 0            | 158  | 751        | 0          | 57      | 198  | 0    | 251   | 253  | 0    |
| Confl. Peds. (#/hr)          | 17          |             | 9            | 9    |            | 17         | 12      |      | 21   | 21    |      | 12   |
| Heavy Vehicles (%)           | 7%          | 6%          | 5%           | 2%   | 5%         | 4%         | 3%      | 0%   | 7%   | 2%    | 2%   | 6%   |
| Turn Type                    | pm+pt       | NA          |              | Perm | NA         |            | Perm    | NA   |      | pm+pt | NA   |      |
| Protected Phases             | 5           | 2           |              |      | 6          |            |         | 8    |      | 7     | 4    |      |
| Permitted Phases             | 2           |             |              | 6    |            |            | 8       |      |      | 4     |      |      |
| Actuated Green, G (s)        | 48.8        | 48.8        |              | 40.6 | 40.6       |            | 17.2    | 17.2 |      | 28.2  | 28.2 |      |
| Effective Green, g (s)       | 48.8        | 48.8        |              | 40.6 | 40.6       |            | 17.2    | 17.2 |      | 28.2  | 28.2 |      |
| Actuated g/C Ratio           | 0.54        | 0.54        |              | 0.45 | 0.45       |            | 0.19    | 0.19 |      | 0.31  | 0.31 |      |
| Clearance Time (s)           | 4.0         | 7.0         |              | 7.0  | 7.0        |            | 6.0     | 6.0  |      | 4.0   | 6.0  |      |
| Vehicle Extension (s)        | 3.0         | 3.0         |              | 3.0  | 3.0        |            | 3.0     | 3.0  |      | 3.0   | 3.0  |      |
| Lane Grp Cap (vph)           | 164         | 1824        |              | 368  | 784        |            | 206     | 323  |      | 291   | 550  |      |
| v/s Ratio Prot               | 0.01        | c0.17       |              |      | c0.43      |            |         | 0.12 |      | c0.07 | 0.14 |      |
| v/s Ratio Perm               | 0.14        |             |              | 0.19 |            |            | 0.05    |      |      | c0.20 |      |      |
| v/c Ratio                    | 0.29        | 0.31        |              | 0.43 | 0.96       |            | 0.28    | 0.61 |      | 0.86  | 0.46 |      |
| Uniform Delay, d1            | 16.3        | 11.3        |              | 16.8 | 23.9       |            | 31.1    | 33.4 |      | 28.1  | 24.8 |      |
| Progression Factor           | 1.00        | 1.00        |              | 1.00 | 1.00       |            | 1.00    | 1.00 |      | 1.00  | 1.00 |      |
| Incremental Delay, d2        | 1.0         | 0.4         |              | 3.6  | 23.3       |            | 0.7     | 3.4  |      | 22.2  | 0.6  |      |
| Delay (s)                    | 17.3        | 11.7        |              | 20.4 | 47.2       |            | 31.8    | 36.8 |      | 50.3  | 25.4 |      |
| Level of Service             | В           | В           |              | С    | D          |            | С       | D    |      | D     | С    |      |
| Approach Delay (s)           |             | 12.2        |              |      | 42.6       |            |         | 35.8 |      |       | 37.4 |      |
| Approach LOS                 |             | В           |              |      | D          |            |         | D    |      |       | D    |      |
| Intersection Summary         |             |             |              |      |            |            |         |      |      |       |      |      |
| HCM 2000 Control Delay       |             |             | 32.7         | Н    | CM 2000    | Level of   | Service |      | С    |       |      |      |
| HCM 2000 Volume to Cap       | acity ratio |             | 0.93         |      |            |            |         |      |      |       |      |      |
| Actuated Cycle Length (s)    |             |             | 90.0         | S    | um of lost | t time (s) |         |      | 21.0 |       |      |      |
| Intersection Capacity Utiliz | ation       |             | 92.5%        | IC   | CU Level o | of Service | ;       |      | F    |       |      |      |
| Analysis Period (min)        |             |             | 15           |      |            |            |         |      |      |       |      |      |
| c Critical Lane Group        |             |             |              |      |            |            |         |      |      |       |      |      |

c Critical Lane Group

2032 Future Background Conditions PM Model 11:50 pm 01-09-2024 2032 Future Background Conditions

|                               | ٦     | $\mathbf{\hat{v}}$ | •     | t    | Ļ         | ∢          |  |
|-------------------------------|-------|--------------------|-------|------|-----------|------------|--|
| Movement                      | EBL   | EBR                | NBL   | NBT  | SBT       | SBR        |  |
| Lane Configurations           | Υ     |                    |       | ર્સ  | 4         |            |  |
| Traffic Volume (veh/h)        | 7     | 16                 | 10    | 14   | 19        | 8          |  |
| Future Volume (Veh/h)         | 7     | 16                 | 10    | 14   | 19        | 8          |  |
| Sign Control                  | Stop  |                    |       | Free | Free      |            |  |
| Grade                         | 0%    |                    |       | 0%   | 0%        |            |  |
| Peak Hour Factor              | 0.75  | 0.75               | 0.75  | 0.81 | 0.71      | 0.88       |  |
| Hourly flow rate (vph)        | 9     | 21                 | 13    | 17   | 27        | 9          |  |
| Pedestrians                   | 4     |                    |       | 3    | 2         |            |  |
| Lane Width (m)                | 3.6   |                    |       | 3.6  | 3.6       |            |  |
| Walking Speed (m/s)           | 1.2   |                    |       | 1.2  | 1.2       |            |  |
| Percent Blockage              | 0     |                    |       | 0    | 0         |            |  |
| Right turn flare (veh)        |       |                    |       |      |           |            |  |
| Median type                   |       |                    |       | None | None      |            |  |
| Median storage veh)           |       |                    |       |      |           |            |  |
| Upstream signal (m)           |       |                    |       |      |           |            |  |
| pX, platoon unblocked         |       |                    |       |      |           |            |  |
| vC, conflicting volume        | 80    | 38                 | 40    |      |           |            |  |
| vC1, stage 1 conf vol         |       |                    |       |      |           |            |  |
| vC2, stage 2 conf vol         |       |                    |       |      |           |            |  |
| vCu, unblocked vol            | 80    | 38                 | 40    |      |           |            |  |
| tC, single (s)                | 6.6   | 6.2                | 4.1   |      |           |            |  |
| tC, 2 stage (s)               |       |                    |       |      |           |            |  |
| tF (s)                        | 3.7   | 3.3                | 2.2   |      |           |            |  |
| p0 queue free %               | 99    | 98                 | 99    |      |           |            |  |
| cM capacity (veh/h)           | 857   | 1033               | 1577  |      |           |            |  |
| Direction Long #              | EB 1  | NB 1               | SB 1  |      |           |            |  |
| Direction, Lane #             |       |                    |       |      |           |            |  |
| Volume Total                  | 30    | 30                 | 36    |      |           |            |  |
| Volume Left                   | 9     | 13                 | 0     |      |           |            |  |
| Volume Right                  | 21    | 0                  | 9     |      |           |            |  |
| cSH                           | 973   | 1577               | 1700  |      |           |            |  |
| Volume to Capacity            | 0.03  | 0.01               | 0.02  |      |           |            |  |
| Queue Length 95th (m)         | 0.8   | 0.2                | 0.0   |      |           |            |  |
| Control Delay (s)             | 8.8   | 3.2                | 0.0   |      |           |            |  |
| Lane LOS                      | A     | A                  |       |      |           |            |  |
| Approach Delay (s)            | 8.8   | 3.2                | 0.0   |      |           |            |  |
| Approach LOS                  | А     |                    |       |      |           |            |  |
| Intersection Summary          |       | _                  |       |      |           |            |  |
| Average Delay                 |       |                    | 3.8   |      |           |            |  |
| Intersection Capacity Utiliza | ation |                    | 18.9% | IC   | U Level c | of Service |  |
| Analysis Period (min)         |       |                    | 15    |      |           |            |  |
|                               |       |                    |       |      |           |            |  |

|                                   | ≯    | $\mathbf{i}$ | 1     | 1    | Ļ          | ∢         |   |  |
|-----------------------------------|------|--------------|-------|------|------------|-----------|---|--|
| Movement                          | EBL  | EBR          | NBL   | NBT  | SBT        | SBR       |   |  |
| Lane Configurations               | ¥    |              |       | -¢†  | ef.        |           |   |  |
| Traffic Volume (veh/h)            | 11   | 25           | 33    | 194  | 199        | 5         |   |  |
| Future Volume (Veh/h)             | 11   | 25           | 33    | 194  | 199        | 5         |   |  |
| Sign Control                      | Stop |              |       | Free | Free       |           |   |  |
| Grade                             | 0%   |              |       | 0%   | 0%         |           |   |  |
| Peak Hour Factor                  | 0.63 | 0.64         | 0.68  | 0.69 | 0.69       | 0.63      |   |  |
| Hourly flow rate (vph)            | 17   | 39           | 49    | 281  | 288        | 8         |   |  |
| Pedestrians                       | 6    |              |       | 6    | 6          |           |   |  |
| Lane Width (m)                    | 3.6  |              |       | 3.6  | 3.6        |           |   |  |
| Walking Speed (m/s)               | 1.2  |              |       | 1.2  | 1.2        |           |   |  |
| Percent Blockage                  | 1    |              |       | 1    | 1          |           |   |  |
| Right turn flare (veh)            |      |              |       |      |            |           |   |  |
| Median type                       |      |              |       | None | None       |           |   |  |
| Median storage veh)               |      |              |       |      |            |           |   |  |
| Upstream signal (m)               |      |              |       |      |            |           |   |  |
| pX, platoon unblocked             |      |              |       |      |            |           |   |  |
| vC, conflicting volume            | 542  | 304          | 302   |      |            |           |   |  |
| vC1, stage 1 conf vol             |      |              |       |      |            |           |   |  |
| vC2, stage 2 conf vol             |      |              |       |      |            |           |   |  |
| vCu, unblocked vol                | 542  | 304          | 302   |      |            |           |   |  |
| tC, single (s)                    | 6.8  | 7.0          | 4.6   |      |            |           |   |  |
| tC, 2 stage (s)                   |      |              |       |      |            |           |   |  |
| tF (s)                            | 3.5  | 3.3          | 2.4   |      |            |           |   |  |
| p0 queue free %                   | 96   | 94           | 96    |      |            |           |   |  |
| cM capacity (veh/h)               | 450  | 679          | 1111  |      |            |           |   |  |
| Direction, Lane #                 | EB 1 | NB 1         | NB 2  | SB 1 |            |           |   |  |
| Volume Total                      | 56   | 143          | 187   | 296  |            |           |   |  |
| Volume Left                       | 17   | 49           | 0     | 0    |            |           |   |  |
| Volume Right                      | 39   | 0            | 0     | 8    |            |           |   |  |
| cSH                               | 588  | 1111         | 1700  | 1700 |            |           |   |  |
| Volume to Capacity                | 0.10 | 0.04         | 0.11  | 0.17 |            |           |   |  |
| Queue Length 95th (m)             | 2.5  | 1.1          | 0.0   | 0.0  |            |           |   |  |
| Control Delay (s)                 | 11.8 | 3.1          | 0.0   | 0.0  |            |           |   |  |
| Lane LOS                          | В    | A            |       |      |            |           |   |  |
| Approach Delay (s)                | 11.8 | 1.4          |       | 0.0  |            |           |   |  |
| Approach LOS                      | В    |              |       |      |            |           |   |  |
| Intersection Summary              |      |              |       |      |            |           |   |  |
| Average Delay                     |      |              | 1.6   |      |            |           |   |  |
| Intersection Capacity Utilization | on   |              | 32.7% | IC   | CU Level o | f Service | А |  |
| Analysis Period (min)             |      |              | 15    |      |            |           |   |  |

|                                   | ٦    | $\mathbf{i}$ | •     | Ť    | ŧ           | ∢          |  |
|-----------------------------------|------|--------------|-------|------|-------------|------------|--|
| Movement                          | EBL  | EBR          | NBL   | NBT  | SBT         | SBR        |  |
| Lane Configurations               | Y    |              |       | -4↑  | <b>≜</b> †⊅ |            |  |
| Traffic Volume (veh/h)            | 9    | 52           | 54    | 235  | 267         | 15         |  |
| Future Volume (Veh/h)             | 9    | 52           | 54    | 235  | 267         | 15         |  |
| Sign Control                      | Stop |              |       | Free | Free        |            |  |
| Grade                             | 0%   |              |       | 0%   | 0%          |            |  |
| Peak Hour Factor                  | 0.67 | 0.80         | 0.88  | 0.88 | 0.86        | 0.88       |  |
| Hourly flow rate (vph)            | 13   | 65           | 61    | 267  | 310         | 17         |  |
| Pedestrians                       |      |              |       |      |             |            |  |
| Lane Width (m)                    |      |              |       |      |             |            |  |
| Walking Speed (m/s)               |      |              |       |      |             |            |  |
| Percent Blockage                  |      |              |       |      |             |            |  |
| Right turn flare (veh)            |      |              |       |      |             |            |  |
| Median type                       |      |              |       | None | None        |            |  |
| Median storage veh)               |      |              |       |      |             |            |  |
| Upstream signal (m)               |      |              |       | 371  |             |            |  |
| pX, platoon unblocked             |      |              |       |      |             |            |  |
| vC, conflicting volume            | 574  | 164          | 327   |      |             |            |  |
| vC1, stage 1 conf vol             |      |              |       |      |             |            |  |
| vC2, stage 2 conf vol             |      |              |       |      |             |            |  |
| vCu, unblocked vol                | 574  | 164          | 327   |      |             |            |  |
| tC, single (s)                    | 6.8  | 7.0          | 4.2   |      |             |            |  |
| tC, 2 stage (s)                   |      |              |       |      |             |            |  |
| tF (s)                            | 3.5  | 3.4          | 2.2   |      |             |            |  |
| p0 queue free %                   | 97   | 92           | 95    |      |             |            |  |
| cM capacity (veh/h)               | 431  | 837          | 1222  |      |             |            |  |
| Direction, Lane #                 | EB 1 | NB 1         | NB 2  | SB 1 | SB 2        |            |  |
| Volume Total                      | 78   | 150          | 178   | 207  | 120         |            |  |
| Volume Left                       | 13   | 61           | 0     | 0    | 0           |            |  |
| Volume Right                      | 65   | 0            | 0     | 0    | 17          |            |  |
| cSH                               | 723  | 1222         | 1700  | 1700 | 1700        |            |  |
| Volume to Capacity                | 0.11 | 0.05         | 0.10  | 0.12 | 0.07        |            |  |
| Queue Length 95th (m)             | 2.9  | 1.3          | 0.0   | 0.0  | 0.0         |            |  |
| Control Delay (s)                 | 10.6 | 3.5          | 0.0   | 0.0  | 0.0         |            |  |
| Lane LOS                          | B    | A            | 0.0   | 0.0  | 0.0         |            |  |
| Approach Delay (s)                | 10.6 | 1.6          |       | 0.0  |             |            |  |
| Approach LOS                      | B    | 1.0          |       | 0.0  |             |            |  |
| ••                                | U    |              |       |      |             |            |  |
| Intersection Summary              |      |              |       |      |             |            |  |
| Average Delay                     |      |              | 1.9   |      |             |            |  |
| Intersection Capacity Utilization | tion |              | 29.6% | IC   | U Level o   | of Service |  |
| Analysis Period (min)             |      |              | 15    |      |             |            |  |

|                               | ۶     | +      | Ļ     | *    | *         |            |
|-------------------------------|-------|--------|-------|------|-----------|------------|
| Movement                      | EBL   | EBT    | WBT   | WBR  | SBL       | SBR        |
| Lane Configurations           |       | र्स    | 4Î    |      | Y         |            |
| Traffic Volume (veh/h)        | 9     | 486    | 401   | 54   | 33        | 13         |
| Future Volume (Veh/h)         | 9     | 486    | 401   | 54   | 33        | 13         |
| Sign Control                  |       | Free   | Free  | -    | Stop      |            |
| Grade                         |       | 0%     | 0%    |      | 0%        |            |
| Peak Hour Factor              | 1.00  | 0.90   | 0.90  | 0.88 | 0.83      | 0.75       |
| Hourly flow rate (vph)        | 9     | 540    | 446   | 61   | 40        | 17         |
| Pedestrians                   | -     | 24     | 24    | • •  | 36        |            |
| Lane Width (m)                |       | 3.6    | 3.6   |      | 3.6       |            |
| Walking Speed (m/s)           |       | 1.2    | 1.2   |      | 1.2       |            |
| Percent Blockage              |       | 2      | 2     |      | 3         |            |
| Right turn flare (veh)        |       | _      | _     |      | Ŭ         |            |
| Median type                   |       | None   | None  |      |           |            |
| Median storage veh)           |       | Nono   | Nono  |      |           |            |
| Upstream signal (m)           |       |        |       |      |           |            |
| pX, platoon unblocked         |       |        |       |      |           |            |
| vC, conflicting volume        | 543   |        |       |      | 1094      | 536        |
| vC1, stage 1 conf vol         | 0+0   |        |       |      | 100-1     | 000        |
| vC2, stage 2 conf vol         |       |        |       |      |           |            |
| vCu, unblocked vol            | 543   |        |       |      | 1094      | 536        |
| tC, single (s)                | 4.1   |        |       |      | 6.5       | 6.3        |
| tC, 2 stage (s)               | 7.1   |        |       |      | 0.0       | 0.0        |
| tF (s)                        | 2.2   |        |       |      | 3.6       | 3.4        |
| p0 queue free %               | 99    |        |       |      | 81        | 97         |
| cM capacity (veh/h)           | 1005  |        |       |      | 215       | 510        |
|                               |       | 14/5 ( | 05 (  |      | 213       | 510        |
| Direction, Lane #             | EB 1  | WB 1   | SB 1  |      |           |            |
| Volume Total                  | 549   | 507    | 57    |      |           |            |
| Volume Left                   | 9     | 0      | 40    |      |           |            |
| Volume Right                  | 0     | 61     | 17    |      |           |            |
| cSH                           | 1005  | 1700   | 260   |      |           |            |
| Volume to Capacity            | 0.01  | 0.30   | 0.22  |      |           |            |
| Queue Length 95th (m)         | 0.2   | 0.0    | 6.5   |      |           |            |
| Control Delay (s)             | 0.3   | 0.0    | 22.7  |      |           |            |
| Lane LOS                      | А     |        | С     |      |           |            |
| Approach Delay (s)            | 0.3   | 0.0    | 22.7  |      |           |            |
| Approach LOS                  |       |        | С     |      |           |            |
| Intersection Summary          |       |        |       |      |           |            |
| Average Delay                 |       |        | 1.3   |      |           |            |
| Intersection Capacity Utiliza | ation |        | 48.3% | IC   | U Level o | of Service |
| Analysis Period (min)         |       |        | 15    |      |           |            |

| Movement              | EB   | EB    | EB    | WB    | WB    | NB   | NB    | SB    | SB    |
|-----------------------|------|-------|-------|-------|-------|------|-------|-------|-------|
| Directions Served     | L    | Т     | TR    | L     | TR    | L    | TR    | L     | TR    |
| Maximum Queue (m)     | 26.1 | 44.4  | 48.9  | 122.5 | 228.6 | 49.0 | 80.1  | 60.7  | 72.8  |
| Average Queue (m)     | 9.4  | 23.1  | 28.0  | 25.4  | 108.4 | 11.7 | 34.1  | 31.9  | 31.7  |
| 95th Queue (m)        | 20.6 | 38.6  | 45.4  | 70.2  | 205.6 | 27.6 | 61.8  | 52.1  | 58.9  |
| Link Distance (m)     |      | 588.4 |       | 792.4 | 792.4 |      | 392.5 | 354.3 | 354.3 |
| Upstream Blk Time (%) |      |       |       |       |       |      |       |       |       |
| Queuing Penalty (veh) |      |       |       |       |       |      |       |       |       |
| Storage Bay Dist (m)  | 90.0 |       | 124.0 |       |       | 50.0 |       |       |       |
| Storage Blk Time (%)  |      |       |       |       |       |      | 3     |       |       |
| Queuing Penalty (veh) |      |       |       |       |       |      | 1     |       |       |

#### Intersection: 6: Broadview Dr & Atwater St

| Movement              | EB    | NB    |
|-----------------------|-------|-------|
| Directions Served     | LR    | LT    |
| Maximum Queue (m)     | 16.7  | 1.8   |
| Average Queue (m)     | 4.9   | 0.1   |
| 95th Queue (m)        | 13.4  | 1.3   |
| Link Distance (m)     | 339.8 | 424.4 |
| Upstream Blk Time (%) |       |       |
| Queuing Penalty (veh) |       |       |
| Storage Bay Dist (m)  |       |       |
| Storage Blk Time (%)  |       |       |
| Queuing Penalty (veh) |       |       |

| Movement              | EB    | NB    | NB    | SB    |
|-----------------------|-------|-------|-------|-------|
| Directions Served     | LR    | LT    | T     | TR    |
| Maximum Queue (m)     | 10.8  | 18.2  | 5.3   | 3.7   |
| Average Queue (m)     | 5.7   | 3.0   | 0.2   | 0.1   |
| 95th Queue (m)        | 11.9  | 11.8  | 2.2   | 1.9   |
| Link Distance (m)     | 380.6 | 515.6 | 515.6 | 423.6 |
| Upstream Blk Time (%) |       |       |       |       |
| Queuing Penalty (veh) |       |       |       |       |
| Storage Bay Dist (m)  |       |       |       |       |
| Storage Blk Time (%)  |       |       |       |       |
| Queuing Penalty (veh) |       |       |       |       |

| Movement              | EB    | NB    |
|-----------------------|-------|-------|
| Directions Served     | LR    | LT    |
| Maximum Queue (m)     | 17.0  | 13.1  |
| Average Queue (m)     | 8.3   | 3.2   |
| 95th Queue (m)        | 15.2  | 10.9  |
| Link Distance (m)     | 304.9 | 354.3 |
| Upstream Blk Time (%) |       |       |
| Queuing Penalty (veh) |       |       |
| Storage Bay Dist (m)  |       |       |
| Storage Blk Time (%)  |       |       |
| Queuing Penalty (veh) |       |       |

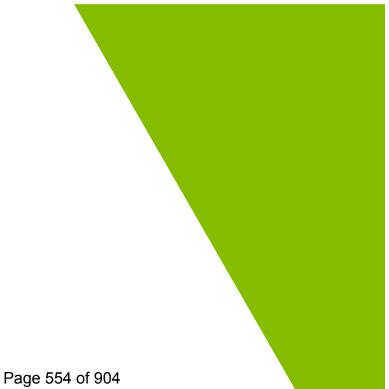
#### Intersection: 11: Second Line W & Arden St

| 1.7   |             |                      |
|-------|-------------|----------------------|
| LT    | TR          | LR                   |
| 40.8  | 32.8        | 22.6                 |
| 6.0   | 4.0         | 8.5                  |
| 23.7  | 17.7        | 18.0                 |
| 978.1 | 588.4       | 347.2                |
|       |             |                      |
|       |             |                      |
|       |             |                      |
|       |             |                      |
|       |             |                      |
|       | 6.0<br>23.7 | 6.0 4.0<br>23.7 17.7 |

#### Zone Summary



# Appendix H 2035 Future Background Synchro and SimTraffic Outputs





|                              | ≯           | -           | $\mathbf{r}$ | 4    | +          | •          | 1       | 1    | 1    | 1     | ţ    | ~    |
|------------------------------|-------------|-------------|--------------|------|------------|------------|---------|------|------|-------|------|------|
| Movement                     | EBL         | EBT         | EBR          | WBL  | WBT        | WBR        | NBL     | NBT  | NBR  | SBL   | SBT  | SBR  |
| Lane Configurations          | ۲           | <b>≜</b> î≽ |              | ۲.   | et         |            | ٦       | eî   |      | ۲.    | ef 👘 |      |
| Traffic Volume (vph)         | 75          | 397         | 31           | 41   | 247        | 191        | 20      | 137  | 72   | 237   | 135  | 45   |
| Future Volume (vph)          | 75          | 397         | 31           | 41   | 247        | 191        | 20      | 137  | 72   | 237   | 135  | 45   |
| Ideal Flow (vphpl)           | 1900        | 1900        | 1900         | 1900 | 1900       | 1900       | 1900    | 1900 | 1900 | 1900  | 1900 | 1900 |
| Total Lost time (s)          | 4.0         | 7.0         |              | 7.0  | 7.0        |            | 6.0     | 6.0  |      | 4.0   | 6.0  |      |
| Lane Util. Factor            | 1.00        | 0.95        |              | 1.00 | 1.00       |            | 1.00    | 1.00 |      | 1.00  | 1.00 |      |
| Frpb, ped/bikes              | 1.00        | 1.00        |              | 1.00 | 0.99       |            | 1.00    | 0.99 |      | 1.00  | 0.99 |      |
| Flpb, ped/bikes              | 1.00        | 1.00        |              | 1.00 | 1.00       |            | 0.99    | 1.00 |      | 1.00  | 1.00 |      |
| Frt                          | 1.00        | 0.99        |              | 1.00 | 0.93       |            | 1.00    | 0.95 |      | 1.00  | 0.96 |      |
| Flt Protected                | 0.95        | 1.00        |              | 0.95 | 1.00       |            | 0.95    | 1.00 |      | 0.95  | 1.00 |      |
| Satd. Flow (prot)            | 1686        | 3365        |              | 1768 | 1685       |            | 1739    | 1747 |      | 1766  | 1762 |      |
| Flt Permitted                | 0.32        | 1.00        |              | 0.48 | 1.00       |            | 0.63    | 1.00 |      | 0.37  | 1.00 |      |
| Satd. Flow (perm)            | 563         | 3365        |              | 901  | 1685       |            | 1162    | 1747 |      | 687   | 1762 |      |
| Peak-hour factor, PHF        | 0.92        | 0.92        | 0.92         | 0.92 | 0.92       | 0.92       | 0.92    | 0.92 | 0.92 | 0.92  | 0.92 | 0.92 |
| Adj. Flow (vph)              | 82          | 432         | 34           | 45   | 268        | 208        | 22      | 149  | 78   | 258   | 147  | 49   |
| RTOR Reduction (vph)         | 0           | 5           | 0            | 0    | 25         | 0          | 0       | 24   | 0    | 0     | 16   | 0    |
| Lane Group Flow (vph)        | 82          | 461         | 0            | 45   | 451        | 0          | 22      | 203  | 0    | 258   | 180  | 0    |
| Confl. Peds. (#/hr)          | 5           |             | 1            | 1    |            | 5          | 6       |      | 10   | 10    |      | 6    |
| Heavy Vehicles (%)           | 7%          | 6%          | 5%           | 2%   | 5%         | 4%         | 3%      | 0%   | 7%   | 2%    | 2%   | 6%   |
| Turn Type                    | pm+pt       | NA          |              | Perm | NA         |            | Perm    | NA   |      | pm+pt | NA   |      |
| Protected Phases             | 5           | 2           |              |      | 6          |            |         | 8    |      | <br>7 | 4    |      |
| Permitted Phases             | 2           |             |              | 6    |            |            | 8       |      |      | 4     |      |      |
| Actuated Green, G (s)        | 48.8        | 48.8        |              | 39.2 | 39.2       |            | 17.2    | 17.2 |      | 28.2  | 28.2 |      |
| Effective Green, g (s)       | 48.8        | 48.8        |              | 39.2 | 39.2       |            | 17.2    | 17.2 |      | 28.2  | 28.2 |      |
| Actuated g/C Ratio           | 0.54        | 0.54        |              | 0.44 | 0.44       |            | 0.19    | 0.19 |      | 0.31  | 0.31 |      |
| Clearance Time (s)           | 4.0         | 7.0         |              | 7.0  | 7.0        |            | 6.0     | 6.0  |      | 4.0   | 6.0  |      |
| Vehicle Extension (s)        | 3.0         | 3.0         |              | 3.0  | 3.0        |            | 3.0     | 3.0  |      | 3.0   | 3.0  |      |
| Lane Grp Cap (vph)           | 375         | 1824        |              | 392  | 733        |            | 222     | 333  |      | 299   | 552  |      |
| v/s Ratio Prot               | 0.01        | c0.14       |              |      | c0.27      |            |         | 0.12 |      | c0.07 | 0.10 |      |
| v/s Ratio Perm               | 0.10        |             |              | 0.05 |            |            | 0.02    |      |      | c0.20 |      |      |
| v/c Ratio                    | 0.22        | 0.25        |              | 0.11 | 0.61       |            | 0.10    | 0.61 |      | 0.86  | 0.33 |      |
| Uniform Delay, d1            | 11.3        | 10.9        |              | 15.1 | 19.6       |            | 30.0    | 33.3 |      | 28.2  | 23.6 |      |
| Progression Factor           | 1.00        | 1.00        |              | 1.00 | 1.00       |            | 1.00    | 1.00 |      | 1.00  | 1.00 |      |
| Incremental Delay, d2        | 0.3         | 0.3         |              | 0.6  | 3.8        |            | 0.2     | 3.1  |      | 21.7  | 0.3  |      |
| Delay (s)                    | 11.6        | 11.3        |              | 15.7 | 23.4       |            | 30.2    | 36.5 |      | 49.9  | 24.0 |      |
| Level of Service             | В           | В           |              | В    | С          |            | С       | D    |      | D     | С    |      |
| Approach Delay (s)           |             | 11.3        |              |      | 22.7       |            |         | 35.9 |      |       | 38.7 |      |
| Approach LOS                 |             | В           |              |      | С          |            |         | D    |      |       | D    |      |
| Intersection Summary         |             |             |              |      |            |            |         |      |      |       |      |      |
| HCM 2000 Control Delay       |             |             | 25.2         | Н    | CM 2000    | Level of   | Service |      | С    |       |      |      |
| HCM 2000 Volume to Cap       | acity ratio |             | 0.72         |      |            |            |         |      |      |       |      |      |
| Actuated Cycle Length (s)    |             |             | 90.0         | S    | um of lost | t time (s) |         |      | 21.0 |       |      |      |
| Intersection Capacity Utiliz | ation       |             | 79.7%        |      |            | of Service |         |      | D    |       |      |      |
| Analysis Period (min)        |             |             | 15           |      |            |            |         |      |      |       |      |      |
| c Critical Lane Group        |             |             |              |      |            |            |         |      |      |       |      |      |

c Critical Lane Group

2035 Future Background Conditions AM Model 11:50 pm 01-09-2024 2035 Future Background Conditions

|                               | ٭    | $\mathbf{\hat{z}}$ | •     | t    | Ļ          | 1          |  |
|-------------------------------|------|--------------------|-------|------|------------|------------|--|
| Movement                      | EBL  | EBR                | NBL   | NBT  | SBT        | SBR        |  |
| Lane Configurations           | ¥    |                    |       | ર્સ  | eî.        |            |  |
| Traffic Volume (veh/h)        | 4    | 18                 | 3     | 20   | 25         | 5          |  |
| Future Volume (Veh/h)         | 4    | 18                 | 3     | 20   | 25         | 5          |  |
| Sign Control                  | Stop |                    |       | Free | Free       |            |  |
| Grade                         | 0%   |                    |       | 0%   | 0%         |            |  |
| Peak Hour Factor              | 1.00 | 0.80               | 0.75  | 0.85 | 0.79       | 0.63       |  |
| Hourly flow rate (vph)        | 4    | 22                 | 4     | 24   | 32         | 8          |  |
| Pedestrians                   | 3    |                    |       | 16   | 16         |            |  |
| Lane Width (m)                | 3.6  |                    |       | 3.6  | 3.6        |            |  |
| Walking Speed (m/s)           | 1.2  |                    |       | 1.2  | 1.2        |            |  |
| Percent Blockage              | 0    |                    |       | 1    | 1          |            |  |
| Right turn flare (veh)        |      |                    |       |      |            |            |  |
| Median type                   |      |                    |       | None | None       |            |  |
| Median storage veh)           |      |                    |       |      |            |            |  |
| Upstream signal (m)           |      |                    |       |      |            |            |  |
| pX, platoon unblocked         |      |                    |       |      |            |            |  |
| vC, conflicting volume        | 87   | 55                 | 43    |      |            |            |  |
| vC1, stage 1 conf vol         |      |                    |       |      |            |            |  |
| vC2, stage 2 conf vol         |      |                    |       |      |            |            |  |
| vCu, unblocked vol            | 87   | 55                 | 43    |      |            |            |  |
| tC, single (s)                | 6.6  | 6.2                | 4.1   |      |            |            |  |
| tC, 2 stage (s)               |      |                    |       |      |            |            |  |
| tF (s)                        | 3.7  | 3.3                | 2.2   |      |            |            |  |
| p0 queue free %               | 100  | 98                 | 100   |      |            |            |  |
| cM capacity (veh/h)           | 845  | 1001               | 1575  |      |            |            |  |
| Direction, Lane #             | EB 1 | NB 1               | SB 1  |      |            |            |  |
| Volume Total                  | 26   | 28                 | 40    |      |            |            |  |
| Volume Left                   | 4    | 4                  | 0     |      |            |            |  |
| Volume Right                  | 22   | 0                  | 8     |      |            |            |  |
| cSH                           | 974  | 1575               | 1700  |      |            |            |  |
| Volume to Capacity            | 0.03 | 0.00               | 0.02  |      |            |            |  |
| Queue Length 95th (m)         | 0.7  | 0.1                | 0.0   |      |            |            |  |
| Control Delay (s)             | 8.8  | 1.1                | 0.0   |      |            |            |  |
| Lane LOS                      | A    | A                  | 0.0   |      |            |            |  |
| Approach Delay (s)            | 8.8  | 1.1                | 0.0   |      |            |            |  |
| Approach LOS                  | A    |                    | 0.0   |      |            |            |  |
|                               |      |                    |       |      |            |            |  |
| Intersection Summary          |      |                    |       |      |            |            |  |
| Average Delay                 |      |                    | 2.7   |      |            | ( 0 ·      |  |
| Intersection Capacity Utiliza | tion |                    | 18.4% | IC   | CU Level c | ot Service |  |
| Analysis Period (min)         |      |                    | 15    |      |            |            |  |

|                                 | ٦    | $\mathbf{\hat{z}}$ | •     | 1    | Ŧ          | ∢         |   |
|---------------------------------|------|--------------------|-------|------|------------|-----------|---|
| Movement                        | EBL  | EBR                | NBL   | NBT  | SBT        | SBR       |   |
| Lane Configurations             | ¥    |                    |       | 4ħ   | 4          |           |   |
| Traffic Volume (veh/h)          | 16   | 58                 | 18    | 198  | 226        | 12        |   |
| Future Volume (Veh/h)           | 16   | 58                 | 18    | 198  | 226        | 12        |   |
| Sign Control                    | Stop |                    |       | Free | Free       |           |   |
| Grade                           | 0%   |                    |       | 0%   | 0%         |           |   |
| Peak Hour Factor                | 0.94 | 0.85               | 0.80  | 0.90 | 0.89       | 0.69      |   |
| Hourly flow rate (vph)          | 17   | 68                 | 22    | 220  | 254        | 17        |   |
| Pedestrians                     | 6    |                    |       | 6    | 6          |           |   |
| Lane Width (m)                  | 3.6  |                    |       | 3.6  | 3.6        |           |   |
| Walking Speed (m/s)             | 1.2  |                    |       | 1.2  | 1.2        |           |   |
| Percent Blockage                | 1    |                    |       | 1    | 1          |           |   |
| Right turn flare (veh)          |      |                    |       |      |            |           |   |
| Median type                     |      |                    |       | None | None       |           |   |
| Median storage veh)             |      |                    |       |      |            |           |   |
| Upstream signal (m)             |      |                    |       |      |            |           |   |
| pX, platoon unblocked           |      |                    |       |      |            |           |   |
| vC, conflicting volume          | 428  | 274                | 277   |      |            |           |   |
| vC1, stage 1 conf vol           |      |                    |       |      |            |           |   |
| vC2, stage 2 conf vol           |      |                    |       |      |            |           |   |
| vCu, unblocked vol              | 428  | 274                | 277   |      |            |           |   |
| tC, single (s)                  | 6.8  | 7.0                | 4.6   |      |            |           |   |
| tC, 2 stage (s)                 |      |                    |       |      |            |           |   |
| tF (s)                          | 3.5  | 3.3                | 2.4   |      |            |           |   |
| p0 queue free %                 | 97   | 90                 | 98    |      |            |           |   |
| cM capacity (veh/h)             | 544  | 710                | 1138  |      |            |           |   |
| Direction, Lane #               | EB 1 | NB 1               | NB 2  | SB 1 |            |           |   |
| Volume Total                    | 85   | 95                 | 147   | 271  |            |           |   |
| Volume Left                     | 17   | 22                 | 0     | 0    |            |           |   |
| Volume Right                    | 68   | 0                  | 0     | 17   |            |           |   |
| cSH                             | 669  | 1138               | 1700  | 1700 |            |           |   |
| Volume to Capacity              | 0.13 | 0.02               | 0.09  | 0.16 |            |           |   |
| Queue Length 95th (m)           | 3.5  | 0.5                | 0.0   | 0.0  |            |           |   |
| Control Delay (s)               | 11.2 | 2.0                | 0.0   | 0.0  |            |           |   |
| Lane LOS                        | В    | А                  |       |      |            |           |   |
| Approach Delay (s)              | 11.2 | 0.8                |       | 0.0  |            |           |   |
| Approach LOS                    | В    |                    |       |      |            |           |   |
| Intersection Summary            |      |                    |       |      |            |           |   |
| Average Delay                   |      |                    | 1.9   |      |            |           |   |
| Intersection Capacity Utilizati | ion  |                    | 32.5% | IC   | CU Level o | f Service | А |
| Analysis Period (min)           |      |                    | 15    |      |            |           |   |

| Movement         EBL         EBR         NBL         NBT         SBT         SBR           Lane Configurations         Y         41         11         1         1           Traffic Volume (veh/h)         20         84         35         351         265         45           Future Volume (Veh/h)         20         84         35         351         265         45           Sign Control         Stop         Free         Free         Free         Grade         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         <                                                           |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lane Configurations       Y $4\uparrow$ $4\uparrow$ Traffic Volume (veh/h)       20       84       35       351       265       45         Future Volume (Veh/h)       20       84       35       351       265       45         Sign Control       Stop       Free       Free       Free       Free       Free         Grade       0%       0%       0%       0%       0%       0%       0%         Peak Hour Factor       0.85       0.85       0.86       0.88       0.89       0.83         Hourly flow rate (vph)       24       99       41       399       298       54         Pedestrians       Lane Width (m)       Walking Speed (m/s)       Percent Blockage       Right turn flare (veh)       Median storage veh)       Upstream signal (m)       371         Upstream signal (m)       371       371       pX, platoon unblocked       VC, conflicting volume       606       176       352       VC1, stage 1 conf vol       VC2, stage 2 conf vol       VC2, stage (s)       Tf (s)       3.5       3.4       2.2       p0 queue free %       94       88       97       cd capacity (veh/h)       418                  |
| Traffic Volume (veh/h)       20       84       35       351       265       45         Future Volume (Veh/h)       20       84       35       351       265       45         Sign Control       Stop       Free       Free       Free       Grade       0%       0%       0%       0%         Peak Hour Factor       0.85       0.85       0.86       0.88       0.89       0.83         Hourly flow rate (vph)       24       99       41       399       298       54         Pedestrians                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Future Volume (Veh/h)         20         84         35         351         265         45           Sign Control         Stop         Free         Free         Free         Grade         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%         0%                                                         |
| Sign Control         Stop         Free         Free           Grade         0%         0%         0%         0%           Peak Hour Factor         0.85         0.85         0.86         0.88         0.89         0.83           Hourly flow rate (vph)         24         99         41         399         298         54           Pedestrians           399         298         54           Pedestrians           399         298         54           Pedestrians           399         298         54           Pedestrians            54         99         41         399         298         54           Pedestrians             54         99         298         54           Pedestrians                54         54          99         0         0         66         176         352              54                                                                                                                                                                                                                                                                                                                                                                                                     |
| Grade         0%         0%         0%           Peak Hour Factor         0.85         0.85         0.86         0.88         0.89         0.83           Hourly flow rate (vph)         24         99         41         399         298         54           Pedestrians                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Hourly flow rate (vph)       24       99       41       399       298       54         Pedestrians       Lane Width (m)       Walking Speed (m/s)       Percent Blockage       Image: Speed (m/s)         Percent Blockage       Right turn flare (veh)       Median type       None       None         Median type       None       None       None       Mone         Median storage veh)       Upstream signal (m)       371       pX         pX, platoon unblocked       vC, conflicting volume       606       176       352       vC1, stage 1 conf vol         vC2, stage 2 conf vol       vC4, unblocked vol       606       176       352       vC4       tC, single (s)       6.8       7.0       4.2       tC, 2 stage (s)       tF (s)       3.5       3.4       2.2       p0 queue free %       94       88       97       cM capacity (veh/h)       418       821       1196       1116       1116       11116       11116       11111       11111       11111       11111       11111       11111       11111       11111       11111       11111       11111       11111       11111       11111       11111       11111       11111       11111       11111       11111       11111       11111       11111 |
| Hourly flow rate (vph)       24       99       41       399       298       54         Pedestrians       Lane Width (m)       Walking Speed (m/s)       Percent Blockage       Image: Speed (m/s)         Percent Blockage       Right turn flare (veh)       Median type       None       None         Median type       None       None       None       Mone         Median storage veh)       Upstream signal (m)       371       pX         pX, platoon unblocked       vC, conflicting volume       606       176       352       vC1, stage 1 conf vol         vC2, stage 2 conf vol       vC4, unblocked vol       606       176       352       vC4       tC, single (s)       6.8       7.0       4.2       tC, 2 stage (s)       tF (s)       3.5       3.4       2.2       p0 queue free %       94       88       97       cM capacity (veh/h)       418       821       1196       1116       1116       11116       11116       11111       11111       11111       11111       11111       11111       11111       11111       11111       11111       11111       11111       11111       11111       11111       11111       11111       11111       11111       11111       11111       11111       11111 |
| Pedestrians         Lane Width (m)         Walking Speed (m/s)         Percent Blockage         Right turn flare (veh)         Median type       None         Median storage veh)         Upstream signal (m)       371         pX, platoon unblocked         vC, conflicting volume       606       176         vC2, stage 1 conf vol         vC2, stage 2 conf vol         vC4, unblocked vol       606       176         vC2, stage 2 conf vol         vC4, unblocked vol       606       176         vC2, stage 2 conf vol       vC4, unblocked vol       606         vC2, stage (s)       tF (s)       3.5       3.4       2.2         p0 queue free %       94       88       97         cM capacity (veh/h)       418       821       1196         Direction, Lane #       EB 1       NB 1       NB 2       SB 1       SB 2         Volume Total       123       174       266       199       153         Volume Total       123       174       266       199       153         Volume Right       99       0       0       0       0         Volume to Capacity       0.18                                                                                                                                         |
| Walking Speed (m/s)         Percent Blockage         Right turn flare (veh)         Median storage veh)         Upstream signal (m)         X, platoon unblocked         vC, conflicting volume       606         176       352         vC1, stage 1 conf vol         vC2, stage 2 conf vol         vC2, stage 2 conf vol         vC4, unblocked vol         606       176         352         vC1, stage 1 conf vol         vC2, stage 2 conf vol         vC4, unblocked vol         606       176         352         vC1, stage 1 conf vol         vC2, stage 2 conf vol         vC4, unblocked vol       606         176       352         tC, 2 stage (s)         tF (s)       3.5         0 queue free %       94         94       88         97         cM capacity (veh/h)       418         821       1196         Direction, Lane #       EB 1       NB 1       NB 2       SB 1       SB 2         Volume Total       123       174       266       199       153         Volume Left       24       4                                                                                                                                                                                                             |
| Walking Speed (m/s)         Percent Blockage         Right turn flare (veh)         Median type       None         Median storage veh)         Upstream signal (m)       371         pX, platoon unblocked         vC, conflicting volume       606       176         vC1, stage 1 conf vol         vC2, stage 2 conf vol         vC4, unblocked vol       606         vC2, stage 2 conf vol         vC4, unblocked vol       606         176       352         tC, 2 stage (s)         tF (s)       3.5         0 queue free %       94         94       88         97         cM capacity (veh/h)       418         821       1196         Direction, Lane #       EB 1       NB 1       NB 2       SB 1       SB 2         Volume Total       123       174       266       199       153         Volume Eqft       24       41       0       0       0         Volume Right       99       0       0       54       cSH       691       1196       1700       1700         Volume to Capacity       0.18       0.03       0.16       0.12                                                                                                                                                                                |
| Percent Blockage         Right turn flare (veh)         Median type       None       None         Median storage veh)       Upstream signal (m)       371         DX, platoon unblocked       VC, conflicting volume       606       176       352         vC1, stage 1 conf vol       VC2, stage 2 conf vol       VC2, stage 2 conf vol       VC2, stage 2 conf vol         vC2, stage (s)       6.8       7.0       4.2       4.2         tC, 2 stage (s)       1196       1196         Direction, Lane #       EB 1       NB 1       NB 2       SB 1       SB 2         Volume Total       123       174       266       199       153         Volume Left       24       41       0       0       0         Volume to Capacity       0.18                                                                                                             |
| Right turn flare (veh)       None       None       None         Median storage veh)       371       371         Upstream signal (m)       371       371         pX, platoon unblocked       vC, conflicting volume       606       176       352         vC1, stage 1 conf vol       vC2, stage 2 conf vol       vC2, stage 2 conf vol       vC2, stage 2 conf vol         vC2, unblocked vol       606       176       352       110         VC4, unblocked vol       606       176       352       110         vC5, stage 2 conf vol       vC4, unblocked vol       606       176       352         vC4, unblocked vol       606       176       352       110         vC4, stage (s)       118       821       1196       110         Direction, Lane #       EB 1       NB 1       NB 2       SB 1       SB 2         Volume Total       123       174       266       199       153         Volume Left       24       41       0       0       0         Volume Right       99       0       0       0       54         cSH       691       1196       1700       1700       1700         Volume to Capacity       0.18                                                                                                |
| Median type         None         None           Median storage veh)         371           Upstream signal (m)         371           pX, platoon unblocked         vC, conflicting volume         606         176         352           vC1, stage 1 conf vol         vC2, stage 2 conf vol         vC2, stage 2 conf vol         vC1, stage 1 conf vol           vC2, stage 2 conf vol         vC4, unblocked vol         606         176         352           tC, single (s)         6.8         7.0         4.2         4.2           tC, 2 stage (s)         tF (s)         3.5         3.4         2.2           p0 queue free %         94         88         97           cM capacity (veh/h)         418         821         1196           Direction, Lane #         EB 1         NB 1         NB 2         SB 1         SB 2           Volume Total         123         174         266         199         153           Volume Left         24         41         0         0         0           Volume Right         99         0         0         0         54           cSH         691         1196         1700         1700         1700           Volume to Capacity </td                               |
| Median storage veh)       371         Upstream signal (m)       371         pX, platoon unblocked       vC, conflicting volume       606       176       352         vC1, stage 1 conf vol       vC2, stage 2 conf vol       vC4, stage 1 conf vol       vC2, stage 2 conf vol         vC2, stage 2 conf vol       vC4, unblocked vol       606       176       352         tC, single (s)       6.8       7.0       4.2         tC, 2 stage (s)       t       t       t         tF (s)       3.5       3.4       2.2       p0 queue free %       94       88       97         cM capacity (veh/h)       418       821       1196       1196       1196       1199       153         Volume Total       123       174       266       199       153       153         Volume Left       24       41       0       0       0       0       148       cSH       691       1196       1700       1700       1700       1700       1700       1700       1700       1700       1700       1700       1700       1700       1700       1700       1700       1700       1700       1700       1700       1700       1700       1700       1700                                                                                    |
| Upstream signal (m)       371         pX, platoon unblocked       VC, conflicting volume       606       176       352         vC1, stage 1 conf vol       VC2, stage 2 conf vol       VC2, stage 2 conf vol       VC2, stage 2 conf vol         vC2, stage 2 conf vol       606       176       352       TC         vC1, unblocked vol       606       176       352       TC         tC, single (s)       6.8       7.0       4.2       TC         tC, 2 stage (s)       TF (s)       3.5       3.4       2.2         p0 queue free %       94       88       97         cM capacity (veh/h)       418       821       1196         Direction, Lane #       EB 1       NB 1       NB 2       SB 1       SB 2         Volume Total       123       174       266       199       153         Volume Left       24       41       0       0       0         Volume Right       99       0       0       0       54         cSH       691       1196       1700       1700       1700         Volume to Capacity       0.18       0.03       0.16       0.12       0.09         Queue Length 95th (m)       5.1                                                                                                              |
| pX, platoon unblocked         vC, conflicting volume       606       176       352         vC1, stage 1 conf vol       vC2, stage 2 conf vol         vC2, stage 2 conf vol       vCu, unblocked vol       606       176       352         vCu, unblocked vol       606       176       352       text       text         tC, single (s)       6.8       7.0       4.2       text       text       text       text         tF (s)       3.5       3.4       2.2       2.2       p0 queue free %       94       88       97       ext       ext       text                                                                         |
| vC, conflicting volume       606       176       352         vC1, stage 1 conf vol       vC2, stage 2 conf vol       vC2, stage 2 conf vol         vCu, unblocked vol       606       176       352         tC, single (s)       6.8       7.0       4.2         tC, 2 stage (s)       t       t       t         tF (s)       3.5       3.4       2.2         p0 queue free %       94       88       97         cM capacity (veh/h)       418       821       1196         Direction, Lane #       EB 1       NB 1       NB 2       SB 1       SB 2         Volume Total       123       174       266       199       153         Volume Left       24       41       0       0       0         Volume Right       99       0       0       0       54         cSH       691       1196       1700       1700       1700         Volume to Capacity       0.18       0.03       0.16       0.12       0.09         Queue Length 95th (m)       5.1       0.9       0.0       0.0       0.0         Control Delay (s)       11.3       2.1       0.0       0.0       0.0                                                                                                                                                    |
| vC1, stage 1 conf volvC2, stage 2 conf volvCu, unblocked vol $606$ $176$ $352$ tC, single (s) $6.8$ $7.0$ $4.2$ tC, 2 stage (s)tF (s) $3.5$ $3.4$ $2.2$ p0 queue free % $94$ $88$ $97$ cM capacity (veh/h) $418$ $821$ $1196$ Direction, Lane #EB 1NB 1NB 2SB 1SB 2Volume Total $123$ $174$ $266$ $199$ $153$ Volume Left $24$ $41$ $0$ $0$ $0$ Volume Right $99$ $0$ $0$ $54$ cSH $691$ $1196$ $1700$ $1700$ Volume to Capacity $0.18$ $0.03$ $0.16$ $0.12$ $0.09$ Queue Length 95th (m) $5.1$ $0.9$ $0.0$ $0.0$ $0.0$ Lane LOSBAA $A$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| vC2, stage 2 conf vol         vCu, unblocked vol       606       176       352         tC, single (s)       6.8       7.0       4.2         tC, 2 stage (s)       1       1       1         tF (s)       3.5       3.4       2.2         p0 queue free %       94       88       97         cM capacity (veh/h)       418       821       1196         Direction, Lane #       EB 1       NB 1       NB 2       SB 1       SB 2         Volume Total       123       174       266       199       153         Volume Left       24       41       0       0       0         Volume Right       99       0       0       54       cSH         cSH       691       1196       1700       1700       1700         Volume to Capacity       0.18       0.03       0.16       0.12       0.09         Queue Length 95th (m)       5.1       0.9       0.0       0.0       0.0         Control Delay (s)       11.3       2.1       0.0       0.0       0.0         Lane LOS       B       A       A       A       A                                                                                                                                                                                                              |
| vCu, unblocked vol $606$ $176$ $352$ tC, single (s) $6.8$ $7.0$ $4.2$ tC, 2 stage (s) $TF$ (s) $3.5$ $3.4$ $2.2$ p0 queue free %94 $88$ $97$ cM capacity (veh/h) $418$ $821$ $1196$ Direction, Lane #EB 1NB 1NB 2SB 1SB 2Volume Total123 $174$ $266$ 199 $153$ Volume Left2441000Volume Right9900 $54$ cSH691119617001700Volume to Capacity0.180.030.160.120.09Queue Length 95th (m)5.10.90.00.00.0Control Delay (s)11.32.10.00.00.0Lane LOSBAAA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| tC, single (s)       6.8       7.0       4.2         tC, 2 stage (s)       3.5       3.4       2.2         p0 queue free %       94       88       97         cM capacity (veh/h)       418       821       1196         Direction, Lane #       EB 1       NB 1       NB 2       SB 1       SB 2         Volume Total       123       174       266       199       153         Volume Left       24       41       0       0       0         Volume Right       99       0       0       54         cSH       691       1196       1700       1700         Volume to Capacity       0.18       0.03       0.16       0.12       0.09         Queue Length 95th (m)       5.1       0.9       0.0       0.0       0.0         Control Delay (s)       11.3       2.1       0.0       0.0       0.0         Lane LOS       B       A       A       A       A                                                                                                                                                                                                                                                                                                                                                                 |
| tC, 2 stage (s)         tF (s)       3.5       3.4       2.2         p0 queue free %       94       88       97         cM capacity (veh/h)       418       821       1196         Direction, Lane #       EB 1       NB 1       NB 2       SB 1       SB 2         Volume Total       123       174       266       199       153         Volume Left       24       41       0       0       0         Volume Right       99       0       0       0       54         cSH       691       1196       1700       1700       1700         Volume to Capacity       0.18       0.03       0.16       0.12       0.09         Queue Length 95th (m)       5.1       0.9       0.0       0.0       0.0         Control Delay (s)       11.3       2.1       0.0       0.0       0.0         Lane LOS       B       A       A       A       A                                                                                                                                                                                                                                                                                                                                                                                    |
| tF (s)       3.5       3.4       2.2         p0 queue free %       94       88       97         cM capacity (veh/h)       418       821       1196         Direction, Lane #       EB 1       NB 1       NB 2       SB 1       SB 2         Volume Total       123       174       266       199       153         Volume Left       24       41       0       0       0         Volume Right       99       0       0       0       54         cSH       691       1196       1700       1700       1700         Volume to Capacity       0.18       0.03       0.16       0.12       0.09         Queue Length 95th (m)       5.1       0.9       0.0       0.0       0.0         Control Delay (s)       11.3       2.1       0.0       0.0       0.0         Lane LOS       B       A       A       A                                                                                                                                                                                                                                                                                                                                                                                                                    |
| p0 queue free %       94       88       97         cM capacity (veh/h)       418       821       1196         Direction, Lane #       EB 1       NB 1       NB 2       SB 1       SB 2         Volume Total       123       174       266       199       153         Volume Left       24       41       0       0       0         Volume Right       99       0       0       54         cSH       691       1196       1700       1700       1700         Volume to Capacity       0.18       0.03       0.16       0.12       0.09         Queue Length 95th (m)       5.1       0.9       0.0       0.0       0.0         Lane LOS       B       A       A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| CM capacity (veh/h)       418       821       1196         Direction, Lane #       EB 1       NB 1       NB 2       SB 1       SB 2         Volume Total       123       174       266       199       153         Volume Left       24       41       0       0       0         Volume Right       99       0       0       0       54         CSH       691       1196       1700       1700       1700         Volume to Capacity       0.18       0.03       0.16       0.12       0.09         Queue Length 95th (m)       5.1       0.9       0.0       0.0       0.0         Lane LOS       B       A       A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Direction, Lane #         EB 1         NB 1         NB 2         SB 1         SB 2           Volume Total         123         174         266         199         153           Volume Left         24         41         0         0         0           Volume Right         99         0         0         0         54           cSH         691         1196         1700         1700         1700           Volume to Capacity         0.18         0.03         0.16         0.12         0.09           Queue Length 95th (m)         5.1         0.9         0.0         0.0         0.0           Control Delay (s)         11.3         2.1         0.0         0.0         0.0           Lane LOS         B         A         A         A         A         A                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Volume Total         123         174         266         199         153           Volume Left         24         41         0         0         0           Volume Right         99         0         0         0         54           cSH         691         1196         1700         1700         1700           Volume to Capacity         0.18         0.03         0.16         0.12         0.09           Queue Length 95th (m)         5.1         0.9         0.0         0.0         0.0           Control Delay (s)         11.3         2.1         0.0         0.0         0.0           Lane LOS         B         A         A         A         A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Volume Left         24         41         0         0         0           Volume Right         99         0         0         0         54           cSH         691         1196         1700         1700         1700           Volume to Capacity         0.18         0.03         0.16         0.12         0.09           Queue Length 95th (m)         5.1         0.9         0.0         0.0         0.0           Control Delay (s)         11.3         2.1         0.0         0.0         Lane LOS         B         A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Volume Right         99         0         0         0         54           cSH         691         1196         1700         1700         1700           Volume to Capacity         0.18         0.03         0.16         0.12         0.09           Queue Length 95th (m)         5.1         0.9         0.0         0.0         0.0           Control Delay (s)         11.3         2.1         0.0         0.0         0.0           Lane LOS         B         A         A         A         A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| cSH6911196170017001700Volume to Capacity0.180.030.160.120.09Queue Length 95th (m)5.10.90.00.00.0Control Delay (s)11.32.10.00.00.0Lane LOSBAA0.00.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Volume to Capacity         0.18         0.03         0.16         0.12         0.09           Queue Length 95th (m)         5.1         0.9         0.0         0.0         0.0           Control Delay (s)         11.3         2.1         0.0         0.0         0.0           Lane LOS         B         A         A         A         A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Queue Length 95th (m)         5.1         0.9         0.0         0.0         0.0           Control Delay (s)         11.3         2.1         0.0         0.0         0.0           Lane LOS         B         A         A         A         A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Control Delay (s)         11.3         2.1         0.0         0.0         0.0           Lane LOS         B         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A                                                                                                                  |
| Lane LOS B A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Approach Delay (s) 11.3 0.8 0.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Approach LOS B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Intersection Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Average Delay 1.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Intersection Capacity Utilization 35.8% ICU Level of Service                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Analysis Period (min) 15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

|                              | ≯      | +    | Ļ     | •    | *        |            |
|------------------------------|--------|------|-------|------|----------|------------|
| Movement                     | EBL    | EBT  | WBT   | WBR  | SBL      | SBR        |
| Lane Configurations          |        | र्स  | ¢Î    |      | Y        |            |
| Traffic Volume (veh/h)       | 18     | 467  | 243   | 16   | 37       | 18         |
| Future Volume (Veh/h)        | 18     | 467  | 243   | 16   | 37       | 18         |
| Sign Control                 |        | Free | Free  |      | Stop     |            |
| Grade                        |        | 0%   | 0%    |      | 0%       |            |
| Peak Hour Factor             | 0.80   | 0.83 | 0.73  | 0.75 | 0.83     | 0.80       |
| Hourly flow rate (vph)       | 22     | 563  | 333   | 21   | 45       | 22         |
| Pedestrians                  |        | 4    | 4     |      | 5        |            |
| Lane Width (m)               |        | 3.6  | 3.6   |      | 3.6      |            |
| Walking Speed (m/s)          |        | 1.2  | 1.2   |      | 1.2      |            |
| Percent Blockage             |        | 0    | 0     |      | 0        |            |
| Right turn flare (veh)       |        | Ű    | Ŭ     |      | Ű        |            |
| Median type                  |        | None | None  |      |          |            |
| Median storage veh)          |        | Nono | Nono  |      |          |            |
| Upstream signal (m)          |        |      |       |      |          |            |
| pX, platoon unblocked        |        |      |       |      |          |            |
| vC, conflicting volume       | 359    |      |       |      | 960      | 352        |
| vC1, stage 1 conf vol        | 000    |      |       |      | 500      | 002        |
| vC2, stage 2 conf vol        |        |      |       |      |          |            |
| vCu, unblocked vol           | 359    |      |       |      | 960      | 352        |
| tC, single (s)               | 4.1    |      |       |      | 6.5      | 6.3        |
| tC, 2 stage (s)              | 7.1    |      |       |      | 0.5      | 0.0        |
| tF (s)                       | 2.2    |      |       |      | 3.6      | 3.4        |
| p0 queue free %              | 98     |      |       |      | 83       | 97         |
| cM capacity (veh/h)          | 1206   |      |       |      | 268      | 677        |
| ,                            |        |      | /     |      | 200      | 011        |
| Direction, Lane #            | EB 1   | WB 1 | SB 1  |      |          |            |
| Volume Total                 | 585    | 354  | 67    |      |          |            |
| Volume Left                  | 22     | 0    | 45    |      |          |            |
| Volume Right                 | 0      | 21   | 22    |      |          |            |
| cSH                          | 1206   | 1700 | 335   |      |          |            |
| Volume to Capacity           | 0.02   | 0.21 | 0.20  |      |          |            |
| Queue Length 95th (m)        | 0.4    | 0.0  | 5.9   |      |          |            |
| Control Delay (s)            | 0.5    | 0.0  | 18.4  |      |          |            |
| Lane LOS                     | А      |      | С     |      |          |            |
| Approach Delay (s)           | 0.5    | 0.0  | 18.4  |      |          |            |
| Approach LOS                 |        |      | С     |      |          |            |
| Intersection Summary         |        |      |       |      |          |            |
| Average Delay                |        |      | 1.5   |      |          |            |
| Intersection Capacity Utiliz | ration |      | 50.4% | IC   | Ulevelo  | of Service |
| Analysis Period (min)        |        |      | 15    | 10   | 2 201010 |            |
| Analysis Feriou (min)        |        |      | 10    |      |          |            |

| Movement              | EB   | EB    | EB    | WB    | WB    | NB   | NB    | SB    | SB    |  |
|-----------------------|------|-------|-------|-------|-------|------|-------|-------|-------|--|
| Directions Served     | L    | Т     | TR    | L     | TR    | L    | TR    | L     | TR    |  |
| Maximum Queue (m)     | 33.1 | 41.7  | 47.6  | 22.7  | 84.8  | 34.7 | 81.0  | 70.8  | 52.3  |  |
| Average Queue (m)     | 12.1 | 18.2  | 23.1  | 6.8   | 40.8  | 6.0  | 33.8  | 34.6  | 23.2  |  |
| 95th Queue (m)        | 25.6 | 33.5  | 40.1  | 16.3  | 69.9  | 19.2 | 60.6  | 61.8  | 43.3  |  |
| Link Distance (m)     |      | 588.4 |       | 792.4 | 792.4 |      | 392.5 | 354.3 | 354.3 |  |
| Upstream Blk Time (%) |      |       |       |       |       |      |       |       |       |  |
| Queuing Penalty (veh) |      |       |       |       |       |      |       |       |       |  |
| Storage Bay Dist (m)  | 90.0 |       | 124.0 |       |       | 50.0 |       |       |       |  |
| Storage Blk Time (%)  |      |       |       |       |       |      | 2     |       |       |  |
| Queuing Penalty (veh) |      |       |       |       |       |      | 0     |       |       |  |

#### Intersection: 6: Broadview Dr & Atwater St

| Movement              | EB    |
|-----------------------|-------|
| Directions Served     | LR    |
| Maximum Queue (m)     | 17.7  |
| Average Queue (m)     | 4.9   |
| 95th Queue (m)        | 13.3  |
| Link Distance (m)     | 339.8 |
| Upstream Blk Time (%) |       |
| Queuing Penalty (veh) |       |
| Storage Bay Dist (m)  |       |
| Storage Blk Time (%)  |       |
| Queuing Penalty (veh) |       |

|                       | 50    | ND    | ND    | 00    |
|-----------------------|-------|-------|-------|-------|
| Movement              | EB    | NB    | NB    | SB    |
| Directions Served     | LR    | LT    | Т     | TR    |
| Maximum Queue (m)     | 20.5  | 19.7  | 1.8   | 2.9   |
| Average Queue (m)     | 8.6   | 2.1   | 0.1   | 0.1   |
| 95th Queue (m)        | 16.2  | 10.7  | 1.3   | 1.5   |
| Link Distance (m)     | 380.6 | 515.6 | 515.6 | 423.6 |
| Upstream Blk Time (%) |       |       |       |       |
| Queuing Penalty (veh) |       |       |       |       |
| Storage Bay Dist (m)  |       |       |       |       |
| Storage Blk Time (%)  |       |       |       |       |
| Queuing Penalty (veh) |       |       |       |       |

| Movement              | EB    | NB    | SB    |
|-----------------------|-------|-------|-------|
| Directions Served     | LR    | LT    | TR    |
| Maximum Queue (m)     | 22.6  | 10.8  | 1.2   |
| Average Queue (m)     | 11.1  | 2.5   | 0.0   |
| 95th Queue (m)        | 17.9  | 9.2   | 0.9   |
| Link Distance (m)     | 304.9 | 354.3 | 515.6 |
| Upstream Blk Time (%) |       |       |       |
| Queuing Penalty (veh) |       |       |       |
| Storage Bay Dist (m)  |       |       |       |
| Storage Blk Time (%)  |       |       |       |
| Queuing Penalty (veh) |       |       |       |

#### Intersection: 11: Second Line W & Arden St

| LT    |            |                    |
|-------|------------|--------------------|
| L I   | TR         | LR                 |
| 16.4  | 5.4        | 22.6               |
| 1.4   | 0.2        | 9.5                |
| 9.2   | 2.2        | 17.7               |
| 978.1 | 588.4      | 347.2              |
|       |            |                    |
|       |            |                    |
|       |            |                    |
|       |            |                    |
|       |            |                    |
|       | 1.4<br>9.2 | 1.4 0.2<br>9.2 2.2 |

#### Zone Summary

|                                             |               |             |                    |           |             |            |           |           |      |              | -         |      |
|---------------------------------------------|---------------|-------------|--------------------|-----------|-------------|------------|-----------|-----------|------|--------------|-----------|------|
|                                             | ٦             | -           | $\mathbf{\hat{v}}$ | ∢         | ←           | •          | 1         | Ť         | 1    | 1            | ţ         | ~    |
| Movement                                    | EBL           | EBT         | EBR                | WBL       | WBT         | WBR        | NBL       | NBT       | NBR  | SBL          | SBT       | SBR  |
| Lane Configurations                         | ኘ             | <b>∱</b> î≽ |                    | ኘ         | 4           |            | ٦         | ef 👘      |      | ሻ            | 4         |      |
| Traffic Volume (vph)                        | 45            | 497         | 36                 | 149       | 553         | 167        | 54        | 123       | 101  | 238          | 192       | 64   |
| Future Volume (vph)                         | 45            | 497         | 36                 | 149       | 553         | 167        | 54        | 123       | 101  | 238          | 192       | 64   |
| Ideal Flow (vphpl)                          | 1900          | 1900        | 1900               | 1900      | 1900        | 1900       | 1900      | 1900      | 1900 | 1900         | 1900      | 1900 |
| Total Lost time (s)                         | 4.0           | 7.0         |                    | 7.0       | 7.0         |            | 6.0       | 6.0       |      | 4.0          | 6.0       |      |
| Lane Util. Factor                           | 1.00          | 0.95        |                    | 1.00      | 1.00        |            | 1.00      | 1.00      |      | 1.00         | 1.00      |      |
| Frpb, ped/bikes                             | 1.00          | 1.00        |                    | 1.00      | 0.99        |            | 1.00      | 0.99      |      | 1.00         | 0.99      |      |
| Flpb, ped/bikes                             | 1.00          | 1.00        |                    | 0.99      | 1.00        |            | 0.99      | 1.00      |      | 1.00         | 1.00      |      |
| Frt                                         | 1.00          | 0.99        |                    | 1.00      | 0.97        |            | 1.00      | 0.93      |      | 1.00         | 0.96      |      |
| Flt Protected                               | 0.95          | 1.00        |                    | 0.95      | 1.00        |            | 0.95      | 1.00      |      | 0.95         | 1.00      |      |
| Satd. Flow (prot)                           | 1687          | 3365        |                    | 1757      | 1738        |            | 1729      | 1692      |      | 1763         | 1758      |      |
| Flt Permitted                               | 0.09          | 1.00        |                    | 0.43      | 1.00        |            | 0.59      | 1.00      |      | 0.34         | 1.00      |      |
| Satd. Flow (perm)                           | 160           | 3365        |                    | 803       | 1738        |            | 1070      | 1692      |      | 633          | 1758      |      |
| Peak-hour factor, PHF                       | 0.92          | 0.92        | 0.92               | 0.92      | 0.92        | 0.92       | 0.92      | 0.92      | 0.92 | 0.92         | 0.92      | 0.92 |
| Adj. Flow (vph)                             | 49            | 540         | 39                 | 162       | 601         | 182        | 59        | 134       | 110  | 259          | 209       | 70   |
| RTOR Reduction (vph)                        | 0             | 5           | 0                  | 0         | 10          | 0          | 0         | 38        | 0    | 0            | 16        | 0    |
| Lane Group Flow (vph)                       | 49            | 574         | 0                  | 162       | 773         | 0          | 59        | 206       | 0    | 259          | 263       | 0    |
| Confl. Peds. (#/hr)                         | 17            | •           | 9                  | 9         |             | 17         | 12        |           | 21   | 21           |           | 12   |
| Heavy Vehicles (%)                          | 7%            | 6%          | 5%                 | 2%        | 5%          | 4%         | 3%        | 0%        | 7%   | 2%           | 2%        | 6%   |
| Turn Type                                   | pm+pt         | NA          | 0,0                | Perm      | NA          | 170        | Perm      | NA        | 1 /0 | pm+pt        | NA        |      |
| Protected Phases                            | 5             | 2           |                    | 1 Cilli   | 6           |            | 1 Cilli   | 8         |      | ρπτρτ<br>7   | 4         |      |
| Permitted Phases                            | 2             | 2           |                    | 6         | U           |            | 8         | U         |      | 4            | Т         |      |
| Actuated Green, G (s)                       | 48.6          | 48.6        |                    | 40.4      | 40.4        |            | 17.4      | 17.4      |      | 28.4         | 28.4      |      |
| Effective Green, g (s)                      | 48.6          | 48.6        |                    | 40.4      | 40.4        |            | 17.4      | 17.4      |      | 28.4         | 28.4      |      |
| Actuated g/C Ratio                          | 0.54          | 0.54        |                    | 0.45      | 0.45        |            | 0.19      | 0.19      |      | 0.32         | 0.32      |      |
| Clearance Time (s)                          | 4.0           | 7.0         |                    | 7.0       | 7.0         |            | 6.0       | 6.0       |      | 4.0          | 6.0       |      |
| Vehicle Extension (s)                       | 3.0           | 3.0         |                    | 3.0       | 3.0         |            | 3.0       | 3.0       |      | 3.0          | 3.0       |      |
| Lane Grp Cap (vph)                          | 157           | 1817        |                    | 360       | 780         |            | 206       | 327       |      | 287          | 554       |      |
| v/s Ratio Prot                              | 0.01          | c0.17       |                    | 300       | c0.44       |            | 200       | 0.12      |      | c0.07        | 0.15      |      |
| v/s Ratio Perm                              | 0.01          | 60.17       |                    | 0.20      | 60.44       |            | 0.06      | 0.12      |      | c0.07        | 0.15      |      |
| v/c Ratio                                   | 0.13          | 0.32        |                    | 0.20      | 0.99        |            | 0.00      | 0.63      |      | 0.90         | 0.48      |      |
| Uniform Delay, d1                           | 17.2          | 11.5        |                    | 17.1      | 24.6        |            | 31.0      | 33.3      |      | 28.5         | 24.8      |      |
|                                             | 17.2          | 1.00        |                    | 1.00      | 1.00        |            | 1.00      | 1.00      |      | 1.00         | 1.00      |      |
| Progression Factor<br>Incremental Delay, d2 | 1.00          | 0.5         |                    | 4.0       | 30.1        |            | 0.8       | 3.9       |      | 29.2         | 0.6       |      |
| -                                           | 18.3          | 11.9        |                    | 21.2      | 54.8        |            | 31.8      | 37.3      |      | 29.2<br>57.7 | 25.4      |      |
| Delay (s)<br>Level of Service               | 10.3<br>B     | H.9<br>B    |                    | 21.2<br>C | 54.0<br>D   |            | 51.0<br>C | 57.5<br>D |      | 57.7<br>E    | 25.4<br>C |      |
| Approach Delay (s)                          | D             | 12.4        |                    | U         | 49.0        |            | U         | 36.2      |      | E            | 41.0      |      |
| Approach LOS                                |               | 12.4<br>B   |                    |           | 49.0<br>D   |            |           | 30.2<br>D |      |              | 41.0<br>D |      |
|                                             |               | D           |                    |           | U           |            |           | U         |      |              | U         |      |
| Intersection Summary                        |               |             | 26.4               |           | CM 2000     | Louis of t | Convier   |           |      |              |           |      |
| HCM 2000 Control Delay                      | o oitre rotio |             | 36.1               | H         | CM 2000     | Level of   | Service   |           | D    |              |           |      |
| HCM 2000 Volume to Capa                     | acity ratio   |             | 0.96               | 0         | um of last  | time (a)   |           |           | 04.0 |              |           |      |
| Actuated Cycle Length (s)                   | otion         |             | 90.0               |           | um of lost  | . ,        |           |           | 21.0 |              |           |      |
| Intersection Capacity Utiliz                | alion         |             | 94.2%              | IC        | CU Level of | DI Service | !         |           | F    |              |           |      |
| Analysis Period (min)                       |               |             | 15                 |           |             |            |           |           |      |              |           |      |

c Critical Lane Group

2035 Future Background Conditions PM Model 11:50 pm 01-09-2024 2035 Future Background Conditions

|                               | ٦     | $\mathbf{\hat{z}}$ | •      | 1    | Ļ          | 1          |  |
|-------------------------------|-------|--------------------|--------|------|------------|------------|--|
| Movement                      | EBL   | EBR                | NBL    | NBT  | SBT        | SBR        |  |
| Lane Configurations           | ۲     |                    |        | र्स  | eî.        |            |  |
| Traffic Volume (veh/h)        | 7     | 16                 | 10     | 14   | 20         | 8          |  |
| Future Volume (Veh/h)         | 7     | 16                 | 10     | 14   | 20         | 8          |  |
| Sign Control                  | Stop  |                    |        | Free | Free       |            |  |
| Grade                         | 0%    |                    |        | 0%   | 0%         |            |  |
| Peak Hour Factor              | 0.75  | 0.75               | 0.75   | 0.81 | 0.71       | 0.88       |  |
| Hourly flow rate (vph)        | 9     | 21                 | 13     | 17   | 28         | 9          |  |
| Pedestrians                   | 4     |                    |        | 3    | 2          |            |  |
| Lane Width (m)                | 3.6   |                    |        | 3.6  | 3.6        |            |  |
| Walking Speed (m/s)           | 1.2   |                    |        | 1.2  | 1.2        |            |  |
| Percent Blockage              | 0     |                    |        | 0    | 0          |            |  |
| Right turn flare (veh)        |       |                    |        |      |            |            |  |
| Median type                   |       |                    |        | None | None       |            |  |
| Median storage veh)           |       |                    |        |      |            |            |  |
| Upstream signal (m)           |       |                    |        |      |            |            |  |
| pX, platoon unblocked         |       |                    |        |      |            |            |  |
| vC, conflicting volume        | 82    | 40                 | 41     |      |            |            |  |
| vC1, stage 1 conf vol         | •=    |                    |        |      |            |            |  |
| vC2, stage 2 conf vol         |       |                    |        |      |            |            |  |
| vCu, unblocked vol            | 82    | 40                 | 41     |      |            |            |  |
| tC, single (s)                | 6.6   | 6.2                | 4.1    |      |            |            |  |
| tC, 2 stage (s)               | 0.0   | 0.2                |        |      |            |            |  |
| tF (s)                        | 3.7   | 3.3                | 2.2    |      |            |            |  |
| p0 queue free %               | 99    | 98                 | 99     |      |            |            |  |
| cM capacity (veh/h)           | 855   | 1032               | 1576   |      |            |            |  |
| ,                             |       |                    |        |      |            |            |  |
| Direction, Lane #             | EB 1  | NB 1               | SB 1   |      |            |            |  |
| Volume Total                  | 30    | 30                 | 37     |      |            |            |  |
| Volume Left                   | 9     | 13                 | 0      |      |            |            |  |
| Volume Right                  | 21    | 0                  | 9      |      |            |            |  |
| cSH                           | 972   | 1576               | 1700   |      |            |            |  |
| Volume to Capacity            | 0.03  | 0.01               | 0.02   |      |            |            |  |
| Queue Length 95th (m)         | 0.8   | 0.2                | 0.0    |      |            |            |  |
| Control Delay (s)             | 8.8   | 3.2                | 0.0    |      |            |            |  |
| Lane LOS                      | А     | А                  |        |      |            |            |  |
| Approach Delay (s)            | 8.8   | 3.2                | 0.0    |      |            |            |  |
| Approach LOS                  | А     |                    |        |      |            |            |  |
| Intersection Summary          |       |                    |        |      |            |            |  |
| Average Delay                 |       |                    | 3.7    |      |            |            |  |
| Intersection Capacity Utiliza | ation |                    | 18.9%  | IC   | CU Level o | of Service |  |
| Analysis Period (min)         |       |                    | 10.070 |      |            |            |  |
|                               |       |                    | 10     |      |            |            |  |

|                                 | ٦    | $\mathbf{i}$ | •     | t    | Ŧ          | ∢          |   |
|---------------------------------|------|--------------|-------|------|------------|------------|---|
| Movement                        | EBL  | EBR          | NBL   | NBT  | SBT        | SBR        |   |
| Lane Configurations             | ¥    |              |       | 4ħ   | 4Î         |            |   |
| Traffic Volume (veh/h)          | 11   | 26           | 34    | 200  | 205        | 5          |   |
| Future Volume (Veh/h)           | 11   | 26           | 34    | 200  | 205        | 5          |   |
| Sign Control                    | Stop |              |       | Free | Free       |            |   |
| Grade                           | 0%   |              |       | 0%   | 0%         |            |   |
| Peak Hour Factor                | 0.63 | 0.64         | 0.68  | 0.69 | 0.69       | 0.63       |   |
| Hourly flow rate (vph)          | 17   | 41           | 50    | 290  | 297        | 8          |   |
| Pedestrians                     | 6    |              |       | 6    | 6          |            |   |
| Lane Width (m)                  | 3.6  |              |       | 3.6  | 3.6        |            |   |
| Walking Speed (m/s)             | 1.2  |              |       | 1.2  | 1.2        |            |   |
| Percent Blockage                | 1    |              |       | 1    | 1          |            |   |
| Right turn flare (veh)          |      |              |       |      |            |            |   |
| Median type                     |      |              |       | None | None       |            |   |
| Median storage veh)             |      |              |       |      |            |            |   |
| Upstream signal (m)             |      |              |       |      |            |            |   |
| pX, platoon unblocked           |      |              |       |      |            |            |   |
| vC, conflicting volume          | 558  | 313          | 311   |      |            |            |   |
| vC1, stage 1 conf vol           |      |              |       |      |            |            |   |
| vC2, stage 2 conf vol           |      |              |       |      |            |            |   |
| vCu, unblocked vol              | 558  | 313          | 311   |      |            |            |   |
| tC, single (s)                  | 6.8  | 7.0          | 4.6   |      |            |            |   |
| tC, 2 stage (s)                 |      |              |       |      |            |            |   |
| tF (s)                          | 3.5  | 3.3          | 2.4   |      |            |            |   |
| p0 queue free %                 | 96   | 94           | 95    |      |            |            |   |
| cM capacity (veh/h)             | 439  | 670          | 1102  |      |            |            |   |
| Direction, Lane #               | EB 1 | NB 1         | NB 2  | SB 1 |            |            |   |
| Volume Total                    | 58   | 147          | 193   | 305  |            |            |   |
| Volume Left                     | 17   | 50           | 0     | 0    |            |            |   |
| Volume Right                    | 41   | 0            | 0     | 8    |            |            |   |
| cSH                             | 581  | 1102         | 1700  | 1700 |            |            |   |
| Volume to Capacity              | 0.10 | 0.05         | 0.11  | 0.18 |            |            |   |
| Queue Length 95th (m)           | 2.7  | 1.1          | 0.0   | 0.0  |            |            |   |
| Control Delay (s)               | 11.9 | 3.1          | 0.0   | 0.0  |            |            |   |
| Lane LOS                        | В    | А            |       |      |            |            |   |
| Approach Delay (s)              | 11.9 | 1.4          |       | 0.0  |            |            |   |
| Approach LOS                    | В    |              |       |      |            |            |   |
| Intersection Summary            |      |              |       |      |            |            |   |
| Average Delay                   |      |              | 1.6   |      |            |            |   |
| Intersection Capacity Utilizati | ion  |              | 33.2% | IC   | CU Level c | of Service | А |
| Analysis Period (min)           |      |              | 15    |      |            |            |   |

|                               | ٦     | $\mathbf{i}$ | 1     | t    | ŧ          | ∢          |
|-------------------------------|-------|--------------|-------|------|------------|------------|
| Movement                      | EBL   | EBR          | NBL   | NBT  | SBT        | SBR        |
| Lane Configurations           | Y     |              |       | 412  | A          |            |
| Traffic Volume (veh/h)        | 9     | 54           | 56    | 242  | 275        | 15         |
| Future Volume (Veh/h)         | 9     | 54           | 56    | 242  | 275        | 15         |
| Sign Control                  | Stop  |              |       | Free | Free       |            |
| Grade                         | 0%    |              |       | 0%   | 0%         |            |
| Peak Hour Factor              | 0.67  | 0.80         | 0.88  | 0.88 | 0.86       | 0.88       |
| Hourly flow rate (vph)        | 13    | 68           | 64    | 275  | 320        | 17         |
| Pedestrians                   |       |              |       |      |            |            |
| Lane Width (m)                |       |              |       |      |            |            |
| Walking Speed (m/s)           |       |              |       |      |            |            |
| Percent Blockage              |       |              |       |      |            |            |
| Right turn flare (veh)        |       |              |       |      |            |            |
| Median type                   |       |              |       | None | None       |            |
| Median storage veh)           |       |              |       |      |            |            |
| Upstream signal (m)           |       |              |       | 371  |            |            |
| pX, platoon unblocked         |       |              |       |      |            |            |
| vC, conflicting volume        | 594   | 168          | 337   |      |            |            |
| vC1, stage 1 conf vol         |       |              |       |      |            |            |
| vC2, stage 2 conf vol         |       |              |       |      |            |            |
| vCu, unblocked vol            | 594   | 168          | 337   |      |            |            |
| tC, single (s)                | 6.8   | 7.0          | 4.2   |      |            |            |
| tC, 2 stage (s)               |       |              |       |      |            |            |
| tF (s)                        | 3.5   | 3.4          | 2.2   |      |            |            |
| p0 queue free %               | 97    | 92           | 95    |      |            |            |
| cM capacity (veh/h)           | 418   | 831          | 1212  |      |            |            |
|                               |       |              |       |      |            |            |
| Direction, Lane #             | EB 1  | NB 1         | NB 2  | SB 1 | SB 2       |            |
| Volume Total                  | 81    | 156          | 183   | 213  | 124        |            |
| Volume Left                   | 13    | 64           | 0     | 0    | 0          |            |
| Volume Right                  | 68    | 0            | 0     | 0    | 17         |            |
| cSH                           | 717   | 1212         | 1700  | 1700 | 1700       |            |
| Volume to Capacity            | 0.11  | 0.05         | 0.11  | 0.13 | 0.07       |            |
| Queue Length 95th (m)         | 3.0   | 1.3          | 0.0   | 0.0  | 0.0        |            |
| Control Delay (s)             | 10.7  | 3.6          | 0.0   | 0.0  | 0.0        |            |
| Lane LOS                      | В     | Α            |       |      |            |            |
| Approach Delay (s)            | 10.7  | 1.7          |       | 0.0  |            |            |
| Approach LOS                  | В     |              |       |      |            |            |
| Intersection Summary          |       |              |       |      |            |            |
| Average Delay                 |       |              | 1.9   |      |            |            |
| Intersection Capacity Utiliza | ation |              | 30.2% | IC   | CU Level o | of Service |
| Analysis Period (min)         |       |              | 15    |      |            |            |
|                               |       |              |       |      |            |            |

|                               | ٦     | +    | Ļ     | *    | *         |            |
|-------------------------------|-------|------|-------|------|-----------|------------|
| Movement                      | EBL   | EBT  | WBT   | WBR  | SBL       | SBR        |
| Lane Configurations           |       | स्   | 4     |      | Y         |            |
| Traffic Volume (veh/h)        | 9     | 501  | 413   | 56   | 34        | 13         |
| Future Volume (Veh/h)         | 9     | 501  | 413   | 56   | 34        | 13         |
| Sign Control                  | -     | Free | Free  |      | Stop      |            |
| Grade                         |       | 0%   | 0%    |      | 0%        |            |
| Peak Hour Factor              | 1.00  | 0.90 | 0.90  | 0.88 | 0.83      | 0.75       |
| Hourly flow rate (vph)        | 9     | 557  | 459   | 64   | 41        | 17         |
| Pedestrians                   | -     | 24   | 24    | • •  | 36        |            |
| Lane Width (m)                |       | 3.6  | 3.6   |      | 3.6       |            |
| Walking Speed (m/s)           |       | 1.2  | 1.2   |      | 1.2       |            |
| Percent Blockage              |       | 2    | 2     |      | 3         |            |
| Right turn flare (veh)        |       | _    | _     |      | Ŭ         |            |
| Median type                   |       | None | None  |      |           |            |
| Median storage veh)           |       | Nono | Nono  |      |           |            |
| Upstream signal (m)           |       |      |       |      |           |            |
| pX, platoon unblocked         |       |      |       |      |           |            |
| vC, conflicting volume        | 559   |      |       |      | 1126      | 551        |
| vC1, stage 1 conf vol         | 000   |      |       |      | 1120      | 001        |
| vC2, stage 2 conf vol         |       |      |       |      |           |            |
| vCu, unblocked vol            | 559   |      |       |      | 1126      | 551        |
| tC, single (s)                | 4.1   |      |       |      | 6.5       | 6.3        |
| tC, 2 stage (s)               | 7.1   |      |       |      | 0.0       | 0.0        |
| tF (s)                        | 2.2   |      |       |      | 3.6       | 3.4        |
| p0 queue free %               | 99    |      |       |      | 80        | 97         |
| cM capacity (veh/h)           | 991   |      |       |      | 206       | 500        |
| ,                             |       |      |       |      | 200       | 500        |
| Direction, Lane #             | EB 1  | WB 1 | SB 1  |      |           |            |
| Volume Total                  | 566   | 523  | 58    |      |           |            |
| Volume Left                   | 9     | 0    | 41    |      |           |            |
| Volume Right                  | 0     | 64   | 17    |      |           |            |
| cSH                           | 991   | 1700 | 249   |      |           |            |
| Volume to Capacity            | 0.01  | 0.31 | 0.23  |      |           |            |
| Queue Length 95th (m)         | 0.2   | 0.0  | 7.0   |      |           |            |
| Control Delay (s)             | 0.3   | 0.0  | 23.8  |      |           |            |
| Lane LOS                      | А     |      | С     |      |           |            |
| Approach Delay (s)            | 0.3   | 0.0  | 23.8  |      |           |            |
| Approach LOS                  |       |      | С     |      |           |            |
| Intersection Summary          |       |      |       |      |           |            |
| Average Delay                 |       |      | 1.3   |      |           |            |
| Intersection Capacity Utiliza | ation |      | 49.1% | IC   | U Level o | of Service |
| Analysis Period (min)         | -     |      | 15    |      |           |            |

| Movement              | EB   | EB    | EB    | WB    | WB    | NB   | NB    | SB    | SB    |
|-----------------------|------|-------|-------|-------|-------|------|-------|-------|-------|
| Directions Served     | L    | Т     | TR    | L     | TR    | L    | TR    | L     | TR    |
| Maximum Queue (m)     | 23.2 | 47.3  | 53.5  | 137.5 | 275.7 | 37.4 | 76.8  | 58.2  | 67.9  |
| Average Queue (m)     | 9.8  | 24.9  | 28.6  | 43.8  | 156.5 | 12.8 | 33.7  | 30.4  | 31.4  |
| 95th Queue (m)        | 21.4 | 41.2  | 47.8  | 138.0 | 319.6 | 29.7 | 60.6  | 49.6  | 55.8  |
| Link Distance (m)     |      | 588.4 |       | 792.4 | 792.4 |      | 392.5 | 354.3 | 354.3 |
| Upstream Blk Time (%) |      |       |       |       |       |      |       |       |       |
| Queuing Penalty (veh) |      |       |       |       |       |      |       |       |       |
| Storage Bay Dist (m)  | 90.0 |       | 124.0 |       |       | 50.0 |       |       |       |
| Storage Blk Time (%)  |      |       |       |       |       |      | 3     |       |       |
| Queuing Penalty (veh) |      |       |       |       |       |      | 1     |       |       |

#### Intersection: 6: Broadview Dr & Atwater St

| Movement              | EB    | NB    |
|-----------------------|-------|-------|
| Directions Served     | LR    | LT    |
| Maximum Queue (m)     | 18.8  | 3.7   |
| Average Queue (m)     | 5.5   | 0.2   |
| 95th Queue (m)        | 14.8  | 2.3   |
| Link Distance (m)     | 339.8 | 424.4 |
| Upstream Blk Time (%) |       |       |
| Queuing Penalty (veh) |       |       |
| Storage Bay Dist (m)  |       |       |
| Storage Blk Time (%)  |       |       |
| Queuing Penalty (veh) |       |       |

| Movement              | EB    | NB    | NB    | SB    |
|-----------------------|-------|-------|-------|-------|
| Directions Served     | LR    | LT    | Т     | TR    |
| Maximum Queue (m)     | 13.7  | 13.6  | 3.7   | 4.4   |
| Average Queue (m)     | 5.5   | 2.3   | 0.1   | 0.1   |
| 95th Queue (m)        | 12.3  | 10.3  | 1.9   | 1.8   |
| Link Distance (m)     | 380.6 | 515.6 | 515.6 | 423.6 |
| Upstream Blk Time (%) |       |       |       |       |
| Queuing Penalty (veh) |       |       |       |       |
| Storage Bay Dist (m)  |       |       |       |       |
| Storage Blk Time (%)  |       |       |       |       |
| Queuing Penalty (veh) |       |       |       |       |

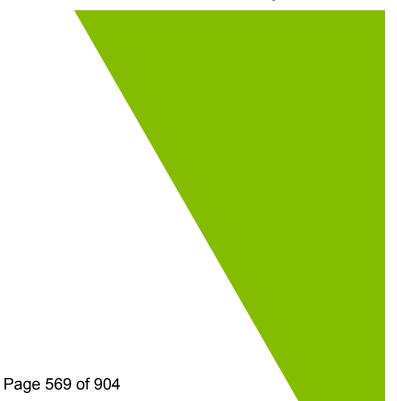
| Movement              | EB    | NB    |
|-----------------------|-------|-------|
| Directions Served     | LR    | LT    |
| Maximum Queue (m)     | 20.3  | 14.6  |
| Average Queue (m)     | 9.0   | 3.8   |
| 95th Queue (m)        | 17.1  | 11.9  |
| Link Distance (m)     | 304.9 | 354.3 |
| Upstream Blk Time (%) |       |       |
| Queuing Penalty (veh) |       |       |
| Storage Bay Dist (m)  |       |       |
| Storage Blk Time (%)  |       |       |
| Queuing Penalty (veh) |       |       |

#### Intersection: 11: Second Line W & Arden St

| Movement              | EB    | WB    | SB    |
|-----------------------|-------|-------|-------|
| Directions Served     | LT    | TR    | LR    |
| Maximum Queue (m)     | 27.3  | 25.6  | 18.6  |
| Average Queue (m)     | 4.0   | 2.8   | 7.9   |
| 95th Queue (m)        | 16.4  | 13.1  | 16.7  |
| Link Distance (m)     | 978.1 | 588.4 | 347.2 |
| Upstream Blk Time (%) |       |       |       |
| Queuing Penalty (veh) |       |       |       |
| Storage Bay Dist (m)  |       |       |       |
| Storage Blk Time (%)  |       |       |       |
| Queuing Penalty (veh) |       |       |       |
|                       |       |       |       |

#### Zone Summary

# Appendix I 2032 Future Total Synchro and SimTraffic Outputs





|                              | ≯           | -          | $\mathbf{r}$ | 1        | -          | •          | 1         | <b>†</b>  | 1    | •         | Ŧ         | -    |
|------------------------------|-------------|------------|--------------|----------|------------|------------|-----------|-----------|------|-----------|-----------|------|
| Movement                     | EBL         | EBT        | EBR          | WBL      | WBT        | WBR        | NBL       | NBT       | NBR  | SBL       | SBT       | SBR  |
| Lane Configurations          |             | <b>≜</b> ⊅ |              | <u> </u> | 4          |            | ሻ         | ef 👘      |      | ሻ         | 4         |      |
| Traffic Volume (vph)         | 73          | 385        | 30           | 40       | 252        | 185        | 19        | 145       | 70   | 257       | 159       | 44   |
| Future Volume (vph)          | 73          | 385        | 30           | 40       | 252        | 185        | 19        | 145       | 70   | 257       | 159       | 44   |
| Ideal Flow (vphpl)           | 1900        | 1900       | 1900         | 1900     | 1900       | 1900       | 1900      | 1900      | 1900 | 1900      | 1900      | 1900 |
| Total Lost time (s)          | 4.0         | 7.0        |              | 7.0      | 7.0        |            | 6.0       | 6.0       |      | 4.0       | 6.0       |      |
| Lane Util. Factor            | 1.00        | 0.95       |              | 1.00     | 1.00       |            | 1.00      | 1.00      |      | 1.00      | 1.00      |      |
| Frpb, ped/bikes              | 1.00        | 1.00       |              | 1.00     | 0.99       |            | 1.00      | 0.99      |      | 1.00      | 0.99      |      |
| Flpb, ped/bikes              | 1.00        | 1.00       |              | 1.00     | 1.00       |            | 0.99      | 1.00      |      | 1.00      | 1.00      |      |
| Frt                          | 1.00        | 0.99       |              | 1.00     | 0.94       |            | 1.00      | 0.95      |      | 1.00      | 0.97      |      |
| Flt Protected                | 0.95        | 1.00       |              | 0.95     | 1.00       |            | 0.95      | 1.00      |      | 0.95      | 1.00      |      |
| Satd. Flow (prot)            | 1686        | 3365       |              | 1768     | 1689       |            | 1740      | 1755      |      | 1766      | 1775      |      |
| Flt Permitted                | 0.32        | 1.00       |              | 0.49     | 1.00       |            | 0.62      | 1.00      |      | 0.36      | 1.00      |      |
| Satd. Flow (perm)            | 562         | 3365       |              | 915      | 1689       |            | 1136      | 1755      |      | 668       | 1775      |      |
| Peak-hour factor, PHF        | 0.92        | 0.92       | 0.92         | 0.92     | 0.92       | 0.92       | 0.92      | 0.92      | 0.92 | 0.92      | 0.92      | 0.92 |
| Adj. Flow (vph)              | 79          | 418        | 33           | 43       | 274        | 201        | 21        | 158       | 76   | 279       | 173       | 48   |
| RTOR Reduction (vph)         | 0           | 5          | 0            | 0        | 24         | 0          | 0         | 22        | 0    | 0         | 13        | 0    |
| Lane Group Flow (vph)        | 79          | 446        | 0            | 43       | 451        | 0          | 21        | 212       | 0    | 279       | 208       | 0    |
| Confl. Peds. (#/hr)          | 5           |            | 1            | 1        |            | 5          | 6         |           | 10   | 10        |           | 6    |
| Heavy Vehicles (%)           | 7%          | 6%         | 5%           | 2%       | 5%         | 4%         | 3%        | 0%        | 7%   | 2%        | 2%        | 6%   |
| Turn Type                    | pm+pt       | NA         |              | Perm     | NA         |            | Perm      | NA        |      | pm+pt     | NA        |      |
| Protected Phases             | 5           | 2          |              |          | 6          |            |           | 8         |      | 7         | 4         |      |
| Permitted Phases             | 2           | _          |              | 6        | Ŭ          |            | 8         | Ŭ         |      | 4         | •         |      |
| Actuated Green, G (s)        | 48.6        | 48.6       |              | 39.0     | 39.0       |            | 17.4      | 17.4      |      | 28.4      | 28.4      |      |
| Effective Green, g (s)       | 48.6        | 48.6       |              | 39.0     | 39.0       |            | 17.4      | 17.4      |      | 28.4      | 28.4      |      |
| Actuated g/C Ratio           | 0.54        | 0.54       |              | 0.43     | 0.43       |            | 0.19      | 0.19      |      | 0.32      | 0.32      |      |
| Clearance Time (s)           | 4.0         | 7.0        |              | 7.0      | 7.0        |            | 6.0       | 6.0       |      | 4.0       | 6.0       |      |
| Vehicle Extension (s)        | 3.0         | 3.0        |              | 3.0      | 3.0        |            | 3.0       | 3.0       |      | 3.0       | 3.0       |      |
| Lane Grp Cap (vph)           | 373         | 1817       |              | 396      | 731        |            | 219       | 339       |      | 296       | 560       |      |
| v/s Ratio Prot               | 0.01        | c0.13      |              | 000      | c0.27      |            | 215       | 0.12      |      | c0.07     | 0.12      |      |
| v/s Ratio Perm               | 0.10        | 00.10      |              | 0.05     | 00.21      |            | 0.02      | 0.12      |      | c0.22     | 0.12      |      |
| v/c Ratio                    | 0.10        | 0.25       |              | 0.00     | 0.62       |            | 0.02      | 0.63      |      | 0.94      | 0.37      |      |
| Uniform Delay, d1            | 11.4        | 11.0       |              | 15.2     | 19.7       |            | 29.8      | 33.3      |      | 29.2      | 23.9      |      |
| Progression Factor           | 1.00        | 1.00       |              | 1.00     | 1.00       |            | 1.00      | 1.00      |      | 1.00      | 1.00      |      |
| Incremental Delay, d2        | 0.3         | 0.3        |              | 0.6      | 3.9        |            | 0.2       | 3.6       |      | 37.1      | 0.4       |      |
| Delay (s)                    | 11.7        | 11.3       |              | 15.7     | 23.6       |            | 30.0      | 36.9      |      | 66.3      | 24.3      |      |
| Level of Service             | В           | B          |              | В        | 20.0<br>C  |            | 00.0<br>C | 00.0<br>D |      | 60.5<br>E | 24.0<br>C |      |
| Approach Delay (s)           | D           | 11.4       |              | U        | 22.9       |            | U         | 36.3      |      | L         | 47.7      |      |
| Approach LOS                 |             | B          |              |          | 22.5<br>C  |            |           | 00.0<br>D |      |           | D         |      |
|                              |             | U          |              |          | U          |            |           | U         |      |           | U         |      |
| Intersection Summary         |             |            |              |          | <u></u>    |            | <u> </u>  |           |      |           |           |      |
| HCM 2000 Control Delay       | .,          |            | 28.3         | Н        | CM 2000    | Level of   | Service   |           | С    |           |           |      |
| HCM 2000 Volume to Cap       | acity ratio |            | 0.75         | -        |            |            |           |           | 04.0 |           |           |      |
| Actuated Cycle Length (s)    |             |            | 90.0         |          | um of lost | . ,        |           |           | 21.0 |           |           |      |
| Intersection Capacity Utiliz | ation       |            | 81.0%        | IC       | U Level o  | of Service | 9         |           | D    |           |           | _    |
| Analysis Period (min)        |             |            | 15           |          |            |            |           |           |      |           |           |      |
| a Critical Lana Craun        |             |            |              |          |            |            |           |           |      |           |           |      |

c Critical Lane Group

2032 Future Total Conditions AM Model 11:50 pm 01-09-2024 2032 Future Total Conditions

|                               | ٦     | $\mathbf{\hat{z}}$ | •     | t    | ţ          | ∢          |  |
|-------------------------------|-------|--------------------|-------|------|------------|------------|--|
| Movement                      | EBL   | EBR                | NBL   | NBT  | SBT        | SBR        |  |
| Lane Configurations           | Ý     |                    |       | र्स  | 4Î         |            |  |
| Traffic Volume (veh/h)        | 40    | 48                 | 33    | 19   | 24         | 5          |  |
| Future Volume (Veh/h)         | 40    | 48                 | 33    | 19   | 24         | 5          |  |
| Sign Control                  | Stop  |                    |       | Free | Free       |            |  |
| Grade                         | 0%    |                    |       | 0%   | 0%         |            |  |
| Peak Hour Factor              | 1.00  | 0.80               | 0.75  | 0.85 | 0.79       | 0.63       |  |
| Hourly flow rate (vph)        | 40    | 60                 | 44    | 22   | 30         | 8          |  |
| Pedestrians                   | 3     |                    |       | 16   | 16         |            |  |
| Lane Width (m)                | 3.6   |                    |       | 3.6  | 3.6        |            |  |
| Walking Speed (m/s)           | 1.2   |                    |       | 1.2  | 1.2        |            |  |
| Percent Blockage              | 0     |                    |       | 1    | 1          |            |  |
| Right turn flare (veh)        |       |                    |       |      |            |            |  |
| Median type                   |       |                    |       | None | None       |            |  |
| Median storage veh)           |       |                    |       |      |            |            |  |
| Upstream signal (m)           |       |                    |       |      |            |            |  |
| pX, platoon unblocked         |       |                    |       |      |            |            |  |
| vC, conflicting volume        | 163   | 53                 | 41    |      |            |            |  |
| vC1, stage 1 conf vol         |       |                    |       |      |            |            |  |
| vC2, stage 2 conf vol         |       |                    |       |      |            |            |  |
| vCu, unblocked vol            | 163   | 53                 | 41    |      |            |            |  |
| tC, single (s)                | 6.6   | 6.2                | 4.1   |      |            |            |  |
| tC, 2 stage (s)               |       |                    |       |      |            |            |  |
| tF (s)                        | 3.7   | 3.3                | 2.2   |      |            |            |  |
| p0 queue free %               | 95    | 94                 | 97    |      |            |            |  |
| cM capacity (veh/h)           | 744   | 1004               | 1577  |      |            |            |  |
| Direction, Lane #             | EB 1  | NB 1               | SB 1  |      |            |            |  |
| Volume Total                  | 100   | 66                 | 38    |      |            |            |  |
| Volume Left                   | 40    | 44                 | 0     |      |            |            |  |
| Volume Right                  | 60    | 0                  | 8     |      |            |            |  |
| cSH                           | 881   | 1577               | 1700  |      |            |            |  |
| Volume to Capacity            | 0.11  | 0.03               | 0.02  |      |            |            |  |
| Queue Length 95th (m)         | 3.1   | 0.7                | 0.0   |      |            |            |  |
| Control Delay (s)             | 9.6   | 5.0                | 0.0   |      |            |            |  |
| Lane LOS                      | А     | А                  |       |      |            |            |  |
| Approach Delay (s)            | 9.6   | 5.0                | 0.0   |      |            |            |  |
| Approach LOS                  | А     |                    |       |      |            |            |  |
| Intersection Summary          |       |                    |       |      |            |            |  |
| Average Delay                 |       |                    | 6.3   |      |            |            |  |
| Intersection Capacity Utiliza | ation |                    | 25.2% | IC   | CU Level c | of Service |  |
| Analysis Period (min)         |       |                    | 15    |      |            |            |  |
|                               |       |                    |       |      |            |            |  |

|                                | ٦    | $\mathbf{\hat{z}}$ | •     | Ť    | Ŧ          | ∢         |   |
|--------------------------------|------|--------------------|-------|------|------------|-----------|---|
| Movement                       | EBL  | EBR                | NBL   | NBT  | SBT        | SBR       |   |
| Lane Configurations            | Y    |                    |       | -4↑  | ¢Î         |           |   |
| Traffic Volume (veh/h)         | 33   | 111                | 29    | 192  | 219        | 19        |   |
| Future Volume (Veh/h)          | 33   | 111                | 29    | 192  | 219        | 19        |   |
| Sign Control                   | Stop |                    |       | Free | Free       |           |   |
| Grade                          | 0%   |                    |       | 0%   | 0%         |           |   |
| Peak Hour Factor               | 0.94 | 0.85               | 0.80  | 0.90 | 0.89       | 0.69      |   |
| Hourly flow rate (vph)         | 35   | 131                | 36    | 213  | 246        | 28        |   |
| Pedestrians                    | 6    |                    |       | 6    | 6          |           |   |
| Lane Width (m)                 | 3.6  |                    |       | 3.6  | 3.6        |           |   |
| Walking Speed (m/s)            | 1.2  |                    |       | 1.2  | 1.2        |           |   |
| Percent Blockage               | 1    |                    |       | 1    | 1          |           |   |
| Right turn flare (veh)         |      |                    |       |      |            |           |   |
| Median type                    |      |                    |       | None | None       |           |   |
| Median storage veh)            |      |                    |       |      |            |           |   |
| Upstream signal (m)            |      |                    |       |      |            |           |   |
| pX, platoon unblocked          |      |                    |       |      |            |           |   |
| vC, conflicting volume         | 450  | 272                | 280   |      |            |           |   |
| vC1, stage 1 conf vol          |      |                    |       |      |            |           |   |
| vC2, stage 2 conf vol          |      |                    |       |      |            |           |   |
| vCu, unblocked vol             | 450  | 272                | 280   |      |            |           |   |
| tC, single (s)                 | 6.8  | 7.0                | 4.6   |      |            |           |   |
| tC, 2 stage (s)                |      |                    |       |      |            |           |   |
| tF (s)                         | 3.5  | 3.3                | 2.4   |      |            |           |   |
| p0 queue free %                | 93   | 82                 | 97    |      |            |           |   |
| cM capacity (veh/h)            | 520  | 713                | 1135  |      |            |           |   |
| Direction, Lane #              | EB 1 | NB 1               | NB 2  | SB 1 |            |           |   |
| Volume Total                   | 166  | 107                | 142   | 274  |            |           |   |
| Volume Left                    | 35   | 36                 | 0     | 0    |            |           |   |
| Volume Right                   | 131  | 0                  | 0     | 28   |            |           |   |
| cSH                            | 661  | 1135               | 1700  | 1700 |            |           |   |
| Volume to Capacity             | 0.25 | 0.03               | 0.08  | 0.16 |            |           |   |
| Queue Length 95th (m)          | 7.9  | 0.8                | 0.0   | 0.0  |            |           |   |
| Control Delay (s)              | 12.3 | 3.0                | 0.0   | 0.0  |            |           |   |
| Lane LOS                       | В    | А                  |       |      |            |           |   |
| Approach Delay (s)             | 12.3 | 1.3                |       | 0.0  |            |           |   |
| Approach LOS                   | В    |                    |       |      |            |           |   |
| Intersection Summary           |      |                    |       |      |            |           |   |
| Average Delay                  |      |                    | 3.4   |      |            |           |   |
| Intersection Capacity Utilizat | tion |                    | 38.9% | IC   | CU Level o | f Service | А |
| Analysis Period (min)          |      |                    | 15    |      |            |           |   |

|                               | ٦     | $\mathbf{i}$ | 1     | 1    | ŧ          | ∢          |
|-------------------------------|-------|--------------|-------|------|------------|------------|
| Movement                      | EBL   | EBR          | NBL   | NBT  | SBT        | SBR        |
| Lane Configurations           | Y     |              |       | -¢†  | <u>ቀ</u> ኑ |            |
| Traffic Volume (veh/h)        | 19    | 82           | 34    | 353  | 312        | 44         |
| Future Volume (Veh/h)         | 19    | 82           | 34    | 353  | 312        | 44         |
| Sign Control                  | Stop  |              |       | Free | Free       |            |
| Grade                         | 0%    |              |       | 0%   | 0%         |            |
| Peak Hour Factor              | 0.85  | 0.85         | 0.86  | 0.88 | 0.89       | 0.83       |
| Hourly flow rate (vph)        | 22    | 96           | 40    | 401  | 351        | 53         |
| Pedestrians                   |       |              |       |      |            |            |
| Lane Width (m)                |       |              |       |      |            |            |
| Walking Speed (m/s)           |       |              |       |      |            |            |
| Percent Blockage              |       |              |       |      |            |            |
| Right turn flare (veh)        |       |              |       |      |            |            |
| Median type                   |       |              |       | None | None       |            |
| Median storage veh)           |       |              |       |      |            |            |
| Upstream signal (m)           |       |              |       | 371  |            |            |
| pX, platoon unblocked         |       |              |       |      |            |            |
| vC, conflicting volume        | 658   | 202          | 404   |      |            |            |
| vC1, stage 1 conf vol         |       |              |       |      |            |            |
| vC2, stage 2 conf vol         |       |              |       |      |            |            |
| vCu, unblocked vol            | 658   | 202          | 404   |      |            |            |
| tC, single (s)                | 6.8   | 7.0          | 4.2   |      |            |            |
| tC, 2 stage (s)               |       |              |       |      |            |            |
| tF (s)                        | 3.5   | 3.4          | 2.2   |      |            |            |
| p0 queue free %               | 94    | 88           | 97    |      |            |            |
| cM capacity (veh/h)           | 388   | 790          | 1144  |      |            |            |
| Direction, Lane #             | EB 1  | NB 1         | NB 2  | SB 1 | SB 2       |            |
| Volume Total                  | 118   | 174          | 267   | 234  | 170        |            |
| Volume Left                   | 22    | 40           | 0     | 0    | 0          |            |
| Volume Right                  | 96    | 0            | 0     | 0    | 53         |            |
| cSH                           | 662   | 1144         | 1700  | 1700 | 1700       |            |
| Volume to Capacity            | 0.18  | 0.03         | 0.16  | 0.14 | 0.10       |            |
| Queue Length 95th (m)         | 5.2   | 0.9          | 0.0   | 0.0  | 0.0        |            |
| Control Delay (s)             | 11.6  | 2.1          | 0.0   | 0.0  | 0.0        |            |
| Lane LOS                      | B     | Α            | 0.0   | 0.0  | 0.0        |            |
| Approach Delay (s)            | 11.6  | 0.8          |       | 0.0  |            |            |
| Approach LOS                  | B     | 0.0          |       | 0.0  |            |            |
|                               | U     |              |       |      |            |            |
| Intersection Summary          |       |              |       |      |            |            |
| Average Delay                 |       |              | 1.8   |      |            |            |
| Intersection Capacity Utiliza | ation |              | 36.9% | IC   | CU Level c | of Service |
| Analysis Period (min)         |       |              | 15    |      |            |            |

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|------------------------------|--------|------|-------|------|-----------|------------|
| Movement                     | EBL    | EBT  | WBT   | WBR  | SBL       | SBR        |
| Lane Configurations          |        | र्स  | 4     |      | Y         |            |
| Traffic Volume (veh/h)       | 35     | 453  | 236   | 28   | 36        | 48         |
| Future Volume (Veh/h)        | 35     | 453  | 236   | 28   | 36        | 48         |
| Sign Control                 |        | Free | Free  |      | Stop      |            |
| Grade                        |        | 0%   | 0%    |      | 0%        |            |
| Peak Hour Factor             | 0.80   | 0.83 | 0.73  | 0.75 | 0.83      | 0.80       |
| Hourly flow rate (vph)       | 44     | 546  | 323   | 37   | 43        | 60         |
| Pedestrians                  |        | 4    | 4     |      | 5         |            |
| Lane Width (m)               |        | 3.6  | 3.6   |      | 3.6       |            |
| Walking Speed (m/s)          |        | 1.2  | 1.2   |      | 1.2       |            |
| Percent Blockage             |        | 0    | 0     |      | 0         |            |
| Right turn flare (veh)       |        |      |       |      |           |            |
| Median type                  |        | None | None  |      |           |            |
| Median storage veh)          |        |      |       |      |           |            |
| Upstream signal (m)          |        |      |       |      |           |            |
| pX, platoon unblocked        |        |      |       |      |           |            |
| vC, conflicting volume       | 365    |      |       |      | 984       | 350        |
| vC1, stage 1 conf vol        |        |      |       |      |           |            |
| vC2, stage 2 conf vol        |        |      |       |      |           |            |
| vCu, unblocked vol           | 365    |      |       |      | 984       | 350        |
| tC, single (s)               | 4.1    |      |       |      | 6.5       | 6.3        |
| tC, 2 stage (s)              |        |      |       |      |           |            |
| tF (s)                       | 2.2    |      |       |      | 3.6       | 3.4        |
| p0 queue free %              | 96     |      |       |      | 83        | 91         |
| cM capacity (veh/h)          | 1200   |      |       |      | 254       | 679        |
| Direction, Lane #            | EB 1   | WB 1 | SB 1  |      |           |            |
| Volume Total                 | 590    | 360  | 103   |      |           |            |
| Volume Left                  | 44     | 0    | 43    |      |           |            |
| Volume Right                 | 0      | 37   | 60    |      |           |            |
| cSH                          | 1200   | 1700 | 400   |      |           |            |
| Volume to Capacity           | 0.04   | 0.21 | 0.26  |      |           |            |
| Queue Length 95th (m)        | 0.9    | 0.0  | 8.1   |      |           |            |
| Control Delay (s)            | 1.0    | 0.0  | 17.1  |      |           |            |
| Lane LOS                     | А      |      | С     |      |           |            |
| Approach Delay (s)           | 1.0    | 0.0  | 17.1  |      |           |            |
| Approach LOS                 |        |      | С     |      |           |            |
| Intersection Summary         |        |      |       |      |           |            |
| Average Delay                |        |      | 2.2   |      |           |            |
| Intersection Capacity Utiliz | zation |      | 56.2% | IC   | U Level o | of Service |
| Analysis Period (min)        |        |      | 15    |      |           |            |
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|                                   | ٦     | $\mathbf{\hat{z}}$ | •     | 1      | Ļ          | -          |
|-----------------------------------|-------|--------------------|-------|--------|------------|------------|
| Movement                          | EBL   | EBR                | NBL   | NBT    | SBT        | SBR        |
| Lane Configurations               | Y     |                    |       | र्स    | 4Î         |            |
| Traffic Volume (veh/h)            | 0     | 11                 | 11    | 52     | 72         | 0          |
| Future Volume (Veh/h)             | 0     | 11                 | 11    | 52     | 72         | 0          |
| Sign Control                      | Stop  |                    |       | Free   | Free       |            |
| Grade                             | 0%    |                    |       | 0%     | 0%         |            |
| Peak Hour Factor                  | 0.92  | 0.92               | 0.92  | 0.92   | 0.92       | 0.92       |
| Hourly flow rate (vph)            | 0     | 12                 | 12    | 57     | 78         | 0          |
| Pedestrians                       |       |                    |       |        |            |            |
| Lane Width (m)                    |       |                    |       |        |            |            |
| Walking Speed (m/s)               |       |                    |       |        |            |            |
| Percent Blockage                  |       |                    |       |        |            |            |
| Right turn flare (veh)            |       |                    |       |        |            |            |
| Median type                       |       |                    |       | None   | None       |            |
| Median storage veh)               |       |                    |       | Tionio | 1 tonio    |            |
| Upstream signal (m)               |       |                    |       |        |            |            |
| pX, platoon unblocked             |       |                    |       |        |            |            |
| vC, conflicting volume            | 159   | 78                 | 78    |        |            |            |
| vC1, stage 1 conf vol             | 100   | 10                 |       |        |            |            |
| vC2, stage 2 conf vol             |       |                    |       |        |            |            |
| vCu, unblocked vol                | 159   | 78                 | 78    |        |            |            |
| tC, single (s)                    | 6.4   | 6.2                | 4.1   |        |            |            |
| tC, 2 stage (s)                   | 0.1   | 0.2                |       |        |            |            |
| tF (s)                            | 3.5   | 3.3                | 2.2   |        |            |            |
| p0 queue free %                   | 100   | 99                 | 99    |        |            |            |
| cM capacity (veh/h)               | 826   | 983                | 1520  |        |            |            |
|                                   |       |                    |       |        |            |            |
| Direction, Lane #                 | EB 1  | NB 1               | SB 1  |        |            |            |
| Volume Total                      | 12    | 69                 | 78    |        |            |            |
| Volume Left                       | 0     | 12                 | 0     |        |            |            |
| Volume Right                      | 12    | 0                  | 0     |        |            |            |
| cSH                               | 983   | 1520               | 1700  |        |            |            |
| Volume to Capacity                | 0.01  | 0.01               | 0.05  |        |            |            |
| Queue Length 95th (m)             | 0.3   | 0.2                | 0.0   |        |            |            |
| Control Delay (s)                 | 8.7   | 1.3                | 0.0   |        |            |            |
| Lane LOS                          | А     | А                  |       |        |            |            |
| Approach Delay (s)                | 8.7   | 1.3                | 0.0   |        |            |            |
| Approach LOS                      | А     |                    |       |        |            |            |
| Intersection Summary              |       |                    |       |        |            |            |
| Average Delay                     |       |                    | 1.2   |        |            |            |
| Intersection Capacity Utilization | ation |                    | 20.0% | IC     | CU Level o | of Service |
| Analysis Period (min)             |       |                    | 15    |        |            |            |
|                                   |       |                    |       |        |            |            |

|                                 | -    | $\mathbf{r}$ | -     | -              | 1         | 1          |   |
|---------------------------------|------|--------------|-------|----------------|-----------|------------|---|
| Movement                        | EBT  | EBR          | WBL   | WBT            | NBL       | NBR        |   |
| Lane Configurations             | 4    |              |       | <del>ب</del> ا | Y         |            | _ |
| Traffic Volume (veh/h)          | 85   | 0            | 29    | 19             | 0         | 59         |   |
| Future Volume (Veh/h)           | 85   | 0            | 29    | 19             | 0         | 59         |   |
| Sign Control                    | Free |              |       | Free           | Stop      |            |   |
| Grade                           | 0%   |              |       | 0%             | 0%        |            |   |
| Peak Hour Factor                | 0.92 | 0.92         | 0.92  | 0.92           | 0.92      | 0.92       |   |
| Hourly flow rate (vph)          | 92   | 0            | 32    | 21             | 0         | 64         |   |
| Pedestrians                     |      |              |       |                |           |            |   |
| Lane Width (m)                  |      |              |       |                |           |            |   |
| Walking Speed (m/s)             |      |              |       |                |           |            |   |
| Percent Blockage                |      |              |       |                |           |            |   |
| Right turn flare (veh)          |      |              |       |                |           |            |   |
| Median type                     | None |              |       | None           |           |            |   |
| Median storage veh)             |      |              |       |                |           |            |   |
| Upstream signal (m)             |      |              |       |                |           |            |   |
| pX, platoon unblocked           |      |              |       |                |           |            |   |
| vC, conflicting volume          |      |              | 92    |                | 177       | 92         |   |
| vC1, stage 1 conf vol           |      |              |       |                |           |            |   |
| vC2, stage 2 conf vol           |      |              |       |                |           |            |   |
| vCu, unblocked vol              |      |              | 92    |                | 177       | 92         |   |
| tC, single (s)                  |      |              | 4.1   |                | 6.4       | 6.2        |   |
| tC, 2 stage (s)                 |      |              |       |                |           |            |   |
| tF (s)                          |      |              | 2.2   |                | 3.5       | 3.3        |   |
| p0 queue free %                 |      |              | 98    |                | 100       | 93         |   |
| cM capacity (veh/h)             |      |              | 1503  |                | 795       | 965        |   |
| Direction, Lane #               | EB 1 | WB 1         | NB 1  |                |           |            |   |
| Volume Total                    | 92   | 53           | 64    |                |           |            |   |
| Volume Left                     | 0    | 32           | 0     |                |           |            |   |
| Volume Right                    | 0    | 0            | 64    |                |           |            |   |
| cSH                             | 1700 | 1503         | 965   |                |           |            |   |
| Volume to Capacity              | 0.05 | 0.02         | 0.07  |                |           |            |   |
| Queue Length 95th (m)           | 0.0  | 0.5          | 1.7   |                |           |            |   |
| Control Delay (s)               | 0.0  | 4.6          | 9.0   |                |           |            |   |
| Lane LOS                        |      | A            | A     |                |           |            |   |
| Approach Delay (s)              | 0.0  | 4.6          | 9.0   |                |           |            |   |
| Approach LOS                    |      |              | A     |                |           |            |   |
| Intersection Summary            |      |              |       |                |           |            |   |
| Average Delay                   |      |              | 3.9   |                |           |            |   |
| Intersection Capacity Utilizati | on   |              | 19.6% | IC             | U Level c | of Service |   |
| Analysis Period (min)           |      |              | 15    |                |           |            |   |

| Movement              | EB   | EB    | EB    | WB    | WB    | NB   | NB    | SB    | SB    |
|-----------------------|------|-------|-------|-------|-------|------|-------|-------|-------|
| Directions Served     | L    | Т     | TR    | L     | TR    | L    | TR    | L     | TR    |
| Maximum Queue (m)     | 28.6 | 37.8  | 51.8  | 23.0  | 86.3  | 19.0 | 67.5  | 64.4  | 57.2  |
| Average Queue (m)     | 12.2 | 17.7  | 22.8  | 6.1   | 42.1  | 5.5  | 34.3  | 34.8  | 26.2  |
| 95th Queue (m)        | 25.1 | 32.3  | 41.1  | 15.8  | 73.7  | 15.3 | 60.5  | 56.7  | 48.7  |
| Link Distance (m)     |      | 588.4 |       | 792.4 | 792.4 |      | 392.5 | 354.3 | 354.3 |
| Upstream Blk Time (%) |      |       |       |       |       |      |       |       |       |
| Queuing Penalty (veh) |      |       |       |       |       |      |       |       |       |
| Storage Bay Dist (m)  | 90.0 |       | 124.0 |       |       | 50.0 |       |       |       |
| Storage Blk Time (%)  |      |       |       |       |       |      | 3     |       |       |
| Queuing Penalty (veh) |      |       |       |       |       |      | 1     |       |       |

#### Intersection: 6: Broadview Dr & Atwater St

| Movement              | EB    | NB    |
|-----------------------|-------|-------|
| Directions Served     | LR    | LT    |
| Maximum Queue (m)     | 22.8  | 7.2   |
| Average Queue (m)     | 10.8  | 0.4   |
| 95th Queue (m)        | 18.5  | 3.6   |
| Link Distance (m)     | 339.7 | 330.1 |
| Upstream Blk Time (%) |       |       |
| Queuing Penalty (veh) |       |       |
| Storage Bay Dist (m)  |       |       |
| Storage Blk Time (%)  |       |       |
| Queuing Penalty (veh) |       |       |

| Movement              | EB    | NB    | NB    | SB    |
|-----------------------|-------|-------|-------|-------|
| Directions Served     | LR    | LT    | т     | TR    |
|                       |       |       |       |       |
| Maximum Queue (m)     | 25.9  | 17.6  | 4.8   | 4.6   |
| Average Queue (m)     | 10.8  | 2.2   | 0.2   | 0.2   |
| 95th Queue (m)        | 18.7  | 10.3  | 2.5   | 2.4   |
| Link Distance (m)     | 380.6 | 515.6 | 515.6 | 423.6 |
| Upstream Blk Time (%) |       |       |       |       |
| Queuing Penalty (veh) |       |       |       |       |
| Storage Bay Dist (m)  |       |       |       |       |
| Storage Blk Time (%)  |       |       |       |       |
| Queuing Penalty (veh) |       |       |       |       |

| Movement              | EB    | NB    | SB    |
|-----------------------|-------|-------|-------|
| Directions Served     | LR    | LT    | TR    |
| Maximum Queue (m)     | 19.7  | 12.0  | 1.3   |
| Average Queue (m)     | 10.7  | 2.9   | 0.0   |
| 95th Queue (m)        | 16.6  | 10.4  | 0.9   |
| Link Distance (m)     | 304.9 | 354.3 | 515.6 |
| Upstream Blk Time (%) |       |       |       |
| Queuing Penalty (veh) |       |       |       |
| Storage Bay Dist (m)  |       |       |       |
| Storage Blk Time (%)  |       |       |       |
| Queuing Penalty (veh) |       |       |       |

#### Intersection: 11: Second Line W & Arden St

| Movement              | EB    | WB    | SB    |
|-----------------------|-------|-------|-------|
| Directions Served     | LT    | TR    | LR    |
| Maximum Queue (m)     | 26.2  | 5.1   | 25.1  |
| Average Queue (m)     | 4.3   | 0.2   | 11.9  |
| 95th Queue (m)        | 16.8  | 3.0   | 21.1  |
| Link Distance (m)     | 978.1 | 588.4 | 347.2 |
| Upstream Blk Time (%) |       |       |       |
| Queuing Penalty (veh) |       |       |       |
| Storage Bay Dist (m)  |       |       |       |
| Storage Blk Time (%)  |       |       |       |
| Queuing Penalty (veh) |       |       |       |

#### Intersection: 15: Broadview Dr

| Movement              | EB    | NB   |
|-----------------------|-------|------|
| Directions Served     | LR    | LT   |
| Maximum Queue (m)     | 8.1   | 9.0  |
| Average Queue (m)     | 2.1   | 0.5  |
| 95th Queue (m)        | 7.7   | 3.8  |
| Link Distance (m)     | 270.7 | 77.1 |
| Upstream Blk Time (%) |       |      |
| Queuing Penalty (veh) |       |      |
| Storage Bay Dist (m)  |       |      |
| Storage Blk Time (%)  |       |      |
| Queuing Penalty (veh) |       |      |

# Intersection: 17: Broadview Dr & Chippewa St

| Movement              | WB    | NB    |
|-----------------------|-------|-------|
| Directions Served     | LT    | LR    |
| Maximum Queue (m)     | 7.3   | 14.5  |
| Average Queue (m)     | 0.3   | 6.8   |
| 95th Queue (m)        | 3.0   | 12.8  |
| Link Distance (m)     | 380.6 | 125.4 |
| Upstream Blk Time (%) |       |       |
| Queuing Penalty (veh) |       |       |
| Storage Bay Dist (m)  |       |       |
| Storage Blk Time (%)  |       |       |
| Queuing Penalty (veh) |       |       |

#### Zone Summary

Zone wide Queuing Penalty: 1

|                              |             |             |              |          |            |            |          |      |      |       | 02 2 |      |
|------------------------------|-------------|-------------|--------------|----------|------------|------------|----------|------|------|-------|------|------|
|                              | ۶           | -           | $\mathbf{r}$ | 4        | +          | •          | •        | t    | 1    | 1     | Ļ    | ~    |
| Movement                     | EBL         | EBT         | EBR          | WBL      | WBT        | WBR        | NBL      | NBT  | NBR  | SBL   | SBT  | SBR  |
| Lane Configurations          | <u>۲</u>    | <b>∱1</b> } |              | <u>۲</u> | 4          |            | <u>۲</u> | 4    |      | ሻ     | 4    |      |
| Traffic Volume (vph)         | 44          | 482         | 35           | 145      | 581        | 162        | 52       | 134  | 98   | 267   | 199  | 62   |
| Future Volume (vph)          | 44          | 482         | 35           | 145      | 581        | 162        | 52       | 134  | 98   | 267   | 199  | 62   |
| Ideal Flow (vphpl)           | 1900        | 1900        | 1900         | 1900     | 1900       | 1900       | 1900     | 1900 | 1900 | 1900  | 1900 | 1900 |
| Total Lost time (s)          | 4.0         | 7.0         |              | 7.0      | 7.0        |            | 6.0      | 6.0  |      | 4.0   | 6.0  |      |
| Lane Util. Factor            | 1.00        | 0.95        |              | 1.00     | 1.00       |            | 1.00     | 1.00 |      | 1.00  | 1.00 |      |
| Frpb, ped/bikes              | 1.00        | 1.00        |              | 1.00     | 0.99       |            | 1.00     | 0.99 |      | 1.00  | 0.99 |      |
| Flpb, ped/bikes              | 1.00        | 1.00        |              | 0.99     | 1.00       |            | 0.99     | 1.00 |      | 1.00  | 1.00 |      |
| Frt                          | 1.00        | 0.99        |              | 1.00     | 0.97       |            | 1.00     | 0.94 |      | 1.00  | 0.96 |      |
| Flt Protected                | 0.95        | 1.00        |              | 0.95     | 1.00       |            | 0.95     | 1.00 |      | 0.95  | 1.00 |      |
| Satd. Flow (prot)            | 1687        | 3365        |              | 1757     | 1743       |            | 1729     | 1704 |      | 1763  | 1763 |      |
| Flt Permitted                | 0.09        | 1.00        |              | 0.44     | 1.00       |            | 0.59     | 1.00 |      | 0.33  | 1.00 |      |
| Satd. Flow (perm)            | 161         | 3365        |              | 816      | 1743       |            | 1067     | 1704 |      | 615   | 1763 |      |
| Peak-hour factor, PHF        | 0.92        | 0.92        | 0.92         | 0.92     | 0.92       | 0.92       | 0.92     | 0.92 | 0.92 | 0.92  | 0.92 | 0.92 |
| Adj. Flow (vph)              | 48          | 524         | 38           | 158      | 632        | 176        | 57       | 146  | 107  | 290   | 216  | 67   |
| RTOR Reduction (vph)         | 0           | 5           | 0            | 0        | 9          | 0          | 0        | 34   | 0    | 0     | 14   | 0    |
| Lane Group Flow (vph)        | 48          | 557         | 0            | 158      | 799        | 0          | 57       | 219  | 0    | 290   | 269  | 0    |
| Confl. Peds. (#/hr)          | 17          | 001         | 9            | 9        | 100        | 17         | 12       | 210  | 21   | 21    | 200  | 12   |
| Heavy Vehicles (%)           | 7%          | 6%          | 5%           | 2%       | 5%         | 4%         | 3%       | 0%   | 7%   | 2%    | 2%   | 6%   |
| Turn Type                    | pm+pt       | NA          | 070          | Perm     | NA         | 170        | Perm     | NA   | 170  | pm+pt | NA   | 070  |
| Protected Phases             | 5           | 2           |              | I CIIII  | 6          |            | I CIIII  | 8    |      | 7     | 4    |      |
| Permitted Phases             | 2           | 2           |              | 6        | 0          |            | 8        | 0    |      | 4     | 4    |      |
| Actuated Green, G (s)        | 48.2        | 48.2        |              | 40.0     | 40.0       |            | 17.8     | 17.8 |      | 28.8  | 28.8 |      |
| Effective Green, g (s)       | 48.2        | 48.2        |              | 40.0     | 40.0       |            | 17.8     | 17.8 |      | 28.8  | 28.8 |      |
| Actuated g/C Ratio           | 0.54        | 0.54        |              | 0.44     | 0.44       |            | 0.20     | 0.20 |      | 0.32  | 0.32 |      |
| Clearance Time (s)           | 4.0         | 7.0         |              | 7.0      | 7.0        |            | 6.0      | 6.0  |      | 4.0   | 6.0  |      |
| Vehicle Extension (s)        | 4.0         | 3.0         |              | 3.0      | 3.0        |            | 3.0      | 3.0  |      | 3.0   | 3.0  |      |
|                              | 157         | 1802        |              | 362      | 774        |            | 211      | 337  |      | 286   | 564  |      |
| Lane Grp Cap (vph)           |             |             |              | 302      |            |            | 211      | 0.13 |      |       | 0.15 |      |
| v/s Ratio Prot               | 0.01        | c0.17       |              | 0.40     | c0.46      |            | 0.05     | 0.13 |      | c0.08 | 0.15 | _    |
| v/s Ratio Perm               | 0.15        | 0.04        |              | 0.19     | 4.00       |            | 0.05     | 0.05 |      | c0.25 | 0.48 |      |
| v/c Ratio                    | 0.31        | 0.31        |              | 0.44     | 1.03       |            | 0.27     | 0.65 |      | 1.01  |      | _    |
| Uniform Delay, d1            | 18.2        | 11.6        |              | 17.2     | 25.0       |            | 30.6     | 33.2 |      | 29.7  | 24.6 |      |
| Progression Factor           | 1.00        | 1.00        |              | 1.00     | 1.00       |            | 1.00     | 1.00 |      | 1.00  | 1.00 |      |
| Incremental Delay, d2        | 1.1         | 0.4         |              | 3.8      | 41.0       |            | 0.7      | 4.5  |      | 56.8  | 0.6  |      |
| Delay (s)                    | 19.4        | 12.1        |              | 21.0     | 66.0       |            | 31.3     | 37.7 |      | 86.6  | 25.2 |      |
| Level of Service             | В           | B           |              | С        | E          |            | С        | D    |      | F     | C    |      |
| Approach Delay (s)           |             | 12.7        |              |          | 58.6       |            |          | 36.5 |      |       | 56.3 |      |
| Approach LOS                 |             | В           |              |          | E          |            |          | D    |      |       | E    |      |
| Intersection Summary         |             |             | 40.0         |          | 014 0000   |            | <b>.</b> |      |      |       |      |      |
| HCM 2000 Control Delay       |             |             | 43.9         | Н        | CM 2000    | Level of   | Service  |      | D    |       |      |      |
| HCM 2000 Volume to Cap       | acity ratio |             | 1.03         | _        |            |            |          |      |      |       |      |      |
| Actuated Cycle Length (s)    |             |             | 90.0         |          | um of losi | . ,        |          |      | 21.0 |       |      |      |
| Intersection Capacity Utiliz | ation       |             | 97.1%        | IC       | CU Level   | of Service |          |      | F    |       |      |      |
| Analysis Period (min)        |             |             | 15           |          |            |            |          |      |      |       |      |      |
| a Critical Lana Croup        |             |             |              |          |            |            |          |      |      |       |      |      |

c Critical Lane Group

2032 Future Total Conditions PM Model 11:50 pm 01-09-2024 2032 Future Total Conditions

|                               | ٦     | $\mathbf{\hat{z}}$ | •     | t    | Ļ          | ∢          |  |
|-------------------------------|-------|--------------------|-------|------|------------|------------|--|
| Movement                      | EBL   | EBR                | NBL   | NBT  | SBT        | SBR        |  |
| Lane Configurations           | Υ     |                    |       | र्भ  | 4Î         |            |  |
| Traffic Volume (veh/h)        | 36    | 38                 | 84    | 14   | 19         | 8          |  |
| Future Volume (Veh/h)         | 36    | 38                 | 84    | 14   | 19         | 8          |  |
| Sign Control                  | Stop  |                    |       | Free | Free       |            |  |
| Grade                         | 0%    |                    |       | 0%   | 0%         |            |  |
| Peak Hour Factor              | 0.75  | 0.75               | 0.75  | 0.81 | 0.71       | 0.88       |  |
| Hourly flow rate (vph)        | 48    | 51                 | 112   | 17   | 27         | 9          |  |
| Pedestrians                   | 4     |                    |       | 3    | 2          |            |  |
| Lane Width (m)                | 3.6   |                    |       | 3.6  | 3.6        |            |  |
| Walking Speed (m/s)           | 1.2   |                    |       | 1.2  | 1.2        |            |  |
| Percent Blockage              | 0     |                    |       | 0    | 0          |            |  |
| Right turn flare (veh)        |       |                    |       |      |            |            |  |
| Median type                   |       |                    |       | None | None       |            |  |
| Median storage veh)           |       |                    |       |      |            |            |  |
| Upstream signal (m)           |       |                    |       |      |            |            |  |
| pX, platoon unblocked         |       |                    |       |      |            |            |  |
| vC, conflicting volume        | 278   | 38                 | 40    |      |            |            |  |
| vC1, stage 1 conf vol         |       |                    |       |      |            |            |  |
| vC2, stage 2 conf vol         |       |                    |       |      |            |            |  |
| vCu, unblocked vol            | 278   | 38                 | 40    |      |            |            |  |
| tC, single (s)                | 6.6   | 6.2                | 4.1   |      |            |            |  |
| tC, 2 stage (s)               |       |                    |       |      |            |            |  |
| tF (s)                        | 3.7   | 3.3                | 2.2   |      |            |            |  |
| p0 queue free %               | 92    | 95                 | 93    |      |            |            |  |
| cM capacity (veh/h)           | 615   | 1033               | 1577  |      |            |            |  |
| Direction, Lane #             | EB 1  | NB 1               | SB 1  |      |            |            |  |
| Volume Total                  | 99    | 129                | 36    |      |            |            |  |
| Volume Left                   | 48    | 112                | 0     |      |            |            |  |
| Volume Right                  | 51    | 0                  | 9     |      |            |            |  |
| cSH                           | 777   | 1577               | 1700  |      |            |            |  |
| Volume to Capacity            | 0.13  | 0.07               | 0.02  |      |            |            |  |
| Queue Length 95th (m)         | 3.5   | 1.8                | 0.0   |      |            |            |  |
| Control Delay (s)             | 10.3  | 6.5                | 0.0   |      |            |            |  |
| Lane LOS                      | В     | А                  |       |      |            |            |  |
| Approach Delay (s)            | 10.3  | 6.5                | 0.0   |      |            |            |  |
| Approach LOS                  | В     |                    |       |      |            |            |  |
| Intersection Summary          |       |                    |       |      |            |            |  |
| Average Delay                 |       |                    | 7.1   |      |            |            |  |
| Intersection Capacity Utiliza | ation |                    | 24.1% | IC   | CU Level o | of Service |  |
| Analysis Period (min)         |       |                    | 15    |      |            |            |  |
|                               |       |                    |       |      |            |            |  |

|                                | ٦    | $\mathbf{i}$ | 1     | 1    | Ļ          | ∢         |      |
|--------------------------------|------|--------------|-------|------|------------|-----------|------|
| Movement                       | EBL  | EBR          | NBL   | NBT  | SBT        | SBR       |      |
| Lane Configurations            | Y    |              |       | -¢†  | f,         |           |      |
| Traffic Volume (veh/h)         | 20   | 74           | 48    | 194  | 199        | 17        |      |
| Future Volume (Veh/h)          | 20   | 74           | 48    | 194  | 199        | 17        |      |
| Sign Control                   | Stop |              |       | Free | Free       |           |      |
| Grade                          | 0%   |              |       | 0%   | 0%         |           |      |
| Peak Hour Factor               | 0.63 | 0.64         | 0.68  | 0.69 | 0.69       | 0.63      |      |
| Hourly flow rate (vph)         | 32   | 116          | 71    | 281  | 288        | 27        |      |
| Pedestrians                    | 6    |              |       | 6    | 6          |           |      |
| Lane Width (m)                 | 3.6  |              |       | 3.6  | 3.6        |           |      |
| Walking Speed (m/s)            | 1.2  |              |       | 1.2  | 1.2        |           |      |
| Percent Blockage               | 1    |              |       | 1    | 1          |           |      |
| Right turn flare (veh)         |      |              |       |      |            |           |      |
| Median type                    |      |              |       | None | None       |           |      |
| Median storage veh)            |      |              |       |      |            |           |      |
| Upstream signal (m)            |      |              |       |      |            |           |      |
| pX, platoon unblocked          |      |              |       |      |            |           |      |
| vC, conflicting volume         | 596  | 314          | 321   |      |            |           |      |
| vC1, stage 1 conf vol          |      |              |       |      |            |           |      |
| vC2, stage 2 conf vol          |      |              |       |      |            |           |      |
| vCu, unblocked vol             | 596  | 314          | 321   |      |            |           |      |
| tC, single (s)                 | 6.8  | 7.0          | 4.6   |      |            |           |      |
| tC, 2 stage (s)                |      |              |       |      |            |           |      |
| tF (s)                         | 3.5  | 3.3          | 2.4   |      |            |           |      |
| p0 queue free %                | 92   | 83           | 93    |      |            |           |      |
| cM capacity (veh/h)            | 407  | 670          | 1092  |      |            |           |      |
| Direction, Lane #              | EB 1 | NB 1         | NB 2  | SB 1 |            |           | <br> |
| Volume Total                   | 148  | 165          | 187   | 315  |            |           |      |
| Volume Left                    | 32   | 71           | 0     | 0    |            |           |      |
| Volume Right                   | 116  | 0            | 0     | 27   |            |           |      |
| cSH                            | 588  | 1092         | 1700  | 1700 |            |           |      |
| Volume to Capacity             | 0.25 | 0.07         | 0.11  | 0.19 |            |           |      |
| Queue Length 95th (m)          | 7.9  | 1.7          | 0.0   | 0.0  |            |           |      |
| Control Delay (s)              | 13.2 | 4.0          | 0.0   | 0.0  |            |           |      |
| Lane LOS                       | В    | А            |       |      |            |           |      |
| Approach Delay (s)             | 13.2 | 1.9          |       | 0.0  |            |           |      |
| Approach LOS                   | В    |              |       |      |            |           |      |
| Intersection Summary           |      |              |       |      |            |           |      |
| Average Delay                  |      |              | 3.2   |      |            |           |      |
| Intersection Capacity Utilizat | ion  |              | 36.1% | IC   | CU Level o | f Service | А    |
| Analysis Period (min)          |      |              | 15    |      |            |           |      |

|                               | ٦     | $\mathbf{i}$ | 1     | 1            | ŧ          | ∢          |
|-------------------------------|-------|--------------|-------|--------------|------------|------------|
| Movement                      | EBL   | EBR          | NBL   | NBT          | SBT        | SBR        |
| Lane Configurations           | ۲     |              |       | - <b>₹</b> † | A          |            |
| Traffic Volume (veh/h)        | 9     | 52           | 54    | 250          | 316        | 15         |
| Future Volume (Veh/h)         | 9     | 52           | 54    | 250          | 316        | 15         |
| Sign Control                  | Stop  |              |       | Free         | Free       |            |
| Grade                         | 0%    |              |       | 0%           | 0%         |            |
| Peak Hour Factor              | 0.67  | 0.80         | 0.88  | 0.88         | 0.86       | 0.88       |
| Hourly flow rate (vph)        | 13    | 65           | 61    | 284          | 367        | 17         |
| Pedestrians                   |       |              |       |              |            |            |
| Lane Width (m)                |       |              |       |              |            |            |
| Walking Speed (m/s)           |       |              |       |              |            |            |
| Percent Blockage              |       |              |       |              |            |            |
| Right turn flare (veh)        |       |              |       |              |            |            |
| Median type                   |       |              |       | None         | None       |            |
| Median storage veh)           |       |              |       |              |            |            |
| Upstream signal (m)           |       |              |       | 371          |            |            |
| pX, platoon unblocked         |       |              |       |              |            |            |
| vC, conflicting volume        | 640   | 192          | 384   |              |            |            |
| vC1, stage 1 conf vol         |       |              |       |              |            |            |
| vC2, stage 2 conf vol         |       |              |       |              |            |            |
| vCu, unblocked vol            | 640   | 192          | 384   |              |            |            |
| tC, single (s)                | 6.8   | 7.0          | 4.2   |              |            |            |
| tC, 2 stage (s)               |       |              |       |              |            |            |
| tF (s)                        | 3.5   | 3.4          | 2.2   |              |            |            |
| p0 queue free %               | 97    | 92           | 95    |              |            |            |
| cM capacity (veh/h)           | 391   | 802          | 1164  |              |            |            |
| Direction, Lane #             | EB 1  | NB 1         | NB 2  | SB 1         | SB 2       |            |
| Volume Total                  | 78    | 156          | 189   | 245          | 139        |            |
| Volume Left                   | 13    | 61           | 0     | 0            | 0          |            |
| Volume Right                  | 65    | 0            | 0     | 0            | 17         |            |
| cSH                           | 682   | 1164         | 1700  | 1700         | 1700       |            |
| Volume to Capacity            | 0.11  | 0.05         | 0.11  | 0.14         | 0.08       |            |
| Queue Length 95th (m)         | 3.1   | 1.3          | 0.0   | 0.0          | 0.0        |            |
| Control Delay (s)             | 11.0  | 3.5          | 0.0   | 0.0          | 0.0        |            |
| Lane LOS                      | B     | 0.0<br>A     | 0.0   | 0.0          | 0.0        |            |
| Approach Delay (s)            | 11.0  | 1.6          |       | 0.0          |            |            |
| Approach LOS                  | B     | 1.0          |       | 0.0          |            |            |
| • •                           | U     |              |       |              |            |            |
| Intersection Summary          |       |              |       |              |            |            |
| Average Delay                 |       |              | 1.7   |              |            |            |
| Intersection Capacity Utiliza | ation |              | 31.4% | IC           | CU Level c | of Service |
| Analysis Period (min)         |       |              | 15    |              |            |            |

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|------------------------------|-------|------|-------|------|-----------|------------|
| Movement                     | EBL   | EBT  | WBT   | WBR  | SBL       | SBR        |
| Lane Configurations          |       | र्स  | 4     |      | Y         |            |
| Traffic Volume (veh/h)       | 39    | 486  | 401   | 98   | 33        | 35         |
| Future Volume (Veh/h)        | 39    | 486  | 401   | 98   | 33        | 35         |
| Sign Control                 |       | Free | Free  |      | Stop      |            |
| Grade                        |       | 0%   | 0%    |      | 0%        |            |
| Peak Hour Factor             | 1.00  | 0.90 | 0.90  | 0.88 | 0.83      | 0.75       |
| Hourly flow rate (vph)       | 39    | 540  | 446   | 111  | 40        | 47         |
| Pedestrians                  |       | 24   | 24    |      | 36        |            |
| Lane Width (m)               |       | 3.6  | 3.6   |      | 3.6       |            |
| Walking Speed (m/s)          |       | 1.2  | 1.2   |      | 1.2       |            |
| Percent Blockage             |       | 2    | 2     |      | 3         |            |
| Right turn flare (veh)       |       |      |       |      |           |            |
| Median type                  |       | None | None  |      |           |            |
| Median storage veh)          |       |      |       |      |           |            |
| Upstream signal (m)          |       |      |       |      |           |            |
| pX, platoon unblocked        |       |      |       |      |           |            |
| vC, conflicting volume       | 593   |      |       |      | 1180      | 562        |
| vC1, stage 1 conf vol        |       |      |       |      |           |            |
| vC2, stage 2 conf vol        |       |      |       |      |           |            |
| vCu, unblocked vol           | 593   |      |       |      | 1180      | 562        |
| tC, single (s)               | 4.1   |      |       |      | 6.5       | 6.3        |
| tC, 2 stage (s)              |       |      |       |      |           |            |
| tF (s)                       | 2.2   |      |       |      | 3.6       | 3.4        |
| p0 queue free %              | 96    |      |       |      | 78        | 90         |
| cM capacity (veh/h)          | 963   |      |       |      | 185       | 494        |
| Direction, Lane #            | EB 1  | WB 1 | SB 1  |      |           |            |
| Volume Total                 | 579   | 557  | 87    |      |           |            |
| Volume Left                  | 39    | 0    | 40    |      |           |            |
| Volume Right                 | 0     | 111  | 47    |      |           |            |
| cSH                          | 963   | 1700 | 279   |      |           |            |
| Volume to Capacity           | 0.04  | 0.33 | 0.31  |      |           |            |
| Queue Length 95th (m)        | 1.0   | 0.0  | 10.3  |      |           |            |
| Control Delay (s)            | 1.1   | 0.0  | 23.6  |      |           |            |
| Lane LOS                     | А     |      | С     |      |           |            |
| Approach Delay (s)           | 1.1   | 0.0  | 23.6  |      |           |            |
| Approach LOS                 |       |      | С     |      |           |            |
| Intersection Summary         |       |      |       |      |           |            |
| Average Delay                |       |      | 2.2   |      |           |            |
| Intersection Capacity Utiliz | ation |      | 74.1% | IC   | U Level o | of Service |
| Analysis Period (min)        |       |      | 15    |      |           |            |
|                              |       |      |       |      |           |            |

|                               | ≯     | *    | •            | 1      | ţ          | 4         |
|-------------------------------|-------|------|--------------|--------|------------|-----------|
| Movement                      | EBL   | EBR  | NBL          | NBT    | SBT        | SBR       |
| Lane Configurations           | Υ     |      |              | र्भ    | 4          |           |
| Traffic Volume (veh/h)        | 0     | 11   | 39           | 98     | 57         | 0         |
| Future Volume (Veh/h)         | 0     | 11   | 39           | 98     | 57         | 0         |
| Sign Control                  | Stop  |      |              | Free   | Free       |           |
| Grade                         | 0%    |      |              | 0%     | 0%         |           |
| Peak Hour Factor              | 0.92  | 0.92 | 0.92         | 0.92   | 0.92       | 0.92      |
| Hourly flow rate (vph)        | 0     | 12   | 42           | 107    | 62         | 0         |
| Pedestrians                   | -     | .=   |              |        |            | -         |
| Lane Width (m)                |       |      |              |        |            |           |
| Walking Speed (m/s)           |       |      |              |        |            |           |
| Percent Blockage              |       |      |              |        |            |           |
| Right turn flare (veh)        |       |      |              |        |            |           |
| Median type                   |       |      |              | None   | None       |           |
| Median storage veh)           |       |      |              | 110110 | 110110     |           |
| Upstream signal (m)           |       |      |              |        |            |           |
| pX, platoon unblocked         |       |      |              |        |            |           |
| vC, conflicting volume        | 253   | 62   | 62           |        |            |           |
| vC1, stage 1 conf vol         | 200   | 02   | 02           |        |            |           |
| vC2, stage 2 conf vol         |       |      |              |        |            |           |
| vCu, unblocked vol            | 253   | 62   | 62           |        |            |           |
| tC, single (s)                | 6.4   | 6.2  | 4.1          |        |            |           |
| tC, 2 stage (s)               | 0.4   | 0.2  | 7.1          |        |            |           |
| tF (s)                        | 3.5   | 3.3  | 2.2          |        |            |           |
| p0 queue free %               | 100   | 99   | 97           |        |            |           |
| cM capacity (veh/h)           | 716   | 1003 | 1541         |        |            |           |
|                               |       |      |              |        |            |           |
| Direction, Lane #             | EB 1  | NB 1 | SB 1         |        |            |           |
| Volume Total                  | 12    | 149  | 62           |        |            |           |
| Volume Left                   | 0     | 42   | 0            |        |            |           |
| Volume Right                  | 12    | 0    | 0            |        |            |           |
| cSH                           | 1003  | 1541 | 1700         |        |            |           |
| Volume to Capacity            | 0.01  | 0.03 | 0.04         |        |            |           |
| Queue Length 95th (m)         | 0.3   | 0.7  | 0.0          |        |            |           |
| Control Delay (s)             | 8.6   | 2.2  | 0.0          |        |            |           |
| Lane LOS                      | А     | А    |              |        |            |           |
| Approach Delay (s)            | 8.6   | 2.2  | 0.0          |        |            |           |
| Approach LOS                  | А     |      |              |        |            |           |
| Intersection Summary          |       |      |              |        |            |           |
| Average Delay                 |       |      | 2.0          |        |            |           |
| Intersection Capacity Utiliza | ation |      | 24.0%        | IC     | CU Level o | f Service |
| Analysis Period (min)         |       |      | 24.0 %<br>15 | IC.    |            |           |
|                               |       |      | 10           |        |            |           |

|                               | <b>→</b>    | $\mathbf{r}$ | 1          | -     | 1         | 1          |
|-------------------------------|-------------|--------------|------------|-------|-----------|------------|
| Movement                      | EBT         | EBR          | WBL        | WBT   | NBL       | NBR        |
| Lane Configurations           | <u>بر ا</u> |              |            | 4     | Y         |            |
| Traffic Volume (veh/h)        | 44          | 0            | 27         | 38    | 0         | 50         |
| Future Volume (Veh/h)         | 44          | 0            | 27         | 38    | 0         | 50         |
| Sign Control                  | Free        | •            |            | Free  | Stop      |            |
| Grade                         | 0%          |              |            | 0%    | 0%        |            |
| Peak Hour Factor              | 0.92        | 0.92         | 0.92       | 0.92  | 0.92      | 0.92       |
| Hourly flow rate (vph)        | 48          | 0.02         | 29         | 41    | 0.02      | 54         |
| Pedestrians                   | 10          | Ŭ            | 20         |       | Ű         | U I        |
| Lane Width (m)                |             |              |            |       |           |            |
| Walking Speed (m/s)           |             |              |            |       |           |            |
| Percent Blockage              |             |              |            |       |           |            |
| Right turn flare (veh)        |             |              |            |       |           |            |
| Median type                   | None        |              |            | None  |           |            |
| Median storage veh)           | NUNE        |              |            | NULLE |           |            |
| Upstream signal (m)           |             |              |            |       |           |            |
| pX, platoon unblocked         |             |              |            |       |           |            |
| vC, conflicting volume        |             |              | 48         |       | 147       | 48         |
| vC1, stage 1 conf vol         |             |              | 40         |       | 14/       | 40         |
| vC2, stage 2 conf vol         |             |              |            |       |           |            |
| vCu, unblocked vol            |             |              | 48         |       | 147       | 48         |
| tC, single (s)                |             |              | 40         |       | 6.4       | 6.2        |
| tC, 2 stage (s)               |             |              | 4.1        |       | 0.4       | 0.2        |
|                               |             |              | 2.2        |       | 3.5       | 3.3        |
| tF (s)                        |             |              | 2.2<br>98  |       | 100       | 95         |
| p0 queue free %               |             |              | 90<br>1559 |       | 830       | 95<br>1021 |
| cM capacity (veh/h)           |             |              |            |       | 030       | 1021       |
| Direction, Lane #             | EB 1        | WB 1         | NB 1       |       |           |            |
| Volume Total                  | 48          | 70           | 54         |       |           |            |
| Volume Left                   | 0           | 29           | 0          |       |           |            |
| Volume Right                  | 0           | 0            | 54         |       |           |            |
| cSH                           | 1700        | 1559         | 1021       |       |           |            |
| Volume to Capacity            | 0.03        | 0.02         | 0.05       |       |           |            |
| Queue Length 95th (m)         | 0.0         | 0.5          | 1.3        |       |           |            |
| Control Delay (s)             | 0.0         | 3.1          | 8.7        |       |           |            |
| Lane LOS                      |             | А            | А          |       |           |            |
| Approach Delay (s)            | 0.0         | 3.1          | 8.7        |       |           |            |
| Approach LOS                  |             |              | А          |       |           |            |
| Intersection Summary          |             |              |            |       |           |            |
| Average Delay                 |             |              | 4.0        |       |           |            |
| Intersection Capacity Utiliza | ation       |              | 20.2%      | IC    | U Level o | of Service |
| Analysis Period (min)         | -           |              | 15         |       |           |            |
|                               |             |              |            |       |           |            |

| Movement              | EB   | EB    | EB    | WB    | WB    | NB   | NB    | SB    | SB    |
|-----------------------|------|-------|-------|-------|-------|------|-------|-------|-------|
| Directions Served     | L    | Т     | TR    | L     | TR    | L    | TR    | L     | TR    |
| Maximum Queue (m)     | 28.2 | 48.5  | 54.9  | 190.0 | 304.1 | 51.5 | 77.2  | 66.0  | 66.4  |
| Average Queue (m)     | 9.7  | 23.6  | 28.4  | 51.6  | 181.9 | 13.0 | 37.3  | 35.8  | 31.8  |
| 95th Queue (m)        | 21.7 | 40.7  | 46.4  | 188.7 | 365.1 | 32.3 | 64.4  | 58.0  | 55.1  |
| Link Distance (m)     |      | 588.4 |       | 792.4 | 792.4 |      | 392.5 | 354.3 | 354.3 |
| Upstream Blk Time (%) |      |       |       |       |       |      |       |       |       |
| Queuing Penalty (veh) |      |       |       |       |       |      |       |       |       |
| Storage Bay Dist (m)  | 90.0 |       | 124.0 |       |       | 50.0 |       |       |       |
| Storage Blk Time (%)  |      |       |       |       |       | 0    | 3     |       |       |
| Queuing Penalty (veh) |      |       |       |       |       | 0    | 2     |       |       |

# Intersection: 6: Broadview Dr & Atwater St

| Movement              | EB    | NB    |
|-----------------------|-------|-------|
| Directions Served     | LR    | LT    |
| Maximum Queue (m)     | 22.8  | 12.0  |
| Average Queue (m)     | 10.8  | 1.4   |
| 95th Queue (m)        | 19.5  | 7.6   |
| Link Distance (m)     | 339.7 | 333.2 |
| Upstream Blk Time (%) |       |       |
| Queuing Penalty (veh) |       |       |
| Storage Bay Dist (m)  |       |       |
| Storage Blk Time (%)  |       |       |
| Queuing Penalty (veh) |       |       |

| Movement              | EB    | NB    | NB    | SB    |
|-----------------------|-------|-------|-------|-------|
| Directions Served     | LR    | LT    | Т     | TR    |
| Maximum Queue (m)     | 19.4  | 20.1  | 3.0   | 3.7   |
| Average Queue (m)     | 8.9   | 3.4   | 0.2   | 0.1   |
| 95th Queue (m)        | 14.7  | 12.9  | 2.5   | 1.9   |
| Link Distance (m)     | 380.6 | 515.6 | 515.6 | 423.6 |
| Upstream Blk Time (%) |       |       |       |       |
| Queuing Penalty (veh) |       |       |       |       |
| Storage Bay Dist (m)  |       |       |       |       |
| Storage Blk Time (%)  |       |       |       |       |
| Queuing Penalty (veh) |       |       |       |       |

| Movement              | EB    | NB    |
|-----------------------|-------|-------|
| Directions Served     | LR    | LT    |
| Maximum Queue (m)     | 18.7  | 18.4  |
| Average Queue (m)     | 8.1   | 3.9   |
| 95th Queue (m)        | 16.3  | 13.2  |
| Link Distance (m)     | 304.9 | 354.3 |
| Upstream Blk Time (%) |       |       |
| Queuing Penalty (veh) |       |       |
| Storage Bay Dist (m)  |       |       |
| Storage Blk Time (%)  |       |       |
| Queuing Penalty (veh) |       |       |

#### Intersection: 11: Second Line W & Arden St

| Movement              | EB    | WB    | SB    |
|-----------------------|-------|-------|-------|
| Directions Served     | LT    | TR    | LR    |
| Maximum Queue (m)     | 48.8  | 30.7  | 27.0  |
| Average Queue (m)     | 13.4  | 4.5   | 10.3  |
| 95th Queue (m)        | 35.6  | 18.3  | 19.5  |
| Link Distance (m)     | 978.1 | 588.4 | 347.2 |
| Upstream Blk Time (%) |       |       |       |
| Queuing Penalty (veh) |       |       |       |
| Storage Bay Dist (m)  |       |       |       |
| Storage Blk Time (%)  |       |       |       |
| Queuing Penalty (veh) |       |       |       |

#### Intersection: 15: Broadview Dr & Amherst St

| Movement              | EB    | NB   |
|-----------------------|-------|------|
| Directions Served     | LR    | LT   |
| Maximum Queue (m)     | 8.5   | 5.4  |
| Average Queue (m)     | 2.1   | 0.2  |
| 95th Queue (m)        | 7.9   | 2.7  |
| Link Distance (m)     | 269.7 | 75.3 |
| Upstream Blk Time (%) |       |      |
| Queuing Penalty (veh) |       |      |
| Storage Bay Dist (m)  |       |      |
| Storage Blk Time (%)  |       |      |
| Queuing Penalty (veh) |       |      |

# Intersection: 17: Broadview Dr & Chippewa St

| Movement              | WB    | NB    |
|-----------------------|-------|-------|
| Directions Served     | LT    | LR    |
| Maximum Queue (m)     | 5.4   | 12.4  |
| Average Queue (m)     | 0.3   | 6.8   |
| 95th Queue (m)        | 3.0   | 12.6  |
| Link Distance (m)     | 380.6 | 125.4 |
| Upstream Blk Time (%) |       |       |
| Queuing Penalty (veh) |       |       |
| Storage Bay Dist (m)  |       |       |
| Storage Blk Time (%)  |       |       |
| Queuing Penalty (veh) |       |       |

# Zone Summary

Zone wide Queuing Penalty: 2

#### Timings 3: Goulais Ave & Second Line W

|                      | ≯     | -          | 1        | -     | 1        | Ť        | 1        | ţ       |  |
|----------------------|-------|------------|----------|-------|----------|----------|----------|---------|--|
| Lane Group           | EBL   | EBT        | WBL      | WBT   | NBL      | NBT      | SBL      | SBT     |  |
| Lane Configurations  | 7     | <b>∱</b> ⊅ | <u> </u> | el 🕴  | <u>۲</u> | el<br>el | <u>۲</u> | eî<br>Î |  |
| Traffic Volume (vph) | 44    | 482        | 145      | 581   | 52       | 134      | 267      | 199     |  |
| Future Volume (vph)  | 44    | 482        | 145      | 581   | 52       | 134      | 267      | 199     |  |
| Turn Type            | pm+pt | NA         | Perm     | NA    | Perm     | NA       | pm+pt    | NA      |  |
| Protected Phases     | 5     | 2          |          | 6     |          | 8        | 7        | 4       |  |
| Permitted Phases     | 2     |            | 6        |       | 8        |          | 4        |         |  |
| Detector Phase       | 5     | 2          | 6        | 6     | 8        | 8        | 7        | 4       |  |
| Switch Phase         |       |            |          |       |          |          |          |         |  |
| Minimum Initial (s)  | 7.0   | 12.0       | 12.0     | 12.0  | 12.0     | 12.0     | 7.0      | 12.0    |  |
| Minimum Split (s)    | 11.0  | 37.0       | 33.0     | 33.0  | 33.0     | 33.0     | 11.0     | 37.0    |  |
| Total Split (s)      | 11.0  | 61.0       | 50.0     | 50.0  | 33.0     | 33.0     | 16.0     | 49.0    |  |
| Total Split (%)      | 10.0% | 55.5%      | 45.5%    | 45.5% | 30.0%    | 30.0%    | 14.5%    | 44.5%   |  |
| Yellow Time (s)      | 3.0   | 5.4        | 5.4      | 5.4   | 4.3      | 4.3      | 3.0      | 4.3     |  |
| All-Red Time (s)     | 1.0   | 1.6        | 1.6      | 1.6   | 1.7      | 1.7      | 1.0      | 1.7     |  |
| Lost Time Adjust (s) | 0.0   | 0.0        | 0.0      | 0.0   | 0.0      | 0.0      | 0.0      | 0.0     |  |
| Total Lost Time (s)  | 4.0   | 7.0        | 7.0      | 7.0   | 6.0      | 6.0      | 4.0      | 6.0     |  |
| Lead/Lag             | Lead  |            | Lag      | Lag   | Lag      | Lag      | Lead     |         |  |
| Lead-Lag Optimize?   | Yes   |            | Yes      | Yes   | Yes      | Yes      | Yes      |         |  |
| Recall Mode          | None  | C-Max      | C-Max    | C-Max | None     | None     | None     | None    |  |

#### Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Splits and Phases: 3: Goulais Ave & Second Line W



|                              | ۶           | -          | $\mathbf{r}$ | 1    | +          | ×          | 1       | 1    | 1    | 1     | ţ    | ~    |
|------------------------------|-------------|------------|--------------|------|------------|------------|---------|------|------|-------|------|------|
| Movement                     | EBL         | EBT        | EBR          | WBL  | WBT        | WBR        | NBL     | NBT  | NBR  | SBL   | SBT  | SBR  |
| Lane Configurations          | 1           | <b>∱</b> } |              | ľ    | ¢Î         |            | ľ       | el 🕴 |      | 1     | ¢Î   |      |
| Traffic Volume (vph)         | 44          | 482        | 35           | 145  | 581        | 162        | 52      | 134  | 98   | 267   | 199  | 62   |
| Future Volume (vph)          | 44          | 482        | 35           | 145  | 581        | 162        | 52      | 134  | 98   | 267   | 199  | 62   |
| Ideal Flow (vphpl)           | 1900        | 1900       | 1900         | 1900 | 1900       | 1900       | 1900    | 1900 | 1900 | 1900  | 1900 | 1900 |
| Total Lost time (s)          | 4.0         | 7.0        |              | 7.0  | 7.0        |            | 6.0     | 6.0  |      | 4.0   | 6.0  |      |
| Lane Util. Factor            | 1.00        | 0.95       |              | 1.00 | 1.00       |            | 1.00    | 1.00 |      | 1.00  | 1.00 |      |
| Frpb, ped/bikes              | 1.00        | 1.00       |              | 1.00 | 0.99       |            | 1.00    | 0.98 |      | 1.00  | 0.99 |      |
| Flpb, ped/bikes              | 1.00        | 1.00       |              | 0.99 | 1.00       |            | 0.98    | 1.00 |      | 1.00  | 1.00 |      |
| Frt                          | 1.00        | 0.99       |              | 1.00 | 0.97       |            | 1.00    | 0.94 |      | 1.00  | 0.96 |      |
| Flt Protected                | 0.95        | 1.00       |              | 0.95 | 1.00       |            | 0.95    | 1.00 |      | 0.95  | 1.00 |      |
| Satd. Flow (prot)            | 1687        | 3364       |              | 1754 | 1741       |            | 1724    | 1701 |      | 1764  | 1762 |      |
| Flt Permitted                | 0.07        | 1.00       |              | 0.44 | 1.00       |            | 0.59    | 1.00 |      | 0.28  | 1.00 |      |
| Satd. Flow (perm)            | 129         | 3364       |              | 815  | 1741       |            | 1063    | 1701 |      | 516   | 1762 |      |
| Peak-hour factor, PHF        | 0.92        | 0.92       | 0.92         | 0.92 | 0.92       | 0.92       | 0.92    | 0.92 | 0.92 | 0.92  | 0.92 | 0.92 |
| Adj. Flow (vph)              | 48          | 524        | 38           | 158  | 632        | 176        | 57      | 146  | 107  | 290   | 216  | 67   |
| RTOR Reduction (vph)         | 0           | 4          | 0            | 0    | 8          | 0          | 0       | 26   | 0    | 0     | 11   | 0    |
| Lane Group Flow (vph)        | 48          | 558        | 0            | 158  | 800        | 0          | 57      | 227  | 0    | 290   | 272  | 0    |
| Confl. Peds. (#/hr)          | 17          |            | 9            | 9    |            | 17         | 12      |      | 21   | 21    |      | 12   |
| Heavy Vehicles (%)           | 7%          | 6%         | 5%           | 2%   | 5%         | 4%         | 3%      | 0%   | 7%   | 2%    | 2%   | 6%   |
| Turn Type                    | pm+pt       | NA         |              | Perm | NA         |            | Perm    | NA   |      | pm+pt | NA   |      |
| Protected Phases             | 5           | 2          |              | -    | 6          |            | -       | 8    |      | 7     | 4    |      |
| Permitted Phases             | 2           |            |              | 6    |            |            | 8       |      |      | 4     |      |      |
| Actuated Green, G (s)        | 61.3        | 61.3       |              | 51.7 | 51.7       |            | 19.7    | 19.7 |      | 35.7  | 35.7 |      |
| Effective Green, g (s)       | 61.3        | 61.3       |              | 51.7 | 51.7       |            | 19.7    | 19.7 |      | 35.7  | 35.7 |      |
| Actuated g/C Ratio           | 0.56        | 0.56       |              | 0.47 | 0.47       |            | 0.18    | 0.18 |      | 0.32  | 0.32 |      |
| Clearance Time (s)           | 4.0         | 7.0        |              | 7.0  | 7.0        |            | 6.0     | 6.0  |      | 4.0   | 6.0  |      |
| Vehicle Extension (s)        | 3.0         | 3.0        |              | 3.0  | 3.0        |            | 3.0     | 3.0  |      | 3.0   | 3.0  |      |
| Lane Grp Cap (vph)           | 151         | 1874       |              | 383  | 818        |            | 190     | 304  |      | 303   | 571  |      |
| v/s Ratio Prot               | 0.02        | c0.17      |              |      | c0.46      |            |         | 0.13 |      | c0.10 | 0.15 |      |
| v/s Ratio Perm               | 0.16        |            |              | 0.19 |            |            | 0.05    |      |      | c0.21 |      |      |
| v/c Ratio                    | 0.32        | 0.30       |              | 0.41 | 0.98       |            | 0.30    | 0.75 |      | 0.96  | 0.48 |      |
| Uniform Delay, d1            | 20.8        | 12.9       |              | 19.2 | 28.6       |            | 39.2    | 42.8 |      | 33.2  | 29.7 |      |
| Progression Factor           | 1.00        | 1.00       |              | 1.00 | 1.00       |            | 1.00    | 1.00 |      | 1.00  | 1.00 |      |
| Incremental Delay, d2        | 1.2         | 0.4        |              | 3.3  | 26.6       |            | 0.9     | 9.6  |      | 39.8  | 0.6  |      |
| Delay (s)                    | 22.0        | 13.3       |              | 22.4 | 55.2       |            | 40.1    | 52.3 |      | 73.1  | 30.3 |      |
| Level of Service             | C           | В          |              | С    | E          |            | D       | D    |      | E     | С    |      |
| Approach Delay (s)           |             | 14.0       |              |      | 49.8       |            |         | 50.1 |      |       | 51.9 |      |
| Approach LOS                 |             | В          |              |      | D          |            |         | D    |      |       | D    |      |
| Intersection Summary         |             |            |              |      |            |            |         |      |      |       |      |      |
| HCM 2000 Control Delay       |             |            | 41.5         | Н    | CM 2000    | Level of S | Service |      | D    |       |      |      |
| HCM 2000 Volume to Cap       | acity ratio |            | 0.96         |      |            |            |         |      |      |       |      |      |
| Actuated Cycle Length (s)    |             |            | 110.0        | S    | um of lost | t time (s) |         |      | 21.0 |       |      |      |
| Intersection Capacity Utiliz | ation       |            | 97.1%        | IC   | U Level o  | of Service |         |      | F    |       |      |      |
| Analysis Period (min)        |             |            | 15           |      |            |            |         |      |      |       |      |      |
| c Critical Lane Group        |             |            |              |      |            |            |         |      |      |       |      |      |

c Critical Lane Group

2032 Future Total Conditions - Mitigation PM Model 11:50 pm 01-09-2024 2032 Future Total Conditions - Mitigation Synchro 11 Report

| Movement              | EB   | EB    | EB    | WB    | WB    | NB   | NB    | SB    | SB    |  |
|-----------------------|------|-------|-------|-------|-------|------|-------|-------|-------|--|
| Directions Served     | L    | Т     | TR    | L     | TR    | L    | TR    | L     | TR    |  |
| Maximum Queue (m)     | 28.4 | 54.0  | 59.8  | 122.7 | 242.3 | 57.2 | 78.6  | 82.4  | 77.1  |  |
| Average Queue (m)     | 10.4 | 26.0  | 29.1  | 26.4  | 123.9 | 13.7 | 39.5  | 43.4  | 36.8  |  |
| 95th Queue (m)        | 21.4 | 44.8  | 50.6  | 69.6  | 219.2 | 35.2 | 68.5  | 72.6  | 64.5  |  |
| Link Distance (m)     |      | 588.4 |       | 792.4 | 792.4 |      | 392.5 | 354.3 | 354.3 |  |
| Upstream Blk Time (%) |      |       |       |       |       |      |       |       |       |  |
| Queuing Penalty (veh) |      |       |       |       |       |      |       |       |       |  |
| Storage Bay Dist (m)  | 90.0 |       | 124.0 |       |       | 50.0 |       |       |       |  |
| Storage Blk Time (%)  |      |       |       |       |       | 0    | 6     |       |       |  |
| Queuing Penalty (veh) |      |       |       |       |       | 0    | 3     |       |       |  |



# Appendix J 2035 Future Total Synchro and SimTraffic Outputs





|                                         |             |             |              |        |           |            |         |      |      |           | 02 2 |      |
|-----------------------------------------|-------------|-------------|--------------|--------|-----------|------------|---------|------|------|-----------|------|------|
|                                         | ٦           | -           | $\mathbf{r}$ | 4      | ←         | *          | •       | Ť    | 1    | 1         | ţ    | ~    |
| Movement                                | EBL         | EBT         | EBR          | WBL    | WBT       | WBR        | NBL     | NBT  | NBR  | SBL       | SBT  | SBR  |
| Lane Configurations                     | ሻ           | <b>∱</b> î≽ |              | ۳.     | ef 👘      |            | ሻ       | 4    |      | ሻ         | 4    |      |
| Traffic Volume (vph)                    | 75          | 397         | 31           | 41     | 266       | 191        | 20      | 156  | 72   | 279       | 178  | 45   |
| Future Volume (vph)                     | 75          | 397         | 31           | 41     | 266       | 191        | 20      | 156  | 72   | 279       | 178  | 45   |
| Ideal Flow (vphpl)                      | 1900        | 1900        | 1900         | 1900   | 1900      | 1900       | 1900    | 1900 | 1900 | 1900      | 1900 | 1900 |
| Total Lost time (s)                     | 4.0         | 7.0         |              | 7.0    | 7.0       |            | 6.0     | 6.0  |      | 4.0       | 6.0  |      |
| Lane Util. Factor                       | 1.00        | 0.95        |              | 1.00   | 1.00      |            | 1.00    | 1.00 |      | 1.00      | 1.00 |      |
| Frpb, ped/bikes                         | 1.00        | 1.00        |              | 1.00   | 0.99      |            | 1.00    | 0.99 |      | 1.00      | 0.99 |      |
| Flpb, ped/bikes                         | 1.00        | 1.00        |              | 1.00   | 1.00      |            | 0.99    | 1.00 |      | 1.00      | 1.00 |      |
| Frt                                     | 1.00        | 0.99        |              | 1.00   | 0.94      |            | 1.00    | 0.95 |      | 1.00      | 0.97 |      |
| Flt Protected                           | 0.95        | 1.00        |              | 0.95   | 1.00      |            | 0.95    | 1.00 |      | 0.95      | 1.00 |      |
| Satd. Flow (prot)                       | 1686        | 3365        |              | 1768   | 1691      |            | 1740    | 1759 |      | 1766      | 1781 |      |
| Flt Permitted                           | 0.29        | 1.00        |              | 0.48   | 1.00      |            | 0.61    | 1.00 |      | 0.34      | 1.00 |      |
| Satd. Flow (perm)                       | 520         | 3365        |              | 901    | 1691      |            | 1114    | 1759 |      | 636       | 1781 |      |
| Peak-hour factor, PHF                   | 0.92        | 0.92        | 0.92         | 0.92   | 0.92      | 0.92       | 0.92    | 0.92 | 0.92 | 0.92      | 0.92 | 0.92 |
| Adj. Flow (vph)                         | 82          | 432         | 34           | 45     | 289       | 208        | 22      | 170  | 78   | 303       | 193  | 49   |
| RTOR Reduction (vph)                    | 0           | 5           | 0            | 0      | 24        | 0          | 0       | 21   | 0    | 0         | 12   | 0    |
| Lane Group Flow (vph)                   | 82          | 461         | 0            | 45     | 473       | 0          | 22      | 227  | 0    | 303       | 230  | 0    |
| Confl. Peds. (#/hr)                     | 5           | 101         | 1            | 1      |           | 5          | 6       |      | 10   | 10        | 200  | 6    |
| Heavy Vehicles (%)                      | 7%          | 6%          | 5%           | 2%     | 5%        | 4%         | 3%      | 0%   | 7%   | 2%        | 2%   | 6%   |
| Turn Type                               | pm+pt       | NA          | 070          | Perm   | NA        | 170        | Perm    | NA   | 170  | pm+pt     | NA   | 070  |
| Protected Phases                        | 5           | 2           |              | 1 Chin | 6         |            | 1 CIIII | 8    |      | 7         | 4    |      |
| Permitted Phases                        | 2           | 2           |              | 6      | 0         |            | 8       | 0    |      | 4         | -    |      |
| Actuated Green, G (s)                   | 48.1        | 48.1        |              | 38.5   | 38.5      |            | 17.9    | 17.9 |      | 28.9      | 28.9 |      |
| Effective Green, g (s)                  | 48.1        | 48.1        |              | 38.5   | 38.5      |            | 17.9    | 17.9 |      | 28.9      | 28.9 |      |
| Actuated g/C Ratio                      | 0.53        | 0.53        |              | 0.43   | 0.43      |            | 0.20    | 0.20 |      | 0.32      | 0.32 |      |
| Clearance Time (s)                      | 4.0         | 7.0         |              | 7.0    | 7.0       |            | 6.0     | 6.0  |      | 4.0       | 6.0  |      |
| Vehicle Extension (s)                   | 3.0         | 3.0         |              | 3.0    | 3.0       |            | 3.0     | 3.0  |      | 3.0       | 3.0  |      |
|                                         | 350         | 1798        |              | 385    | 723       |            | 221     | 349  |      | 292       | 571  |      |
| Lane Grp Cap (vph)<br>v/s Ratio Prot    | 0.01        | c0.14       |              | 305    | c0.28     |            | 221     | 0.13 |      | c0.08     | 0.13 |      |
| v/s Ratio Perm                          | 0.01        | CU. 14      |              | 0.05   | 0.20      |            | 0.02    | 0.15 |      | c0.08     | 0.15 |      |
| v/c Ratio                               | 0.11        | 0.26        |              | 0.05   | 0.65      |            | 0.02    | 0.65 |      | 1.04      | 0.40 |      |
|                                         | 12.0        | 11.3        |              | 15.5   | 20.5      |            | 29.5    | 33.2 |      | 29.8      | 23.8 |      |
| Uniform Delay, d1                       |             |             |              |        |           |            |         |      |      |           |      |      |
| Progression Factor                      | 1.00        | 1.00        |              | 1.00   | 1.00      |            | 1.00    | 1.00 |      | 1.00      | 1.00 |      |
| Incremental Delay, d2                   | 0.3         | 0.3         |              | 0.6    | 4.6       |            | 0.2     | 4.3  |      | 62.8      | 0.5  |      |
| Delay (s)                               | 12.3        | 11.6        |              | 16.1   | 25.0      |            | 29.7    | 37.5 |      | 92.6<br>F | 24.3 |      |
| Level of Service                        | В           | B           |              | В      | C         |            | С       | D    |      | г         | C    |      |
| Approach Delay (s)                      |             | 11.7        |              |        | 24.3      |            |         | 36.8 |      |           | 62.2 | _    |
| Approach LOS                            |             | В           |              |        | С         |            |         | D    |      |           | E    |      |
| Intersection Summary                    |             |             | 00.0         |        | 014 0000  | 1          | 0       |      | -    |           |      |      |
| HCM 2000 Control Delay                  |             |             | 33.3         | Н      | CM 2000   | Level of   | Service |      | С    |           |      |      |
| HCM 2000 Volume to Capa                 | acity ratio |             | 0.81         | -      |           |            |         |      | 04.0 |           |      |      |
| Actuated Cycle Length (s)               |             |             | 90.0         |        | um of los | . ,        |         |      | 21.0 |           |      |      |
| Intersection Capacity Utiliz            | ation       |             | 82.8%        | IC     | CU Level  | ot Service | ;       |      | E    |           |      | _    |
| Analysis Period (min)                   |             |             | 15           |        |           |            |         |      |      |           |      |      |
| <ul> <li>Critical Lana Group</li> </ul> |             |             |              |        |           |            |         |      |      |           |      |      |

c Critical Lane Group

2035 Future Total Conditions AM Model 11:50 pm 01-09-2024 2035 Future Total Conditions

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|-------------------------------|-------|--------------------|-------|------|------------|------------|--|
| Movement                      | EBL   | EBR                | NBL   | NBT  | SBT        | SBR        |  |
| Lane Configurations           | Υ     |                    |       | ર્સ  | ef 🗧       |            |  |
| Traffic Volume (veh/h)        | 59    | 66                 | 49    | 20   | 25         | 5          |  |
| Future Volume (Veh/h)         | 59    | 66                 | 49    | 20   | 25         | 5          |  |
| Sign Control                  | Stop  |                    |       | Free | Free       |            |  |
| Grade                         | 0%    |                    |       | 0%   | 0%         |            |  |
| Peak Hour Factor              | 1.00  | 0.80               | 0.75  | 0.85 | 0.79       | 0.63       |  |
| Hourly flow rate (vph)        | 59    | 82                 | 65    | 24   | 32         | 8          |  |
| Pedestrians                   | 3     |                    |       | 16   | 16         |            |  |
| Lane Width (m)                | 3.6   |                    |       | 3.6  | 3.6        |            |  |
| Walking Speed (m/s)           | 1.2   |                    |       | 1.2  | 1.2        |            |  |
| Percent Blockage              | 0     |                    |       | 1    | 1          |            |  |
| Right turn flare (veh)        |       |                    |       |      |            |            |  |
| Median type                   |       |                    |       | None | None       |            |  |
| Median storage veh)           |       |                    |       |      |            |            |  |
| Upstream signal (m)           |       |                    |       |      |            |            |  |
| pX, platoon unblocked         |       |                    |       |      |            |            |  |
| vC, conflicting volume        | 209   | 55                 | 43    |      |            |            |  |
| vC1, stage 1 conf vol         |       |                    |       |      |            |            |  |
| vC2, stage 2 conf vol         |       |                    |       |      |            |            |  |
| vCu, unblocked vol            | 209   | 55                 | 43    |      |            |            |  |
| tC, single (s)                | 6.6   | 6.2                | 4.1   |      |            |            |  |
| tC, 2 stage (s)               |       |                    |       |      |            |            |  |
| tF (s)                        | 3.7   | 3.3                | 2.2   |      |            |            |  |
| p0 queue free %               | 91    | 92                 | 96    |      |            |            |  |
| cM capacity (veh/h)           | 689   | 1001               | 1575  |      |            |            |  |
| ,                             |       | NB 1               | SB 1  |      |            |            |  |
| Direction, Lane #             | EB 1  |                    |       |      |            |            |  |
| Volume Total                  | 141   | 89                 | 40    |      |            |            |  |
| Volume Left                   | 59    | 65                 | 0     |      |            |            |  |
| Volume Right                  | 82    | 0                  | 8     |      |            |            |  |
| cSH                           | 842   | 1575               | 1700  |      |            |            |  |
| Volume to Capacity            | 0.17  | 0.04               | 0.02  |      |            |            |  |
| Queue Length 95th (m)         | 4.8   | 1.0                | 0.0   |      |            |            |  |
| Control Delay (s)             | 10.1  | 5.5                | 0.0   |      |            |            |  |
| Lane LOS                      | В     | A                  |       |      |            |            |  |
| Approach Delay (s)            | 10.1  | 5.5                | 0.0   |      |            |            |  |
| Approach LOS                  | В     |                    |       |      |            |            |  |
| Intersection Summary          |       | _                  | _     |      |            |            |  |
| Average Delay                 |       |                    | 7.1   |      |            |            |  |
| Intersection Capacity Utiliza | ation |                    | 27.4% | IC   | CU Level o | of Service |  |
| Analysis Period (min)         |       |                    | 15    |      |            |            |  |
|                               |       |                    |       |      |            |            |  |

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|--------------------------------|------|--------------------|-------|------|------------|-----------|---|
| Movement                       | EBL  | EBR                | NBL   | NBT  | SBT        | SBR       |   |
| Lane Configurations            | W.   |                    |       | 4ħ   | eî.        |           |   |
| Traffic Volume (veh/h)         | 41   | 143                | 37    | 198  | 226        | 22        |   |
| Future Volume (Veh/h)          | 41   | 143                | 37    | 198  | 226        | 22        |   |
| Sign Control                   | Stop |                    |       | Free | Free       |           |   |
| Grade                          | 0%   |                    |       | 0%   | 0%         |           |   |
| Peak Hour Factor               | 0.94 | 0.85               | 0.80  | 0.90 | 0.89       | 0.69      |   |
| Hourly flow rate (vph)         | 44   | 168                | 46    | 220  | 254        | 32        |   |
| Pedestrians                    | 6    |                    |       | 6    | 6          |           |   |
| Lane Width (m)                 | 3.6  |                    |       | 3.6  | 3.6        |           |   |
| Walking Speed (m/s)            | 1.2  |                    |       | 1.2  | 1.2        |           |   |
| Percent Blockage               | 1    |                    |       | 1    | 1          |           |   |
| Right turn flare (veh)         |      |                    |       |      |            |           |   |
| Median type                    |      |                    |       | None | None       |           |   |
| Median storage veh)            |      |                    |       |      |            |           |   |
| Upstream signal (m)            |      |                    |       |      |            |           |   |
| pX, platoon unblocked          |      |                    |       |      |            |           |   |
| vC, conflicting volume         | 484  | 282                | 292   |      |            |           |   |
| vC1, stage 1 conf vol          |      |                    |       |      |            |           |   |
| vC2, stage 2 conf vol          |      |                    |       |      |            |           |   |
| vCu, unblocked vol             | 484  | 282                | 292   |      |            |           |   |
| tC, single (s)                 | 6.8  | 7.0                | 4.6   |      |            |           |   |
| tC, 2 stage (s)                |      |                    |       |      |            |           |   |
| tF (s)                         | 3.5  | 3.3                | 2.4   |      |            |           |   |
| p0 queue free %                | 91   | 76                 | 96    |      |            |           |   |
| cM capacity (veh/h)            | 491  | 702                | 1122  |      |            |           |   |
| Direction, Lane #              | EB 1 | NB 1               | NB 2  | SB 1 |            |           |   |
| Volume Total                   | 212  | 119                | 147   | 286  |            |           |   |
| Volume Left                    | 44   | 46                 | 0     | 0    |            |           |   |
| Volume Right                   | 168  | 0                  | 0     | 32   |            |           |   |
| cSH                            | 644  | 1122               | 1700  | 1700 |            |           |   |
| Volume to Capacity             | 0.33 | 0.04               | 0.09  | 0.17 |            |           |   |
| Queue Length 95th (m)          | 11.5 | 1.0                | 0.0   | 0.0  |            |           |   |
| Control Delay (s)              | 13.3 | 3.4                | 0.0   | 0.0  |            |           |   |
| Lane LOS                       | В    | А                  |       |      |            |           |   |
| Approach Delay (s)             | 13.3 | 1.5                |       | 0.0  |            |           |   |
| Approach LOS                   | В    |                    |       |      |            |           |   |
| Intersection Summary           |      |                    |       |      |            |           |   |
| Average Delay                  |      |                    | 4.2   |      |            |           |   |
| Intersection Capacity Utilizat | tion |                    | 41.7% | IC   | CU Level o | f Service | А |
| Analysis Period (min)          |      |                    | 15    |      |            |           |   |

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|-------------------------------|-------|--------------|-------|------|-------------|------------|
| Movement                      | EBL   | EBR          | NBL   | NBT  | SBT         | SBR        |
| Lane Configurations           | Y     |              |       | 41   | <b>≜</b> †⊅ |            |
| Traffic Volume (veh/h)        | 20    | 84           | 35    | 370  | 350         | 45         |
| Future Volume (Veh/h)         | 20    | 84           | 35    | 370  | 350         | 45         |
| Sign Control                  | Stop  |              |       | Free | Free        |            |
| Grade                         | 0%    |              |       | 0%   | 0%          |            |
| Peak Hour Factor              | 0.85  | 0.85         | 0.86  | 0.88 | 0.89        | 0.83       |
| Hourly flow rate (vph)        | 24    | 99           | 41    | 420  | 393         | 54         |
| Pedestrians                   |       |              |       |      |             |            |
| Lane Width (m)                |       |              |       |      |             |            |
| Walking Speed (m/s)           |       |              |       |      |             |            |
| Percent Blockage              |       |              |       |      |             |            |
| Right turn flare (veh)        |       |              |       |      |             |            |
| Median type                   |       |              |       | None | None        |            |
| Median storage veh)           |       |              |       |      |             |            |
| Upstream signal (m)           |       |              |       | 371  |             |            |
| pX, platoon unblocked         |       |              |       | •••• |             |            |
| vC, conflicting volume        | 712   | 224          | 447   |      |             |            |
| vC1, stage 1 conf vol         |       |              |       |      |             |            |
| vC2, stage 2 conf vol         |       |              |       |      |             |            |
| vCu, unblocked vol            | 712   | 224          | 447   |      |             |            |
| tC, single (s)                | 6.8   | 7.0          | 4.2   |      |             |            |
| tC, 2 stage (s)               |       |              |       |      |             |            |
| tF (s)                        | 3.5   | 3.4          | 2.2   |      |             |            |
| p0 queue free %               | 93    | 87           | 96    |      |             |            |
| cM capacity (veh/h)           | 358   | 765          | 1103  |      |             |            |
|                               |       |              |       |      |             |            |
| Direction, Lane #             | EB 1  | NB 1         | NB 2  | SB 1 | SB 2        |            |
| Volume Total                  | 123   | 181          | 280   | 262  | 185         |            |
| Volume Left                   | 24    | 41           | 0     | 0    | 0           |            |
| Volume Right                  | 99    | 0            | 0     | 0    | 54          |            |
| cSH                           | 626   | 1103         | 1700  | 1700 | 1700        |            |
| Volume to Capacity            | 0.20  | 0.04         | 0.16  | 0.15 | 0.11        |            |
| Queue Length 95th (m)         | 5.8   | 0.9          | 0.0   | 0.0  | 0.0         |            |
| Control Delay (s)             | 12.2  | 2.2          | 0.0   | 0.0  | 0.0         |            |
| Lane LOS                      | В     | A            |       |      |             |            |
| Approach Delay (s)            | 12.2  | 0.8          |       | 0.0  |             |            |
| Approach LOS                  | В     |              |       |      |             |            |
| Intersection Summary          |       |              |       |      |             |            |
| Average Delay                 |       |              | 1.8   |      |             |            |
| Intersection Capacity Utiliza | ation |              | 38.6% | IC   | CU Level o  | of Service |
| Analysis Period (min)         |       |              | 15    |      |             |            |
|                               |       |              |       |      |             |            |

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|------------------------------|-------|------|-------|------|-----------|------------|
| Movement                     | EBL   | EBT  | WBT   | WBR  | SBL       | SBR        |
| Lane Configurations          |       | र्स  | 4Î    |      | Y         |            |
| Traffic Volume (veh/h)       | 45    | 467  | 243   | 35   | 37        | 66         |
| Future Volume (Veh/h)        | 45    | 467  | 243   | 35   | 37        | 66         |
| Sign Control                 |       | Free | Free  |      | Stop      |            |
| Grade                        |       | 0%   | 0%    |      | 0%        |            |
| Peak Hour Factor             | 0.80  | 0.83 | 0.73  | 0.75 | 0.83      | 0.80       |
| Hourly flow rate (vph)       | 56    | 563  | 333   | 47   | 45        | 82         |
| Pedestrians                  |       | 4    | 4     |      | 5         |            |
| Lane Width (m)               |       | 3.6  | 3.6   |      | 3.6       |            |
| Walking Speed (m/s)          |       | 1.2  | 1.2   |      | 1.2       |            |
| Percent Blockage             |       | 0    | 0     |      | 0         |            |
| Right turn flare (veh)       |       |      |       |      |           |            |
| Median type                  |       | None | None  |      |           |            |
| Median storage veh)          |       |      |       |      |           |            |
| Upstream signal (m)          |       |      |       |      |           |            |
| pX, platoon unblocked        |       |      |       |      |           |            |
| vC, conflicting volume       | 385   |      |       |      | 1040      | 366        |
| vC1, stage 1 conf vol        |       |      |       |      |           |            |
| vC2, stage 2 conf vol        |       |      |       |      |           |            |
| vCu, unblocked vol           | 385   |      |       |      | 1040      | 366        |
| tC, single (s)               | 4.1   |      |       |      | 6.5       | 6.3        |
| tC, 2 stage (s)              |       |      |       |      |           |            |
| tF (s)                       | 2.2   |      |       |      | 3.6       | 3.4        |
| p0 queue free %              | 95    |      |       |      | 81        | 88         |
| cM capacity (veh/h)          | 1180  |      |       |      | 233       | 666        |
| Direction, Lane #            | EB 1  | WB 1 | SB 1  |      |           |            |
| Volume Total                 | 619   | 380  | 127   |      |           |            |
| Volume Left                  | 56    | 0    | 45    |      |           |            |
| Volume Right                 | 0     | 47   | 82    |      |           |            |
| cSH                          | 1180  | 1700 | 401   |      |           |            |
| Volume to Capacity           | 0.05  | 0.22 | 0.32  |      |           |            |
| Queue Length 95th (m)        | 1.2   | 0.0  | 10.7  |      |           |            |
| Control Delay (s)            | 1.3   | 0.0  | 18.1  |      |           |            |
| Lane LOS                     | А     |      | С     |      |           |            |
| Approach Delay (s)           | 1.3   | 0.0  | 18.1  |      |           |            |
| Approach LOS                 |       |      | С     |      |           |            |
| Intersection Summary         |       |      |       |      |           |            |
| Average Delay                |       |      | 2.7   |      |           |            |
| Intersection Capacity Utiliz | ation |      | 59.3% | IC   | U Level o | of Service |
| Analysis Period (min)        |       |      | 15    |      | 5.610     |            |
|                              |       |      | 10    |      |           |            |

|                               | ≯     | *         | •         | 1    | Ļ          |           |
|-------------------------------|-------|-----------|-----------|------|------------|-----------|
| Movement                      | EBL   | EBR       | NBL       | NBT  | SBT        | SBR       |
| Lane Configurations           | Υ     |           |           | र्भ  | 4          |           |
| Traffic Volume (veh/h)        | 0     | 12        | 11        | 69   | 91         | 0         |
| Future Volume (Veh/h)         | 0     | 12        | 11        | 69   | 91         | 0         |
| Sign Control                  | Stop  |           |           | Free | Free       |           |
| Grade                         | 0%    |           |           | 0%   | 0%         |           |
| Peak Hour Factor              | 0.92  | 0.92      | 0.92      | 0.92 | 0.92       | 0.92      |
| Hourly flow rate (vph)        | 0     | 13        | 12        | 75   | 99         | 0         |
| Pedestrians                   | •     |           |           |      |            | ,         |
| Lane Width (m)                |       |           |           |      |            |           |
| Walking Speed (m/s)           |       |           |           |      |            |           |
| Percent Blockage              |       |           |           |      |            |           |
| Right turn flare (veh)        |       |           |           |      |            |           |
| Median type                   |       |           |           | None | None       |           |
| Median storage veh)           |       |           |           | NUNC | NULLE      |           |
| Upstream signal (m)           |       |           |           |      |            |           |
| pX, platoon unblocked         |       |           |           |      |            |           |
| vC, conflicting volume        | 198   | 99        | 99        |      |            |           |
| vC1, stage 1 conf vol         | 100   | 53        | 55        |      |            |           |
| vC1, stage 1 conf vol         |       |           |           |      |            |           |
| vCu, unblocked vol            | 198   | 99        | 99        |      |            |           |
| tC, single (s)                | 6.4   | 99<br>6.2 | 99<br>4.1 |      |            |           |
|                               | 0.4   | 0.2       | 4.1       |      |            |           |
| tC, 2 stage (s)               | 3.5   | 3.3       | 2.2       |      |            |           |
| tF (s)                        | 100   | 3.3<br>99 | 2.2<br>99 |      |            |           |
| p0 queue free %               | 784   |           |           |      |            |           |
| cM capacity (veh/h)           | 104   | 957       | 1494      |      |            |           |
| Direction, Lane #             | EB 1  | NB 1      | SB 1      |      |            |           |
| Volume Total                  | 13    | 87        | 99        |      |            |           |
| Volume Left                   | 0     | 12        | 0         |      |            |           |
| Volume Right                  | 13    | 0         | 0         |      |            |           |
| cSH                           | 957   | 1494      | 1700      |      |            |           |
| Volume to Capacity            | 0.01  | 0.01      | 0.06      |      |            |           |
| Queue Length 95th (m)         | 0.3   | 0.2       | 0.0       |      |            |           |
| Control Delay (s)             | 8.8   | 1.1       | 0.0       |      |            |           |
| Lane LOS                      | А     | А         |           |      |            |           |
| Approach Delay (s)            | 8.8   | 1.1       | 0.0       |      |            |           |
| Approach LOS                  | А     |           |           |      |            |           |
| Intersection Summary          |       |           |           |      |            |           |
| Average Delay                 |       |           | 1.0       |      |            |           |
| Intersection Capacity Utiliza | ation |           | 20.9%     | IC   | CU Level o | f Service |
| Analysis Period (min)         |       |           | 20.9%     | IC.  |            |           |
|                               |       |           | 10        |      |            |           |

|                                 | -    | $\mathbf{r}$ | 1          | -            | 1         | 1          |
|---------------------------------|------|--------------|------------|--------------|-----------|------------|
| Movement                        | EBT  | EBR          | WBL        | WBT          | NBL       | NBR        |
| Lane Configurations             | f,   |              |            | <del>د</del> | M         |            |
| Traffic Volume (veh/h)          | 105  | 0            | 30         | 29           | 0         | 79         |
| Future Volume (Veh/h)           | 105  | 0            | 30         | 29           | 0         | 79         |
| Sign Control                    | Free | -            |            | Free         | Stop      |            |
| Grade                           | 0%   |              |            | 0%           | 0%        |            |
| Peak Hour Factor                | 0.92 | 0.92         | 0.92       | 0.92         | 0.92      | 0.92       |
| Hourly flow rate (vph)          | 114  | 0            | 33         | 32           | 0         | 86         |
| Pedestrians                     |      | •            |            | •=           | Ţ         |            |
| Lane Width (m)                  |      |              |            |              |           |            |
| Walking Speed (m/s)             |      |              |            |              |           |            |
| Percent Blockage                |      |              |            |              |           |            |
| Right turn flare (veh)          |      |              |            |              |           |            |
| Median type                     | None |              |            | None         |           |            |
| Median storage veh)             |      |              |            |              |           |            |
| Upstream signal (m)             |      |              |            |              |           |            |
| pX, platoon unblocked           |      |              |            |              |           |            |
| vC, conflicting volume          |      |              | 114        |              | 212       | 114        |
| vC1, stage 1 conf vol           |      |              |            |              | 212       |            |
| vC2, stage 2 conf vol           |      |              |            |              |           |            |
| vCu, unblocked vol              |      |              | 114        |              | 212       | 114        |
| tC, single (s)                  |      |              | 4.1        |              | 6.4       | 6.2        |
| tC, 2 stage (s)                 |      |              |            |              | 0.1       | 0.2        |
| tF (s)                          |      |              | 2.2        |              | 3.5       | 3.3        |
| p0 queue free %                 |      |              | 98         |              | 100       | 91         |
| cM capacity (veh/h)             |      |              | 1475       |              | 759       | 939        |
| Direction, Lane #               | EB 1 | WB 1         | NB 1       |              |           |            |
| Volume Total                    | 114  | 65           | 86         |              |           |            |
| Volume Left                     | 0    | 33           | 00         |              |           |            |
|                                 | 0    | 0            | 86         |              |           |            |
| Volume Right<br>cSH             | 1700 | 1475         | 939        |              |           |            |
| Volume to Capacity              | 0.07 | 0.02         | 0.09       |              |           |            |
| Queue Length 95th (m)           | 0.07 | 0.02         | 2.4        |              |           |            |
| Control Delay (s)               | 0.0  | 3.9          | 2.4<br>9.2 |              |           |            |
| Lane LOS                        | 0.0  | 3.9<br>A     |            |              |           |            |
|                                 | 0.0  | 3.9          | A<br>9.2   |              |           |            |
| Approach Delay (s)              | 0.0  | 3.9          |            |              |           |            |
| Approach LOS                    |      |              | А          |              |           |            |
| Intersection Summary            |      |              |            |              |           |            |
| Average Delay                   |      |              | 3.9        |              |           |            |
| Intersection Capacity Utilizati | on   |              | 21.4%      | IC           | U Level c | of Service |
| Analysis Period (min)           |      |              | 15         |              |           |            |

| Movement              | EB   | EB    | EB    | WB    | WB    | NB   | NB    | SB    | SB    |  |
|-----------------------|------|-------|-------|-------|-------|------|-------|-------|-------|--|
| Directions Served     | L    | Т     | TR    | L     | TR    | L    | TR    | L     | TR    |  |
| Maximum Queue (m)     | 30.4 | 39.0  | 45.3  | 19.3  | 95.8  | 42.5 | 72.6  | 73.1  | 58.9  |  |
| Average Queue (m)     | 11.7 | 18.9  | 24.3  | 6.5   | 44.9  | 7.0  | 37.1  | 38.0  | 28.3  |  |
| 95th Queue (m)        | 24.2 | 34.2  | 43.6  | 15.3  | 80.3  | 24.6 | 64.6  | 60.9  | 50.1  |  |
| Link Distance (m)     |      | 588.4 |       | 792.4 | 792.4 |      | 392.5 | 354.3 | 354.3 |  |
| Upstream Blk Time (%) |      |       |       |       |       |      |       |       |       |  |
| Queuing Penalty (veh) |      |       |       |       |       |      |       |       |       |  |
| Storage Bay Dist (m)  | 90.0 |       | 124.0 |       |       | 50.0 |       |       |       |  |
| Storage Blk Time (%)  |      |       |       |       |       | 0    | 4     |       |       |  |
| Queuing Penalty (veh) |      |       |       |       |       | 0    | 1     |       |       |  |

# Intersection: 6: Broadview Dr & Atwater St

| Movement              | EB    | NB    |
|-----------------------|-------|-------|
| Directions Served     | LR    | LT    |
| Maximum Queue (m)     | 25.0  | 7.3   |
| Average Queue (m)     | 13.3  | 0.5   |
| 95th Queue (m)        | 22.0  | 4.0   |
| Link Distance (m)     | 339.7 | 330.1 |
| Upstream Blk Time (%) |       |       |
| Queuing Penalty (veh) |       |       |
| Storage Bay Dist (m)  |       |       |
| Storage Blk Time (%)  |       |       |
| Queuing Penalty (veh) |       |       |

| Movement              | EB    | NB    | SB    |
|-----------------------|-------|-------|-------|
| Directions Served     | LR    | LT    | TR    |
| Maximum Queue (m)     | 22.0  | 13.2  | 4.8   |
| Average Queue (m)     | 12.0  | 2.6   | 0.3   |
| 95th Queue (m)        | 19.1  | 10.4  | 3.4   |
| Link Distance (m)     | 380.6 | 515.6 | 423.6 |
| Upstream Blk Time (%) |       |       |       |
| Queuing Penalty (veh) |       |       |       |
| Storage Bay Dist (m)  |       |       |       |
| Storage Blk Time (%)  |       |       |       |
| Queuing Penalty (veh) |       |       |       |

| Movement              | EB    | NB    | SB    |
|-----------------------|-------|-------|-------|
| Directions Served     | LR    | LT    | TR    |
| Maximum Queue (m)     | 21.7  | 14.7  | 1.3   |
| Average Queue (m)     | 11.1  | 3.2   | 0.0   |
| 95th Queue (m)        | 18.0  | 11.1  | 0.9   |
| Link Distance (m)     | 304.9 | 354.3 | 515.6 |
| Upstream Blk Time (%) |       |       |       |
| Queuing Penalty (veh) |       |       |       |
| Storage Bay Dist (m)  |       |       |       |
| Storage Blk Time (%)  |       |       |       |
| Queuing Penalty (veh) |       |       |       |

# Intersection: 11: Second Line W & Arden St

| Movement              | EB    | WB    | SB    |
|-----------------------|-------|-------|-------|
| Directions Served     | LT    | TR    | LR    |
| Maximum Queue (m)     | 29.0  | 12.9  | 29.3  |
| Average Queue (m)     | 5.5   | 0.6   | 12.9  |
| 95th Queue (m)        | 18.6  | 6.3   | 22.7  |
| Link Distance (m)     | 978.1 | 588.4 | 347.2 |
| Upstream Blk Time (%) |       |       |       |
| Queuing Penalty (veh) |       |       |       |
| Storage Bay Dist (m)  |       |       |       |
| Storage Blk Time (%)  |       |       |       |
| Queuing Penalty (veh) |       |       |       |

#### Intersection: 15: Broadview Dr & Amherst St

| Movement              | EB    | NB   |
|-----------------------|-------|------|
| Directions Served     | LR    | LT   |
| Maximum Queue (m)     | 8.3   | 9.1  |
| Average Queue (m)     | 2.7   | 0.4  |
| 95th Queue (m)        | 8.8   | 3.6  |
| Link Distance (m)     | 270.7 | 77.1 |
| Upstream Blk Time (%) |       |      |
| Queuing Penalty (veh) |       |      |
| Storage Bay Dist (m)  |       |      |
| Storage Blk Time (%)  |       |      |
| Queuing Penalty (veh) |       |      |

# Intersection: 17: Broadview Dr & Chippewa St

| LT<br>10.6 | LR    |
|------------|-------|
| 10.6       |       |
| 10.0       | 18.4  |
| 0.9        | 8.3   |
| 5.5        | 13.2  |
| 380.6      | 125.4 |
|            |       |
|            |       |
|            |       |
|            |       |
|            |       |
|            | 5.5   |

#### Zone Summary

Zone wide Queuing Penalty: 1

|                                         |             |            |              |          |           |            |          |      |      |       | 02 2 |      |
|-----------------------------------------|-------------|------------|--------------|----------|-----------|------------|----------|------|------|-------|------|------|
|                                         | ٦           | -          | $\mathbf{r}$ | 4        | ←         | •          | 1        | Ť    | ۲    | 1     | Ŧ    | ~    |
| Movement                                | EBL         | EBT        | EBR          | WBL      | WBT       | WBR        | NBL      | NBT  | NBR  | SBL   | SBT  | SBR  |
| Lane Configurations                     | <u>۳</u>    | <b>≜</b> ⊅ |              | <u>۳</u> | 4         |            | <u>۲</u> | 4    |      | ሻ     | 4    |      |
| Traffic Volume (vph)                    | 45          | 497        | 36           | 149      | 627       | 167        | 54       | 148  | 101  | 294   | 212  | 64   |
| Future Volume (vph)                     | 45          | 497        | 36           | 149      | 627       | 167        | 54       | 148  | 101  | 294   | 212  | 64   |
| Ideal Flow (vphpl)                      | 1900        | 1900       | 1900         | 1900     | 1900      | 1900       | 1900     | 1900 | 1900 | 1900  | 1900 | 1900 |
| Total Lost time (s)                     | 4.0         | 7.0        |              | 7.0      | 7.0       |            | 6.0      | 6.0  |      | 4.0   | 6.0  |      |
| Lane Util. Factor                       | 1.00        | 0.95       |              | 1.00     | 1.00      |            | 1.00     | 1.00 |      | 1.00  | 1.00 |      |
| Frpb, ped/bikes                         | 1.00        | 1.00       |              | 1.00     | 0.99      |            | 1.00     | 0.99 |      | 1.00  | 0.99 |      |
| Flpb, ped/bikes                         | 1.00        | 1.00       |              | 0.99     | 1.00      |            | 0.99     | 1.00 |      | 1.00  | 1.00 |      |
| Frt                                     | 1.00        | 0.99       |              | 1.00     | 0.97      |            | 1.00     | 0.94 |      | 1.00  | 0.96 |      |
| Flt Protected                           | 0.95        | 1.00       |              | 0.95     | 1.00      |            | 0.95     | 1.00 |      | 0.95  | 1.00 |      |
| Satd. Flow (prot)                       | 1687        | 3365       |              | 1757     | 1745      |            | 1729     | 1712 |      | 1764  | 1765 |      |
| Flt Permitted                           | 0.09        | 1.00       |              | 0.43     | 1.00      |            | 0.58     | 1.00 |      | 0.31  | 1.00 |      |
| Satd. Flow (perm)                       | 164         | 3365       |              | 803      | 1745      |            | 1050     | 1712 |      | 578   | 1765 |      |
| Peak-hour factor, PHF                   | 0.92        | 0.92       | 0.92         | 0.92     | 0.92      | 0.92       | 0.92     | 0.92 | 0.92 | 0.92  | 0.92 | 0.92 |
| Adj. Flow (vph)                         | 49          | 540        | 39           | 162      | 682       | 182        | 59       | 161  | 110  | 320   | 230  | 70   |
| RTOR Reduction (vph)                    | 0           | 5          | 0            | 0        | 8         | 0          | 0        | 31   | 0    | 0     | 14   | 0    |
| Lane Group Flow (vph)                   | 49          | 574        | 0            | 162      | 856       | 0          | 59       | 240  | 0    | 320   | 286  | 0    |
| Confl. Peds. (#/hr)                     | 17          | 011        | 9            | 9        | 000       | 17         | 12       | 210  | 21   | 21    | 200  | 12   |
| Heavy Vehicles (%)                      | 7%          | 6%         | 5%           | 2%       | 5%        | 4%         | 3%       | 0%   | 7%   | 2%    | 2%   | 6%   |
| Turn Type                               | pm+pt       | NA         | 070          | Perm     | NA        | 170        | Perm     | NA   | 170  | pm+pt | NA   |      |
| Protected Phases                        | 5           | 2          |              | I CIIII  | 6         |            | I CIIII  | 8    |      | 7     | 4    |      |
| Permitted Phases                        | 2           | 2          |              | 6        | 0         |            | 8        | 0    |      | 4     | -    |      |
| Actuated Green, G (s)                   | 47.5        | 47.5       |              | 39.3     | 39.3      |            | 18.5     | 18.5 |      | 29.5  | 29.5 |      |
| Effective Green, g (s)                  | 47.5        | 47.5       |              | 39.3     | 39.3      |            | 18.5     | 18.5 |      | 29.5  | 29.5 |      |
| Actuated g/C Ratio                      | 0.53        | 0.53       |              | 0.44     | 0.44      |            | 0.21     | 0.21 |      | 0.33  | 0.33 |      |
| Clearance Time (s)                      | 4.0         | 7.0        |              | 7.0      | 7.0       |            | 6.0      | 6.0  |      | 4.0   | 6.0  |      |
| Vehicle Extension (s)                   | 4.0         | 3.0        |              | 3.0      | 3.0       |            | 3.0      | 3.0  |      | 3.0   | 3.0  |      |
|                                         | 157         | 1775       |              | 350      | 761       |            | 215      | 351  |      | 281   | 578  |      |
| Lane Grp Cap (vph)<br>v/s Ratio Prot    |             |            |              | 300      |           |            | 215      | 0.14 |      |       | 0.16 |      |
|                                         | 0.01        | c0.17      |              | 0.00     | c0.49     |            | 0.00     | 0.14 |      | c0.09 | 0.16 |      |
| v/s Ratio Perm                          | 0.15        | 0.20       |              | 0.20     | 1 10      |            | 0.06     | 0.60 |      | c0.28 | 0.40 |      |
| v/c Ratio                               | 0.31        | 0.32       |              | 0.46     | 1.12      |            | 0.27     | 0.68 |      | 1.14  | 0.49 |      |
| Uniform Delay, d1                       | 19.2        | 12.1       |              | 17.9     | 25.4      |            | 30.1     | 33.0 |      | 29.3  | 24.3 |      |
| Progression Factor                      | 1.00        | 1.00       |              | 1.00     | 1.00      |            | 1.00     | 1.00 |      | 1.00  | 1.00 | _    |
| Incremental Delay, d2                   | 1.1         | 0.5        |              | 4.4      | 72.4      |            | 0.7      | 5.4  |      | 96.5  | 0.7  |      |
| Delay (s)                               | 20.3        | 12.6       |              | 22.3     | 97.8      |            | 30.8     | 38.5 |      | 125.7 | 24.9 | _    |
| Level of Service                        | С           | B          |              | С        | F         |            | С        | D    |      | F     | C    |      |
| Approach Delay (s)                      |             | 13.2       |              |          | 85.9      |            |          | 37.1 |      |       | 77.0 |      |
| Approach LOS                            |             | В          |              |          | F         |            |          | D    |      |       | E    |      |
| Intersection Summary                    |             |            | 00.0         |          | 014 0000  |            | 0        |      |      |       |      |      |
| HCM 2000 Control Delay                  |             |            | 60.0         | Н        | CM 2000   | Level of   | Service  |      | E    |       |      |      |
| HCM 2000 Volume to Capa                 | acity ratio |            | 1.14         | -        |           |            |          |      |      |       |      |      |
| Actuated Cycle Length (s)               |             |            | 90.0         |          | um of los |            |          |      | 21.0 |       |      |      |
| Intersection Capacity Utiliz            | ation       |            | 101.8%       | IC       | CU Level  | ot Service | )        |      | G    |       |      |      |
| Analysis Period (min)                   |             |            | 15           |          |           |            |          |      |      |       |      |      |
| <ul> <li>Critical Lana Group</li> </ul> |             |            |              |          |           |            |          |      |      |       |      |      |

c Critical Lane Group

2035 Future Total Conditions PM Model 11:50 pm 01-09-2024 2035 Future Total Conditions

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|-------------------------------|------|--------------------|--------|--------|------------|-----------|
| Movement                      | EBL  | EBR                | NBL    | NBT    | SBT        | SBR       |
| Lane Configurations           | Y    |                    |        | र्स    | 4Î         |           |
| Traffic Volume (veh/h)        | 52   | 50                 | 133    | 14     | 20         | 8         |
| Future Volume (Veh/h)         | 52   | 50                 | 133    | 14     | 20         | 8         |
| Sign Control                  | Stop |                    |        | Free   | Free       |           |
| Grade                         | 0%   |                    |        | 0%     | 0%         |           |
| Peak Hour Factor              | 0.75 | 0.75               | 0.75   | 0.81   | 0.71       | 0.88      |
| Hourly flow rate (vph)        | 69   | 67                 | 177    | 17     | 28         | 9         |
| Pedestrians                   | 4    |                    |        | 3      | 2          |           |
| Lane Width (m)                | 3.6  |                    |        | 3.6    | 3.6        |           |
| Walking Speed (m/s)           | 1.2  |                    |        | 1.2    | 1.2        |           |
| Percent Blockage              | 0    |                    |        | 0      | 0          |           |
| Right turn flare (veh)        | •    |                    |        | •      | Ū          |           |
| Median type                   |      |                    |        | None   | None       |           |
| Median storage veh)           |      |                    |        | Tionio | Home       |           |
| Upstream signal (m)           |      |                    |        |        |            |           |
| pX, platoon unblocked         |      |                    |        |        |            |           |
| vC, conflicting volume        | 410  | 40                 | 41     |        |            |           |
| vC1, stage 1 conf vol         | 110  | 10                 |        |        |            |           |
| vC2, stage 2 conf vol         |      |                    |        |        |            |           |
| vCu, unblocked vol            | 410  | 40                 | 41     |        |            |           |
| tC, single (s)                | 6.6  | 6.2                | 4.1    |        |            |           |
| tC, 2 stage (s)               | 0.0  | 5.2                | т. 1   |        |            |           |
| tF (s)                        | 3.7  | 3.3                | 2.2    |        |            |           |
| p0 queue free %               | 86   | 94                 | 89     |        |            |           |
| cM capacity (veh/h)           | 491  | 1032               | 1576   |        |            |           |
|                               |      |                    |        |        |            |           |
| Direction, Lane #             | EB 1 | NB 1               | SB 1   |        |            |           |
| Volume Total                  | 136  | 194                | 37     |        |            |           |
| Volume Left                   | 69   | 177                | 0      |        |            |           |
| Volume Right                  | 67   | 0                  | 9      |        |            |           |
| cSH                           | 662  | 1576               | 1700   |        |            |           |
| Volume to Capacity            | 0.21 | 0.11               | 0.02   |        |            |           |
| Queue Length 95th (m)         | 6.1  | 3.0                | 0.0    |        |            |           |
| Control Delay (s)             | 11.8 | 7.0                | 0.0    |        |            |           |
| Lane LOS                      | В    | А                  |        |        |            |           |
| Approach Delay (s)            | 11.8 | 7.0                | 0.0    |        |            |           |
| Approach LOS                  | В    |                    |        |        |            |           |
| Intersection Summary          |      |                    |        |        |            |           |
| Average Delay                 |      |                    | 8.1    |        |            |           |
| Intersection Capacity Utiliza | tion |                    | 28.2%  | IC     | CU Level c | f Service |
| Analysis Period (min)         |      |                    | 20.2 % | IC.    |            |           |
|                               |      |                    | 15     |        |            |           |

|                                   | ≯     | $\mathbf{\hat{z}}$ | •     | 1    | Ļ          | <          |  |
|-----------------------------------|-------|--------------------|-------|------|------------|------------|--|
| Movement                          | EBL   | EBR                | NBL   | NBT  | SBT        | SBR        |  |
| Lane Configurations               | ¥     |                    |       | -4†  | 4Î         |            |  |
| Traffic Volume (veh/h)            | 26    | 102                | 59    | 200  | 205        | 25         |  |
| Future Volume (Veh/h)             | 26    | 102                | 59    | 200  | 205        | 25         |  |
| Sign Control                      | Stop  |                    |       | Free | Free       |            |  |
| Grade                             | 0%    |                    |       | 0%   | 0%         |            |  |
| Peak Hour Factor                  | 0.63  | 0.64               | 0.68  | 0.69 | 0.69       | 0.63       |  |
| Hourly flow rate (vph)            | 41    | 159                | 87    | 290  | 297        | 40         |  |
| Pedestrians                       | 6     |                    |       | 6    | 6          |            |  |
| Lane Width (m)                    | 3.6   |                    |       | 3.6  | 3.6        |            |  |
| Walking Speed (m/s)               | 1.2   |                    |       | 1.2  | 1.2        |            |  |
| Percent Blockage                  | 1     |                    |       | 1    | 1          |            |  |
| Right turn flare (veh)            |       |                    |       |      |            |            |  |
| Median type                       |       |                    |       | None | None       |            |  |
| Median storage veh)               |       |                    |       |      |            |            |  |
| Upstream signal (m)               |       |                    |       |      |            |            |  |
| pX, platoon unblocked             |       |                    |       |      |            |            |  |
| vC, conflicting volume            | 648   | 329                | 343   |      |            |            |  |
| vC1, stage 1 conf vol             | • • • |                    | 0.0   |      |            |            |  |
| vC2, stage 2 conf vol             |       |                    |       |      |            |            |  |
| vCu, unblocked vol                | 648   | 329                | 343   |      |            |            |  |
| tC, single (s)                    | 6.8   | 7.0                | 4.6   |      |            |            |  |
| tC, 2 stage (s)                   |       |                    |       |      |            |            |  |
| tF (s)                            | 3.5   | 3.3                | 2.4   |      |            |            |  |
| p0 queue free %                   | 89    | 76                 | 92    |      |            |            |  |
| cM capacity (veh/h)               | 371   | 654                | 1069  |      |            |            |  |
|                                   | EB 1  | NB 1               | NB 2  | SB 1 |            |            |  |
| Direction, Lane #<br>Volume Total |       |                    |       |      |            |            |  |
|                                   | 200   | 184                | 193   | 337  |            |            |  |
| Volume Left                       | 41    | 87                 | 0     | 0    |            |            |  |
| Volume Right                      | 159   | 0                  | 0     | 40   |            |            |  |
| cSH                               | 566   | 1069               | 1700  | 1700 |            |            |  |
| Volume to Capacity                | 0.35  | 0.08               | 0.11  | 0.20 |            |            |  |
| Queue Length 95th (m)             | 12.7  | 2.1                | 0.0   | 0.0  |            |            |  |
| Control Delay (s)                 | 14.8  | 4.5                | 0.0   | 0.0  |            |            |  |
| Lane LOS                          | B     | A                  |       |      |            |            |  |
| Approach Delay (s)                | 14.8  | 2.2                |       | 0.0  |            |            |  |
| Approach LOS                      | В     |                    |       |      |            |            |  |
| Intersection Summary              |       |                    |       |      |            |            |  |
| Average Delay                     |       |                    | 4.1   |      |            |            |  |
| Intersection Capacity Utiliza     | ation |                    | 39.0% | IC   | CU Level o | of Service |  |
| Analysis Period (min)             |       |                    | 15    |      |            |            |  |
|                                   |       |                    | -     |      |            |            |  |

|                               | ٦    | $\mathbf{i}$ | •     | 1    | ŧ           | ∢         |
|-------------------------------|------|--------------|-------|------|-------------|-----------|
| Movement                      | EBL  | EBR          | NBL   | NBT  | SBT         | SBR       |
| Lane Configurations           | Ý    |              |       | 41   | <b>≜</b> †₽ |           |
| Traffic Volume (veh/h)        | 9    | 54           | 56    | 267  | 351         | 15        |
| Future Volume (Veh/h)         | 9    | 54           | 56    | 267  | 351         | 15        |
| Sign Control                  | Stop |              |       | Free | Free        |           |
| Grade                         | 0%   |              |       | 0%   | 0%          |           |
| Peak Hour Factor              | 0.67 | 0.80         | 0.88  | 0.88 | 0.86        | 0.88      |
| Hourly flow rate (vph)        | 13   | 68           | 64    | 303  | 408         | 17        |
| Pedestrians                   |      |              |       |      |             |           |
| Lane Width (m)                |      |              |       |      |             |           |
| Walking Speed (m/s)           |      |              |       |      |             |           |
| Percent Blockage              |      |              |       |      |             |           |
| Right turn flare (veh)        |      |              |       |      |             |           |
| Median type                   |      |              |       | None | None        |           |
| Median storage veh)           |      |              |       |      |             |           |
| Upstream signal (m)           |      |              |       | 371  |             |           |
| pX, platoon unblocked         |      |              |       |      |             |           |
| vC, conflicting volume        | 696  | 212          | 425   |      |             |           |
| vC1, stage 1 conf vol         |      |              |       |      |             |           |
| vC2, stage 2 conf vol         |      |              |       |      |             |           |
| vCu, unblocked vol            | 696  | 212          | 425   |      |             |           |
| tC, single (s)                | 6.8  | 7.0          | 4.2   |      |             |           |
| tC, 2 stage (s)               |      |              |       |      |             |           |
| tF (s)                        | 3.5  | 3.4          | 2.2   |      |             |           |
| p0 queue free %               | 96   | 91           | 94    |      |             |           |
| cM capacity (veh/h)           | 359  | 777          | 1124  |      |             |           |
| Direction, Lane #             | EB 1 | NB 1         | NB 2  | SB 1 | SB 2        |           |
| Volume Total                  | 81   | 165          | 202   | 272  | 153         |           |
| Volume Left                   | 13   | 64           | 0     | 0    | 0           |           |
| Volume Right                  | 68   | 0            | 0     | 0    | 17          |           |
| cSH                           | 655  | 1124         | 1700  | 1700 | 1700        |           |
| Volume to Capacity            | 0.12 | 0.06         | 0.12  | 0.16 | 0.09        |           |
| Queue Length 95th (m)         | 3.4  | 1.4          | 0.12  | 0.10 | 0.03        |           |
| Control Delay (s)             | 11.3 | 3.6          | 0.0   | 0.0  | 0.0         |           |
| Lane LOS                      | B    | 3.0<br>A     | 0.0   | 0.0  | 0.0         |           |
| Approach Delay (s)            | 11.3 | 1.6          |       | 0.0  |             |           |
| Approach LOS                  | B    | 1.0          |       | 0.0  |             |           |
|                               | D    |              |       |      |             |           |
| Intersection Summary          |      |              |       |      |             |           |
| Average Delay                 |      |              | 1.7   |      |             |           |
| Intersection Capacity Utiliza | tion |              | 33.0% | IC   | CU Level c  | f Service |
| Analysis Period (min)         |      |              | 15    |      |             |           |

|                               | ٨     | -    | ←     | ×    | 1         | 4          |
|-------------------------------|-------|------|-------|------|-----------|------------|
| Movement                      | EBL   | EBT  | WBT   | WBR  | SBL       | SBR        |
| Lane Configurations           |       | र्स  | 4Î    |      | Y         |            |
| Traffic Volume (veh/h)        | 58    | 501  | 413   | 130  | 34        | 47         |
| Future Volume (Veh/h)         | 58    | 501  | 413   | 130  | 34        | 47         |
| Sign Control                  |       | Free | Free  |      | Stop      |            |
| Grade                         |       | 0%   | 0%    |      | 0%        |            |
| Peak Hour Factor              | 1.00  | 0.90 | 0.90  | 0.88 | 0.83      | 0.75       |
| Hourly flow rate (vph)        | 58    | 557  | 459   | 148  | 41        | 63         |
| Pedestrians                   |       | 24   | 24    |      | 36        |            |
| Lane Width (m)                |       | 3.6  | 3.6   |      | 3.6       |            |
| Walking Speed (m/s)           |       | 1.2  | 1.2   |      | 1.2       |            |
| Percent Blockage              |       | 2    | 2     |      | 3         |            |
| Right turn flare (veh)        |       |      |       |      |           |            |
| Median type                   |       | None | None  |      |           |            |
| Median storage veh)           |       |      |       |      |           |            |
| Upstream signal (m)           |       |      |       |      |           |            |
| pX, platoon unblocked         |       |      |       |      |           |            |
| vC, conflicting volume        | 643   |      |       |      | 1266      | 593        |
| vC1, stage 1 conf vol         |       |      |       |      |           |            |
| vC2, stage 2 conf vol         |       |      |       |      |           |            |
| vCu, unblocked vol            | 643   |      |       |      | 1266      | 593        |
| tC, single (s)                | 4.1   |      |       |      | 6.5       | 6.3        |
| tC, 2 stage (s)               |       |      |       |      |           |            |
| tF (s)                        | 2.2   |      |       |      | 3.6       | 3.4        |
| p0 queue free %               | 94    |      |       |      | 74        | 87         |
| cM capacity (veh/h)           | 923   |      |       |      | 160       | 474        |
| Direction, Lane #             | EB 1  | WB 1 | SB 1  |      |           |            |
| Volume Total                  | 615   | 607  | 104   |      |           |            |
| Volume Left                   | 58    | 0    | 41    |      |           |            |
| Volume Right                  | 0     | 148  | 63    |      |           |            |
| cSH                           | 923   | 1700 | 267   |      |           |            |
| Volume to Capacity            | 0.06  | 0.36 | 0.39  |      |           |            |
| Queue Length 95th (m)         | 1.6   | 0.0  | 14.1  |      |           |            |
| Control Delay (s)             | 1.6   | 0.0  | 26.8  |      |           |            |
| Lane LOS                      | А     |      | D     |      |           |            |
| Approach Delay (s)            | 1.6   | 0.0  | 26.8  |      |           |            |
| Approach LOS                  |       |      | D     |      |           |            |
| Intersection Summary          |       |      |       |      |           |            |
| Average Delay                 |       |      | 2.9   |      |           |            |
| Intersection Capacity Utiliza | ation |      | 80.0% | IC   | U Level o | of Service |
| Analysis Period (min)         | -     |      | 15    |      |           |            |
|                               |       |      |       |      |           |            |

|                                | ٠          | $\mathbf{F}$ | •         | †      | ţ          | 4          |
|--------------------------------|------------|--------------|-----------|--------|------------|------------|
| Movement                       | EBL        | EBR          | NBL       | NBT    | SBT        | SBR        |
| Lane Configurations            | Y          |              |           | ę      | 4          |            |
| Traffic Volume (veh/h)         | 0          | 11           | 41        | 147    | 70         | 0          |
| Future Volume (Veh/h)          | 0          | 11           | 41        | 147    | 70         | 0          |
| Sign Control                   | Stop       |              |           | Free   | Free       |            |
| Grade                          | 0%         |              |           | 0%     | 0%         |            |
| Peak Hour Factor               | 0.92       | 0.92         | 0.92      | 0.92   | 0.92       | 0.92       |
| Hourly flow rate (vph)         | 0          | 12           | 45        | 160    | 76         | 0          |
| Pedestrians                    |            |              |           |        |            |            |
| Lane Width (m)                 |            |              |           |        |            |            |
| Walking Speed (m/s)            |            |              |           |        |            |            |
| Percent Blockage               |            |              |           |        |            |            |
| Right turn flare (veh)         |            |              |           |        |            |            |
| Median type                    |            |              |           | None   | None       |            |
| Median storage veh)            |            |              |           | 110110 | 110110     |            |
| Upstream signal (m)            |            |              |           |        |            |            |
| pX, platoon unblocked          |            |              |           |        |            |            |
| vC, conflicting volume         | 326        | 76           | 76        |        |            |            |
| vC1, stage 1 conf vol          | 520        | 10           | 10        |        |            |            |
| vC2, stage 2 conf vol          |            |              |           |        |            |            |
| vCu, unblocked vol             | 326        | 76           | 76        |        |            |            |
| tC, single (s)                 | 6.4        | 6.2          | 4.1       |        |            |            |
|                                | 0.4        | 0.2          | 4.1       |        |            |            |
| tC, 2 stage (s)                | 3.5        | 3.3          | 2.2       |        |            |            |
| tF (s)                         | 3.5<br>100 | 3.3<br>99    | 2.2<br>97 |        |            |            |
| p0 queue free %                |            |              |           |        |            |            |
| cM capacity (veh/h)            | 648        | 985          | 1523      |        |            |            |
| Direction, Lane #              | EB 1       | NB 1         | SB 1      |        |            |            |
| Volume Total                   | 12         | 205          | 76        |        |            |            |
| Volume Left                    | 0          | 45           | 0         |        |            |            |
| Volume Right                   | 12         | 0            | 0         |        |            |            |
| cSH                            | 985        | 1523         | 1700      |        |            |            |
| Volume to Capacity             | 0.01       | 0.03         | 0.04      |        |            |            |
| Queue Length 95th (m)          | 0.3        | 0.7          | 0.0       |        |            |            |
| Control Delay (s)              | 8.7        | 1.8          | 0.0       |        |            |            |
| Lane LOS                       | А          | А            |           |        |            |            |
| Approach Delay (s)             | 8.7        | 1.8          | 0.0       |        |            |            |
| Approach LOS                   | А          |              |           |        |            |            |
| Intersection Summary           |            |              |           |        |            |            |
| Average Delay                  |            |              | 1.6       |        |            |            |
| Intersection Capacity Utilizat | tion       |              | 26.7%     | IC     | CU Level o | of Sonvice |
|                                | uUII       |              |           | IC     | O Level (  | I SELVICE  |
| Analysis Period (min)          |            |              | 15        |        |            |            |

|                               | -     | $\mathbf{r}$ | 1     | -      | 1           | 1          |
|-------------------------------|-------|--------------|-------|--------|-------------|------------|
| Movement                      | EBT   | EBR          | WBL   | WBT    | NBL         | NBR        |
| Lane Configurations           | f,    |              |       | स      | Y           |            |
| Traffic Volume (veh/h)        | 62    | 0            | 28    | 56     | 0           | 66         |
| Future Volume (Veh/h)         | 62    | 0            | 28    | 56     | 0           | 66         |
| Sign Control                  | Free  |              |       | Free   | Stop        |            |
| Grade                         | 0%    |              |       | 0%     | 0%          |            |
| Peak Hour Factor              | 0.92  | 0.92         | 0.92  | 0.92   | 0.92        | 0.92       |
| Hourly flow rate (vph)        | 67    | 0            | 30    | 61     | 0           | 72         |
| Pedestrians                   | •     | •            |       | •      | •           |            |
| Lane Width (m)                |       |              |       |        |             |            |
| Walking Speed (m/s)           |       |              |       |        |             |            |
| Percent Blockage              |       |              |       |        |             |            |
| Right turn flare (veh)        |       |              |       |        |             |            |
| Median type                   | None  |              |       | None   |             |            |
| Median storage veh)           |       |              |       | 110110 |             |            |
| Upstream signal (m)           |       |              |       |        |             |            |
| pX, platoon unblocked         |       |              |       |        |             |            |
| vC, conflicting volume        |       |              | 67    |        | 188         | 67         |
| vC1, stage 1 conf vol         |       |              | 01    |        | 100         | 51         |
| vC2, stage 2 conf vol         |       |              |       |        |             |            |
| vCu, unblocked vol            |       |              | 67    |        | 188         | 67         |
| tC, single (s)                |       |              | 4.1   |        | 6.4         | 6.2        |
| tC, 2 stage (s)               |       |              | T. I  |        | <b>V</b> .न | 0.2        |
| tF (s)                        |       |              | 2.2   |        | 3.5         | 3.3        |
| p0 queue free %               |       |              | 98    |        | 100         | 93         |
| cM capacity (veh/h)           |       |              | 1535  |        | 785         | 997        |
| ,                             |       |              |       |        | 100         | 551        |
| Direction, Lane #             | EB 1  | WB 1         | NB 1  |        |             |            |
| Volume Total                  | 67    | 91           | 72    |        |             |            |
| Volume Left                   | 0     | 30           | 0     |        |             |            |
| Volume Right                  | 0     | 0            | 72    |        |             |            |
| cSH                           | 1700  | 1535         | 997   |        |             |            |
| Volume to Capacity            | 0.04  | 0.02         | 0.07  |        |             |            |
| Queue Length 95th (m)         | 0.0   | 0.5          | 1.9   |        |             |            |
| Control Delay (s)             | 0.0   | 2.5          | 8.9   |        |             |            |
| Lane LOS                      |       | А            | А     |        |             |            |
| Approach Delay (s)            | 0.0   | 2.5          | 8.9   |        |             |            |
| Approach LOS                  |       |              | А     |        |             |            |
| Intersection Summary          |       |              |       |        |             |            |
| Average Delay                 |       |              | 3.8   |        |             |            |
| Intersection Capacity Utiliza | ation |              | 21.9% | IC     | ULevel      | of Service |
| Analysis Period (min)         |       |              | 15    | 10     | 5 201010    |            |
|                               |       |              | 10    |        |             |            |

| Movement              | EB   | EB    | EB    | WB    | WB    | NB   | NB    | SB    | SB    |
|-----------------------|------|-------|-------|-------|-------|------|-------|-------|-------|
| Directions Served     | L    | Т     | TR    | L     | TR    | L    | TR    | L     | TR    |
| Maximum Queue (m)     | 28.4 | 46.3  | 54.2  | 538.9 | 629.7 | 56.9 | 80.8  | 85.3  | 77.8  |
| Average Queue (m)     | 11.1 | 26.1  | 31.0  | 218.3 | 402.6 | 13.0 | 38.1  | 44.5  | 33.8  |
| 95th Queue (m)        | 23.7 | 43.6  | 49.6  | 491.8 | 676.3 | 33.0 | 64.2  | 76.7  | 59.4  |
| Link Distance (m)     |      | 588.4 |       | 792.4 | 792.4 |      | 392.5 | 354.3 | 354.3 |
| Upstream Blk Time (%) |      |       |       |       |       |      |       |       |       |
| Queuing Penalty (veh) |      |       |       |       |       |      |       |       |       |
| Storage Bay Dist (m)  | 90.0 |       | 124.0 |       |       | 50.0 |       |       |       |
| Storage Blk Time (%)  |      |       |       |       |       |      | 4     |       |       |
| Queuing Penalty (veh) |      |       |       |       |       |      | 2     |       |       |

# Intersection: 6: Broadview Dr & Atwater St

| Movement              | EB    | NB    |
|-----------------------|-------|-------|
| Directions Served     | LR    | LT    |
| Maximum Queue (m)     | 23.2  | 12.0  |
| Average Queue (m)     | 11.6  | 1.2   |
| 95th Queue (m)        | 20.0  | 6.8   |
| Link Distance (m)     | 339.7 | 333.2 |
| Upstream Blk Time (%) |       |       |
| Queuing Penalty (veh) |       |       |
| Storage Bay Dist (m)  |       |       |
| Storage Blk Time (%)  |       |       |
| Queuing Penalty (veh) |       |       |

| Movement              | EB    | NB    | NB    | SB    |
|-----------------------|-------|-------|-------|-------|
| Directions Served     | LR    | LT    | Т     | TR    |
| Maximum Queue (m)     | 23.9  | 24.5  | 8.2   | 8.9   |
| Average Queue (m)     | 10.7  | 6.1   | 0.3   | 0.3   |
| 95th Queue (m)        | 18.4  | 18.1  | 3.4   | 4.2   |
| Link Distance (m)     | 380.6 | 515.6 | 515.6 | 423.6 |
| Upstream Blk Time (%) |       |       |       |       |
| Queuing Penalty (veh) |       |       |       |       |
| Storage Bay Dist (m)  |       |       |       |       |
| Storage Blk Time (%)  |       |       |       |       |
| Queuing Penalty (veh) |       |       |       |       |

| Movement              | EB    | NB    |
|-----------------------|-------|-------|
| Directions Served     | LR    | LT    |
| Maximum Queue (m)     | 20.7  | 14.7  |
| Average Queue (m)     | 9.3   | 4.0   |
| 95th Queue (m)        | 17.0  | 12.5  |
| Link Distance (m)     | 304.9 | 354.3 |
| Upstream Blk Time (%) |       |       |
| Queuing Penalty (veh) |       |       |
| Storage Bay Dist (m)  |       |       |
| Storage Blk Time (%)  |       |       |
| Queuing Penalty (veh) |       |       |

#### Intersection: 11: Second Line W & Arden St

| Movement              | EB    | WB    | SB    |
|-----------------------|-------|-------|-------|
| Directions Served     | LT    | TR    | LR    |
| Maximum Queue (m)     | 58.1  | 32.9  | 32.2  |
| Average Queue (m)     | 16.1  | 5.7   | 12.7  |
| 95th Queue (m)        | 40.9  | 21.2  | 25.3  |
| Link Distance (m)     | 978.1 | 588.4 | 347.2 |
| Upstream Blk Time (%) |       |       |       |
| Queuing Penalty (veh) |       |       |       |
| Storage Bay Dist (m)  |       |       |       |
| Storage Blk Time (%)  |       |       |       |
| Queuing Penalty (veh) |       |       |       |

#### Intersection: 15: Broadview Dr & Amherst St

| Movement              | EB    | NB   |
|-----------------------|-------|------|
| Directions Served     | LR    | LT   |
| Maximum Queue (m)     | 8.6   | 10.5 |
| Average Queue (m)     | 2.5   | 1.0  |
| 95th Queue (m)        | 8.6   | 6.4  |
| Link Distance (m)     | 269.7 | 75.3 |
| Upstream Blk Time (%) |       |      |
| Queuing Penalty (veh) |       |      |
| Storage Bay Dist (m)  |       |      |
| Storage Blk Time (%)  |       |      |
| Queuing Penalty (veh) |       |      |

### Intersection: 17: Broadview Dr & Chippewa St

| LT<br>3.6<br>0.2<br>2.2<br>380.6 | LR<br>14.8<br>7.5<br>12.5<br>125.4 |
|----------------------------------|------------------------------------|
| 0.2<br>2.2                       | 7.5<br>12.5                        |
| 2.2                              | 12.5                               |
|                                  |                                    |
| 380.6                            | 125.4                              |
|                                  |                                    |
|                                  |                                    |
|                                  |                                    |
|                                  |                                    |
|                                  |                                    |
|                                  |                                    |
|                                  |                                    |

### Zone Summary

Zone wide Queuing Penalty: 2

### Timings 3: Goulais Ave & Second Line W

|                      | ٦     | -+    | 1     | +     | 1     | Ť     | ×     | Ļ     |  |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|--|
| Lane Group           | EBL   | EBT   | WBL   | WBT   | NBL   | NBT   | SBL   | SBT   |  |
| Lane Configurations  | ሻ     | A     | ሻ     | 4Î    | ሻ     | ¢,    | 5     | 4Î    |  |
| Traffic Volume (vph) | 75    | 397   | 41    | 266   | 20    | 156   | 279   | 178   |  |
| Future Volume (vph)  | 75    | 397   | 41    | 266   | 20    | 156   | 279   | 178   |  |
| Turn Type            | pm+pt | NA    | Perm  | NA    | Perm  | NA    | pm+pt | NA    |  |
| Protected Phases     | 5     | 2     |       | 6     |       | 8     | 7     | 4     |  |
| Permitted Phases     | 2     |       | 6     |       | 8     |       | 4     |       |  |
| Detector Phase       | 5     | 2     | 6     | 6     | 8     | 8     | 7     | 4     |  |
| Switch Phase         |       |       |       |       |       |       |       |       |  |
| Minimum Initial (s)  | 7.0   | 12.0  | 12.0  | 12.0  | 12.0  | 12.0  | 7.0   | 12.0  |  |
| Minimum Split (s)    | 11.0  | 37.0  | 33.0  | 33.0  | 33.0  | 33.0  | 11.0  | 33.0  |  |
| Total Split (s)      | 11.0  | 58.0  | 47.0  | 47.0  | 33.0  | 33.0  | 19.0  | 52.0  |  |
| Total Split (%)      | 10.0% | 52.7% | 42.7% | 42.7% | 30.0% | 30.0% | 17.3% | 47.3% |  |
| Yellow Time (s)      | 3.0   | 5.4   | 5.4   | 5.4   | 4.3   | 4.3   | 3.0   | 4.3   |  |
| All-Red Time (s)     | 1.0   | 1.6   | 1.6   | 1.6   | 1.7   | 1.7   | 1.0   | 1.7   |  |
| Lost Time Adjust (s) | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |  |
| Total Lost Time (s)  | 4.0   | 7.0   | 7.0   | 7.0   | 6.0   | 6.0   | 4.0   | 6.0   |  |
| Lead/Lag             | Lead  |       | Lag   | Lag   | Lag   | Lag   | Lead  |       |  |
| Lead-Lag Optimize?   | Yes   |       | Yes   | Yes   | Yes   | Yes   | Yes   |       |  |
| Recall Mode          | None  | C-Max | C-Max | C-Max | None  | None  | None  | None  |  |
|                      |       |       |       |       |       |       |       |       |  |

#### Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 3: Goulais Ave & Second Line W



### HCM Signalized Intersection Capacity Analysis 3: Goulais Ave & Second Line W

|                              |             |            |               |      |            |            |         |          |      |       |      | <u> </u> |
|------------------------------|-------------|------------|---------------|------|------------|------------|---------|----------|------|-------|------|----------|
|                              | ≯           | -          | $\rightarrow$ | 1    | -          | •          | 1       | <b>†</b> | 1    | •     | Ŧ    | -        |
| Movement                     | EBL         | EBT        | EBR           | WBL  | WBT        | WBR        | NBL     | NBT      | NBR  | SBL   | SBT  | SBR      |
| Lane Configurations          | <u> </u>    | <b>≜</b> ⊅ |               |      | ÷.         |            | - ሽ     | ef 👘     |      | - ግ   | ef 👘 |          |
| Traffic Volume (vph)         | 75          | 397        | 31            | 41   | 266        | 191        | 20      | 156      | 72   | 279   | 178  | 45       |
| Future Volume (vph)          | 75          | 397        | 31            | 41   | 266        | 191        | 20      | 156      | 72   | 279   | 178  | 45       |
| Ideal Flow (vphpl)           | 1900        | 1900       | 1900          | 1900 | 1900       | 1900       | 1900    | 1900     | 1900 | 1900  | 1900 | 1900     |
| Total Lost time (s)          | 4.0         | 7.0        |               | 7.0  | 7.0        |            | 6.0     | 6.0      |      | 4.0   | 6.0  |          |
| Lane Util. Factor            | 1.00        | 0.95       |               | 1.00 | 1.00       |            | 1.00    | 1.00     |      | 1.00  | 1.00 |          |
| Frpb, ped/bikes              | 1.00        | 1.00       |               | 1.00 | 0.99       |            | 1.00    | 0.99     |      | 1.00  | 0.99 |          |
| Flpb, ped/bikes              | 1.00        | 1.00       |               | 1.00 | 1.00       |            | 0.99    | 1.00     |      | 1.00  | 1.00 |          |
| Frt                          | 1.00        | 0.99       |               | 1.00 | 0.94       |            | 1.00    | 0.95     |      | 1.00  | 0.97 |          |
| Flt Protected                | 0.95        | 1.00       |               | 0.95 | 1.00       |            | 0.95    | 1.00     |      | 0.95  | 1.00 |          |
| Satd. Flow (prot)            | 1686        | 3365       |               | 1768 | 1690       |            | 1737    | 1758     |      | 1767  | 1780 |          |
| Flt Permitted                | 0.30        | 1.00       |               | 0.48 | 1.00       |            | 0.61    | 1.00     |      | 0.29  | 1.00 |          |
| Satd. Flow (perm)            | 524         | 3365       |               | 901  | 1690       |            | 1113    | 1758     |      | 535   | 1780 |          |
| Peak-hour factor, PHF        | 0.92        | 0.92       | 0.92          | 0.92 | 0.92       | 0.92       | 0.92    | 0.92     | 0.92 | 0.92  | 0.92 | 0.92     |
| Adj. Flow (vph)              | 82          | 432        | 34            | 45   | 289        | 208        | 22      | 170      | 78   | 303   | 193  | 49       |
| RTOR Reduction (vph)         | 0           | 5          | 0             | 0    | 21         | 0          | 0       | 16       | 0    | 0     | 9    | 0        |
| Lane Group Flow (vph)        | 82          | 461        | 0             | 45   | 476        | 0          | 22      | 232      | 0    | 303   | 233  | 0        |
| Confl. Peds. (#/hr)          | 5           |            | 1             | 1    |            | 5          | 6       |          | 10   | 10    |      | 6        |
| Heavy Vehicles (%)           | 7%          | 6%         | 5%            | 2%   | 5%         | 4%         | 3%      | 0%       | 7%   | 2%    | 2%   | 6%       |
| Turn Type                    | pm+pt       | NA         |               | Perm | NA         |            | Perm    | NA       |      | pm+pt | NA   |          |
| Protected Phases             | 5           | 2          |               |      | 6          |            |         | 8        |      | <br>7 | 4    |          |
| Permitted Phases             | 2           |            |               | 6    |            |            | 8       |          |      | 4     |      |          |
| Actuated Green, G (s)        | 58.3        | 58.3       |               | 48.7 | 48.7       |            | 19.7    | 19.7     |      | 38.7  | 38.7 |          |
| Effective Green, g (s)       | 58.3        | 58.3       |               | 48.7 | 48.7       |            | 19.7    | 19.7     |      | 38.7  | 38.7 |          |
| Actuated g/C Ratio           | 0.53        | 0.53       |               | 0.44 | 0.44       |            | 0.18    | 0.18     |      | 0.35  | 0.35 |          |
| Clearance Time (s)           | 4.0         | 7.0        |               | 7.0  | 7.0        |            | 6.0     | 6.0      |      | 4.0   | 6.0  |          |
| Vehicle Extension (s)        | 3.0         | 3.0        |               | 3.0  | 3.0        |            | 3.0     | 3.0      |      | 3.0   | 3.0  |          |
| Lane Grp Cap (vph)           | 336         | 1783       |               | 398  | 748        |            | 199     | 314      |      | 356   | 626  |          |
| v/s Ratio Prot               | 0.01        | c0.14      |               |      | c0.28      |            |         | 0.13     |      | c0.12 | 0.13 |          |
| v/s Ratio Perm               | 0.12        |            |               | 0.05 |            |            | 0.02    |          |      | c0.18 |      |          |
| v/c Ratio                    | 0.24        | 0.26       |               | 0.11 | 0.64       |            | 0.11    | 0.74     |      | 0.85  | 0.37 |          |
| Uniform Delay, d1            | 14.9        | 14.1       |               | 18.0 | 23.8       |            | 37.8    | 42.7     |      | 28.9  | 26.6 |          |
| Progression Factor           | 1.00        | 1.00       |               | 1.00 | 1.00       |            | 1.00    | 1.00     |      | 1.00  | 1.00 |          |
| Incremental Delay, d2        | 0.4         | 0.4        |               | 0.6  | 4.1        |            | 0.2     | 8.7      |      | 17.4  | 0.4  |          |
| Delay (s)                    | 15.2        | 14.4       |               | 18.6 | 27.9       |            | 38.1    | 51.4     |      | 46.3  | 27.0 |          |
| Level of Service             | В           | В          |               | В    | С          |            | D       | D        |      | D     | C    |          |
| Approach Delay (s)           |             | 14.6       |               |      | 27.1       |            |         | 50.3     |      |       | 37.7 |          |
| Approach LOS                 |             | В          |               |      | С          |            |         | D        |      |       | D    |          |
| Intersection Summary         |             |            |               |      |            |            |         |          |      |       |      |          |
| HCM 2000 Control Delay       |             |            | 29.8          | Н    | CM 2000    | Level of   | Service |          | С    |       |      |          |
| HCM 2000 Volume to Capa      | acity ratio |            | 0.73          |      |            |            |         |          |      |       |      |          |
| Actuated Cycle Length (s)    |             |            | 110.0         | S    | um of lost | t time (s) |         |          | 21.0 |       |      |          |
| Intersection Capacity Utiliz | ation       |            | 82.8%         |      | U Level o  |            | )       |          | E    |       |      |          |
| Analysis Period (min)        |             |            | 15            |      |            |            |         |          |      |       |      |          |
| c Critical Lane Group        |             |            |               |      |            |            |         |          |      |       |      |          |

c Critical Lane Group

2035 Future Total Conditions - Mitigation AM Model 11:50 pm 01-09-2024 2035 Future Total Conditions - Mitigation Synchro 11 Report

### Intersection: 3: Goulais Ave & Second Line W

| Movement              | EB   | EB    | EB    | WB    | WB    | NB   | NB    | SB    | SB    |  |
|-----------------------|------|-------|-------|-------|-------|------|-------|-------|-------|--|
| Directions Served     | L    | Т     | TR    | L     | TR    | L    | TR    | L     | TR    |  |
| Maximum Queue (m)     | 38.0 | 42.3  | 47.8  | 23.2  | 108.4 | 50.1 | 78.3  | 76.0  | 62.8  |  |
| Average Queue (m)     | 14.6 | 20.6  | 26.2  | 5.9   | 49.8  | 6.7  | 41.1  | 44.6  | 32.5  |  |
| 95th Queue (m)        | 30.3 | 36.9  | 43.4  | 16.5  | 92.5  | 25.8 | 67.3  | 70.9  | 56.0  |  |
| Link Distance (m)     |      | 588.4 |       | 792.4 | 792.4 |      | 392.5 | 354.3 | 354.3 |  |
| Upstream Blk Time (%) |      |       |       |       |       |      |       |       |       |  |
| Queuing Penalty (veh) |      |       |       |       |       |      |       |       |       |  |
| Storage Bay Dist (m)  | 90.0 |       | 124.0 |       |       | 50.0 |       |       |       |  |
| Storage Blk Time (%)  |      |       |       |       |       |      | 6     |       |       |  |
| Queuing Penalty (veh) |      |       |       |       |       |      | 1     |       |       |  |

### Timings 3: Goulais Ave & Second Line W

|                      | ۶     | -+          | 4     | -     | •     | Ť     | 1     | Ŧ     |  |
|----------------------|-------|-------------|-------|-------|-------|-------|-------|-------|--|
| Lane Group           | EBL   | EBT         | WBL   | WBT   | NBL   | NBT   | SBL   | SBT   |  |
| Lane Configurations  | ۲     | <b>≜</b> †⊅ | 5     | 4Î    | 5     | 4     | ۲     | 4Î    |  |
| Traffic Volume (vph) | 45    | 497         | 149   | 627   | 54    | 148   | 294   | 212   |  |
| Future Volume (vph)  | 45    | 497         | 149   | 627   | 54    | 148   | 294   | 212   |  |
| Turn Type            | pm+pt | NA          | Perm  | NA    | Perm  | NA    | pm+pt | NA    |  |
| Protected Phases     | 5     | 2           |       | 6     |       | 8     | 7     | 4     |  |
| Permitted Phases     | 2     |             | 6     |       | 8     |       | 4     |       |  |
| Detector Phase       | 5     | 2           | 6     | 6     | 8     | 8     | 7     | 4     |  |
| Switch Phase         |       |             |       |       |       |       |       |       |  |
| Minimum Initial (s)  | 7.0   | 12.0        | 12.0  | 12.0  | 12.0  | 12.0  | 7.0   | 12.0  |  |
| Minimum Split (s)    | 11.0  | 37.0        | 33.0  | 33.0  | 33.0  | 33.0  | 11.0  | 37.0  |  |
| Total Split (s)      | 11.0  | 82.0        | 71.0  | 71.0  | 33.0  | 33.0  | 25.0  | 58.0  |  |
| Total Split (%)      | 7.9%  | 58.6%       | 50.7% | 50.7% | 23.6% | 23.6% | 17.9% | 41.4% |  |
| Yellow Time (s)      | 3.0   | 5.4         | 5.4   | 5.4   | 4.3   | 4.3   | 3.0   | 4.3   |  |
| All-Red Time (s)     | 1.0   | 1.6         | 1.6   | 1.6   | 1.7   | 1.7   | 1.0   | 1.7   |  |
| Lost Time Adjust (s) | 0.0   | 0.0         | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |  |
| Total Lost Time (s)  | 4.0   | 7.0         | 7.0   | 7.0   | 6.0   | 6.0   | 4.0   | 6.0   |  |
| Lead/Lag             | Lead  |             | Lag   | Lag   | Lag   | Lag   | Lead  |       |  |
| Lead-Lag Optimize?   | Yes   |             | Yes   | Yes   | Yes   | Yes   | Yes   |       |  |
| Recall Mode          | None  | C-Max       | C-Max | C-Max | None  | None  | None  | None  |  |
|                      |       |             |       |       |       |       |       |       |  |

#### Intersection Summary

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Splits and Phases: 3: Goulais Ave & Second Line W



### HCM Signalized Intersection Capacity Analysis 3: Goulais Ave & Second Line W

| 02-22-2024 |
|------------|
|------------|

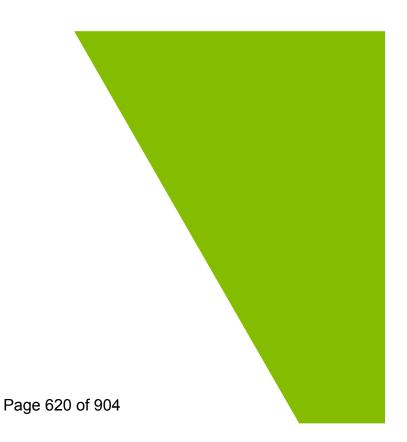
|                              | ٦           | -           | $\mathbf{r}$ | ∢    | +          | •          | •       | Ť        | 1    | 1     | ţ    | ~    |
|------------------------------|-------------|-------------|--------------|------|------------|------------|---------|----------|------|-------|------|------|
| Movement                     | EBL         | EBT         | EBR          | WBL  | WBT        | WBR        | NBL     | NBT      | NBR  | SBL   | SBT  | SBR  |
| Lane Configurations          | 1           | <b>∱î</b> ≽ |              | ľ    | ¢Î         |            | ľ       | el<br>el |      | ľ     | et.  |      |
| Traffic Volume (vph)         | 45          | 497         | 36           | 149  | 627        | 167        | 54      | 148      | 101  | 294   | 212  | 64   |
| Future Volume (vph)          | 45          | 497         | 36           | 149  | 627        | 167        | 54      | 148      | 101  | 294   | 212  | 64   |
| Ideal Flow (vphpl)           | 1900        | 1900        | 1900         | 1900 | 1900       | 1900       | 1900    | 1900     | 1900 | 1900  | 1900 | 1900 |
| Total Lost time (s)          | 4.0         | 7.0         |              | 7.0  | 7.0        |            | 6.0     | 6.0      |      | 4.0   | 6.0  |      |
| Lane Util. Factor            | 1.00        | 0.95        |              | 1.00 | 1.00       |            | 1.00    | 1.00     |      | 1.00  | 1.00 |      |
| Frpb, ped/bikes              | 1.00        | 1.00        |              | 1.00 | 0.99       |            | 1.00    | 0.98     |      | 1.00  | 0.99 |      |
| Flpb, ped/bikes              | 1.00        | 1.00        |              | 0.99 | 1.00       |            | 0.98    | 1.00     |      | 1.00  | 1.00 |      |
| Frt                          | 1.00        | 0.99        |              | 1.00 | 0.97       |            | 1.00    | 0.94     |      | 1.00  | 0.96 |      |
| Flt Protected                | 0.95        | 1.00        |              | 0.95 | 1.00       |            | 0.95    | 1.00     |      | 0.95  | 1.00 |      |
| Satd. Flow (prot)            | 1687        | 3363        |              | 1750 | 1741       |            | 1716    | 1704     |      | 1765  | 1760 |      |
| Flt Permitted                | 0.06        | 1.00        |              | 0.43 | 1.00       |            | 0.58    | 1.00     |      | 0.20  | 1.00 |      |
| Satd. Flow (perm)            | 98          | 3363        |              | 800  | 1741       |            | 1043    | 1704     |      | 378   | 1760 |      |
| Peak-hour factor, PHF        | 0.92        | 0.92        | 0.92         | 0.92 | 0.92       | 0.92       | 0.92    | 0.92     | 0.92 | 0.92  | 0.92 | 0.92 |
| Adj. Flow (vph)              | 49          | 540         | 39           | 162  | 682        | 182        | 59      | 161      | 110  | 320   | 230  | 70   |
| RTOR Reduction (vph)         | 0           | 4           | 0            | 0    | 7          | 0          | 0       | 18       | 0    | 0     | 8    | 0    |
| Lane Group Flow (vph)        | 49          | 575         | 0            | 162  | 857        | 0          | 59      | 253      | 0    | 320   | 292  | 0    |
| Confl. Peds. (#/hr)          | 17          |             | 9            | 9    |            | 17         | 12      |          | 21   | 21    |      | 12   |
| Heavy Vehicles (%)           | 7%          | 6%          | 5%           | 2%   | 5%         | 4%         | 3%      | 0%       | 7%   | 2%    | 2%   | 6%   |
| Turn Type                    | pm+pt       | NA          |              | Perm | NA         |            | Perm    | NA       |      | pm+pt | NA   |      |
| Protected Phases             | 5           | 2           |              |      | 6          |            |         | 8        |      | 7     | 4    |      |
| Permitted Phases             | 2           |             |              | 6    |            |            | 8       |          |      | 4     |      |      |
| Actuated Green, G (s)        | 77.8        | 77.8        |              | 68.2 | 68.2       |            | 24.2    | 24.2     |      | 49.2  | 49.2 |      |
| Effective Green, g (s)       | 77.8        | 77.8        |              | 68.2 | 68.2       |            | 24.2    | 24.2     |      | 49.2  | 49.2 |      |
| Actuated g/C Ratio           | 0.56        | 0.56        |              | 0.49 | 0.49       |            | 0.17    | 0.17     |      | 0.35  | 0.35 |      |
| Clearance Time (s)           | 4.0         | 7.0         |              | 7.0  | 7.0        |            | 6.0     | 6.0      |      | 4.0   | 6.0  |      |
| Vehicle Extension (s)        | 3.0         | 3.0         |              | 3.0  | 3.0        |            | 3.0     | 3.0      |      | 3.0   | 3.0  |      |
| Lane Grp Cap (vph)           | 118         | 1868        |              | 389  | 848        |            | 180     | 294      |      | 340   | 618  |      |
| v/s Ratio Prot               | c0.02       | 0.17        |              |      | c0.49      |            |         | 0.15     |      | c0.14 | 0.17 |      |
| v/s Ratio Perm               | 0.21        |             |              | 0.20 |            |            | 0.06    |          |      | c0.19 |      |      |
| v/c Ratio                    | 0.42        | 0.31        |              | 0.42 | 1.01       |            | 0.33    | 0.86     |      | 0.94  | 0.47 |      |
| Uniform Delay, d1            | 29.5        | 16.7        |              | 23.1 | 35.9       |            | 50.8    | 56.3     |      | 37.7  | 35.3 |      |
| Progression Factor           | 1.00        | 1.00        |              | 1.00 | 1.00       |            | 1.00    | 1.00     |      | 1.00  | 1.00 |      |
| Incremental Delay, d2        | 2.4         | 0.4         |              | 3.3  | 33.7       |            | 1.1     | 21.3     |      | 33.7  | 0.6  |      |
| Delay (s)                    | 31.8        | 17.1        |              | 26.4 | 69.6       |            | 51.8    | 77.6     |      | 71.4  | 35.9 |      |
| Level of Service             | С           | В           |              | С    | E          |            | D       | E        |      | E     | D    |      |
| Approach Delay (s)           |             | 18.2        |              |      | 62.7       |            |         | 73.0     |      |       | 54.2 |      |
| Approach LOS                 |             | В           |              |      | E          |            |         | E        |      |       | D    |      |
| Intersection Summary         |             |             |              |      |            |            |         |          |      |       |      |      |
| HCM 2000 Control Delay       |             |             | 51.3         | Н    | CM 2000    | Level of   | Service |          | D    |       |      |      |
| HCM 2000 Volume to Cap       | acity ratio |             | 0.98         |      |            |            |         |          |      |       |      |      |
| Actuated Cycle Length (s)    |             |             | 140.0        | S    | um of lost | t time (s) |         |          | 21.0 |       |      |      |
| Intersection Capacity Utiliz | zation      |             | 101.8%       |      | U Level o  |            | )       |          | G    |       |      |      |
| Analysis Period (min)        |             |             | 15           |      |            |            |         |          |      |       |      |      |
| c Critical Lane Group        |             |             |              |      |            |            |         |          |      |       |      |      |

c Critical Lane Group

2035 Future Total Conditions - Mitigation PM Model 11:50 pm 01-09-2024 2035 Future Total Conditions - Mitigation Synchro 11 Report

### Intersection: 3: Goulais Ave & Second Line W

| Movement              | EB   | EB    | EB    | WB    | WB    | NB   | NB    | SB    |     |
|-----------------------|------|-------|-------|-------|-------|------|-------|-------|-----|
| Directions Served     | L    | Т     | TR    | L     | TR    | L    | TR    | L     |     |
| Maximum Queue (m)     | 30.3 | 53.3  | 60.2  | 152.8 | 312.8 | 57.3 | 144.6 | 101.1 |     |
| Average Queue (m)     | 10.6 | 27.0  | 30.7  | 35.9  | 159.4 | 23.9 | 67.0  | 56.0  |     |
| 95th Queue (m)        | 23.2 | 47.5  | 51.6  | 106.0 | 283.7 | 56.7 | 121.4 | 92.3  | 8   |
| Link Distance (m)     |      | 588.4 |       | 792.4 | 792.4 |      | 392.5 | 354.3 | 354 |
| Upstream Blk Time (%) |      |       |       |       |       |      |       |       |     |
| Queuing Penalty (veh) |      |       |       |       |       |      |       |       |     |
| Storage Bay Dist (m)  | 90.0 |       | 124.0 |       |       | 50.0 |       |       |     |
| Storage Blk Time (%)  |      |       |       |       |       | 0    | 26    |       |     |
| Queuing Penalty (veh) |      |       |       |       |       | 0    | 14    |       |     |





Municipal Servicing Report For

Proposed Residential Development at

## 0 Chippewa Avenue

Prepared for: Mamta Homes

Prepared by: Kresin Engineering Corporation

April 2024

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- 3. Geotechnical Report
- 4. Stormwater Management Plan
- 5. Preliminary Site Grading Plan
- 6. Traffic Impact Study
- 7. Sanitary Sewer Design
- 8. Fire Flow Design
- 9. Preliminary Water Distribution Plans

### 1 Introduction

### 1.1 Overview

Mamta Homes (Mamta) is proposing to develop vacant lands in the west end of Sault Ste. Marie for mixed density residential use. The proposed site plan is presented in Appendix 1, and includes: single family residential, semi-detached, row housing and apartment developments. Mamta has retained Kresin Engineering Corporation (Kresin) to prepare this functional servicing report (FSR) in support of an application for Draft Plan of Subdivision approval.

The site of the development (the "Site"), shown in Figure 1, is in the west end of Sault Ste. Marie north of Second Line and west of Goulais Avenue, an extension of the existing Broadview Gardens neighbourhood which was developed in the 1960s and 1970s. The 15.1 hectare site is bordered by conservation land to the north and west, industrial and institutional land to the south and residential areas to the east.

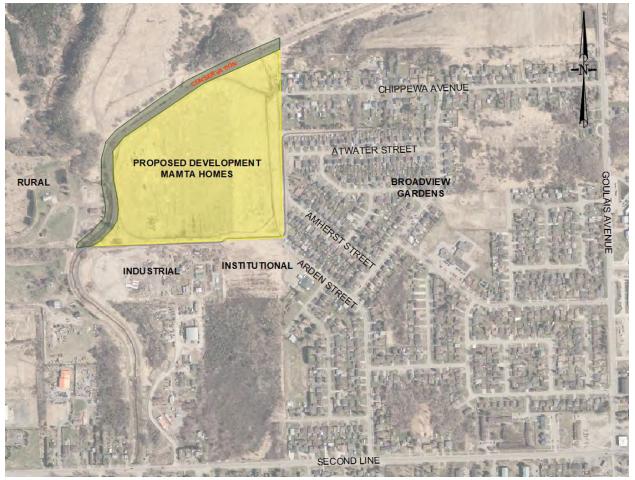


Figure 1: Location Plan (background image from soomaps.com)

Currently, the site is classified as a Rural Area Zone "RA" in the City's zoning by-law and is shown on the Official Plan Scheule C – Land Use (copy in Appendix 2) as a residential area.

The purpose of this FSR is to provide the necessary information to support the proposed Draft Plan of Subdivision and define the servicing requirements to meet the needs of the City.

### 1.2 Background

As shown on Schedule C of the City's Official Plan, the Site is designated for residential use, and is located within the Existing Urban Settlement Area. The proposed development appears to be compatible with the City's Official Plan. Further, based on the layout of the existing road network in Broadview Gardens, immediately east of the Site, it appears that a continuation of the residential neighbourhood was likely intended at the time it was developed.

### 2 Existing Conditions

### 2.1 Site Characterization

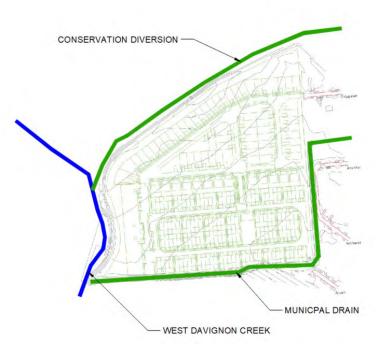
Currently, the Site is vacant land characterized by open grassy field with no significant tree cover. There is no evidence of recent agricultural use of the property. It is noted that there are some informal trails on the Site, apparently used by area residents for recreational purposes. In winter months, the Site is reportedly frequented by recreational snowmobilers.

### 2.2 Topography

The topography of the Site is relatively flat with an overall gentle slope towards the southeast. The total change in elevation between the southeast corner and the northwest limit of the Site is approximately 3.5 metres, providing an average slope of approximately 0.8%.

The site elevation is comparable to the adjacent lands, with no indication of large-scale historical grade adjustments by landfilling or excavation.

The existing site surface drainage is via overland flow directed towards a municipal ditch which borders the Site along the east and south sides. The ditch outlets at the West Davignon Creek near the southwest limit of the property.



#### Figure 2 – Existing Site Conditions

### 2.3 Geotechnical

At the request of the developer, a geotechnical investigation has been completed for the Site. The investigation included advancement of a number of boreholes to obtain soil samples and measure in-situ conditions. Following analysis of the findings, recommendations regarding building foundations, buried infrastructure, roads and constructability were developed and are presented in the report, a copy of which is included in Appendix 3.

The existing sub-surface conditions are described in the geotechnical report as consisting of natural deposits of clays and silts below the organic topsoil layer. It was also noted that groundwater level is fairly consistent at about 1.2 metres below the surface.

### 2.4 Adjacent Infrastructure

The Site is adjacent to the existing Broadview Gardens neighbourhood. It is our understanding that Broadview Gardens was developed in the 1970s, and it appears to have been constructed anticipating the potential future development of the subject Site. Although no historical documentation to this effect has been provided by the City, this is inferred based on the layout of streets and subsurface utilities.

The existing roads, sewers and municipal water system in proximity of the Site are accessible to service the proposed development. The capacity of the existing infrastructure and ability to accommodate the development is discussed in the following sections.

### 3 Proposed Development

Mamta Homes is proposing to develop the Site in three parcels as shown on the site plan in Appendix 1.

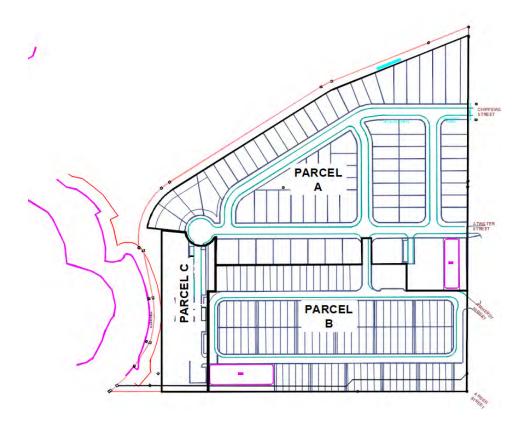


Figure 3 – Proposed Development Parcel Layout

### 3.1 Parcel A – Municipal Neighbourhood

Parcel A is a proposed extension of the existing Broadview Gardens neighbourhood. This parcel will include freehold lots for approximately 66 single family and 16 semi-detached houses, as well as a lot for commercial development and areas designated for public park space.

The road network in Parcel A will be constructed to municipal standard, and the City will ultimately assume ownership of the roads and sewers servicing these properties.

It is our understanding that the Parcel A development will be subject to a subdivision agreement with the City.

### 3.2 Parcel B – Townhouse Development

An adult lifestyle community is proposed in Parcel B, which will include approximately 104 townhouse units in a series of 4 to 5 unit blocks. This parcel will also include an amenity building for the use of residents. Roads, utilities, amenity building, etc. within Parcel B will be privately owned through a condominium corporation.

It is our understanding that the Parcel B development will be subject to a site plan control agreement with the City.

### 3.3 Parcel C – Apartment Buildings

It is proposed to construct two mid-rise (5 storey) apartment buildings in Parcel C, providing an estimated total of 180 residential units. The apartment buildings will be privately owned and operated.

Due to the location of the apartment buildings, servicing infrastructure such as sanitary sewer and watermain may transit Parcel B; thus a shared services agreement with the Parcel B condo corporation will be required.

It is our understanding that the Parcel C development will be subject to a site plan control agreement with the City.

### 4 Site Grading

### 4.1 Overall Considerations

As mentioned previously, the existing Site grading is relatively uniform with a low slope towards the southeast portion of the Site. There are existing drainage ditches and creeks bordering the south, west and north boundaries of the Site, and partially along the east boundary. The existing ditches have been constructed historically to provide storm water diversion and drainage for Broadview Gardens.

The proposed grading for the Site is intended to control stormwater surface runoff to ensure that adjacent properties are not adversely impacted by the development. This includes preventing the overland discharge of stormwater onto adjacent private property, accommodating existing flow paths to ensure drainage is maintained, avoiding flooding of adjacent properties, and conforming to other City requirements.

A Stormwater Management Plan (SWMP) has been developed and is presented in Appendix 4. The SWMP includes measures to ensure that the quantity/flow rate and quality of stormwater discharged from the Site meets the requirements of the City and the Sault Ste. Marie Region Conservation Authority (SSMRCA).

### 4.2 Parcel A Lot Grading and Yard Drainage

The City's Stormwater Design Guidelines stipulate that lot grading must ensure that positive drainage is provided for all lots; surface storage is not allowed in low-density and single-family residential developments. To accommodate this, minimum grades are established as shown on the Site grading plan in Appendix 5.

The Site grading plan illustrates that the surface drainage will meet or exceed the minimum required criteria, including:

- Minimum swale grade of 1%.
- Minimum swale depth of 200mm and width of 300mm.
- Rear-yard swales no longer than 90m.

Wherever possible, lots are graded to the street in order to avoid the need for rear-yard swales and catch basins.

### 4.3 Parcel B and Parcel C Site Grading

Similar to the grades in Parcel A, the proposed grading in Parcels B and C will be carried in order to avoid adverse impacts to abutting properties. Detailed grading plans will be included in the Site Plan Agreements for these future stages of the development.

### 5 Site Access and Egress

### 5.1 Existing Road Network

The Site is serviced with the following existing municipal streets in Broadview Gardens:

- Chippewa Avenue
- Atwater Street
- Amherst Street

The existing streets are Class A local roads consisting of paved surface with gravel shoulders and open ditches. The existing road network services the residential neighbourhood and connects to the collector and arterial routes at Goulais Avenue and Second Line.

### 5.2 Parcel A Proposed Roads

The proposed municipal roads in Parcel A will service the abutting single family and semi-detached lots, as well as the future townhouse development at Parcel B and the future apartments at Parcel C.

Municipal roads designs comply with the City's requirements, including:

- 20m road right-of-way.
- Class A construction including paved roads with concrete curb and gutter.
- Road catch basin drainage.
- Intersection configuration accommodating snow removal and turning movements.

The proposed municipal roads will connect to Chippewa and Atwater Streets.

### 5.3 Parcel B Proposed Roads

The townhouse development at Parcel B will be serviced by an internal loop road, connecting to the proposed extension of Atwater Street as well as to the end of Amherst Street. The road connection at Amherst Street will be configured to accommodate municipal snow clearing operations so that City equipment will not enter the private property.

### 5.4 Parcel C Proposed Roads

The apartment development at Parcel C will access the municipal road network via the proposed Atwater Street extension. Access will also be provided through the shared condo loop road at Parcel B.

### 5.5 Traffic Impacts

A traffic impact assessment has been completed for the proposed development. A copy of the study report is included in Appendix 6.

The conclusions presented in the traffic impact study indicate that the existing road network can accommodate the proposed development at full build-out.

### 6 Sanitary Sewer Servicing

### 6.1 Parcel A Sanitary Sewer

The proposed development at Parcel A will include the installation of sanitary sewers which will be assumed by the City. This municipal sewer system is designed in accordance with the provincial guidelines, as well as the City standards for sewer layout and construction.

The Parcel A sanitary sewer will discharge to the existing infrastructure on Chippewa Avenue. A review of the existing sanitary sewers on Chippewa Avenue and Goulais Avenue confirm that adequate capacity exists to accommodate the design flows.

The sanitary sewer design for Parcel A is based on the following criteria:

| Population density        | 3.5 persons per lot  |
|---------------------------|----------------------|
| Domestic sewage flow rate | 400 L/capita per day |
| Extraneous flow           | 0.15 L/h/s           |
| Minimum sewer main size   | 250mm diameter       |

A copy of the sanitary sewer design calculations in included in Appendix 7.

### 6.2 Parcels B and C Sanitary Sewer

The proposed sanitary sewer accommodating flows from Parcels B and C will connect to the municipal sewer at the Arden Street.

The sanitary sewer design for Parcels B and C is based on the following criteria:

| Population Density (townhouse) | 3.5 persons per unit |
|--------------------------------|----------------------|
| Population Density (apartment) | 2 persons per unit   |
| Population Density (existing)  | 3.5 persons per lot  |
| Domestic Sewage Flow Rate      | 400 L/capita per day |
| Extraneous Flow                | 0.15 L/h/s           |

A review of the Arden Street infrastructure reveals that the existing sanitary sewers may experience minor surcharge at full build-out and 100% occupancy of Parcels B and C. According to information provided by the City, approximately 120 metres of existing 300mm diameter sewer on Arden Street between Winfield Drive and Ascot Avenue is installed with a grade of 0.15% - well below the guideline minimum of 0.22%. Under the design criteria described herein, this section of existing sewer may experience pipe utilization of approximately 110% of capacity. The remainder of sewers on Arden Street are anticipated to operate at utilizations of less than 67% of capacity.

Although there is a portion of existing sewer which may experience flows 10% greater than capacity during the design peak flow scenarios, it is anticipated that the system will function without detrimental effects to the City and connected users.

### 7 Water Servicing

The existing water distribution system in Broadview Gardens, owned and operated by PUC Services Inc., includes the following potential connection points:

• 200mm watermain on Chippewa Avenue

- 300mm diameter watermain on Atwater Street
- 150mm diameter watermain on Amherst Street

Preliminary comments provided by PUC Services indicate that system pressures in this area are anticipated to be sufficient for the proposed development. Confirmatory hydrant flow testing will be required, and is to be coordinated with PUC Services Inc.

### 7.1 Domestic and Fire Flow Demand

The proposed development at the Site includes a total population at 100% build-out of approximately 855 people. The MECP Design Guidelines for Drinking Water Systems provides guidance for development of domestic flow demands as follows.

Using a design demand rate of 400 L per capita per day, and a maximum day factor of 2.75, the calculated maximum daily demand for water consumption at the Site is 10.89 L/s. The maximum hourly demand, with a peak rate factor of 4.13, is 16.35 L/s. The calculations are presented in Appendix 8.

Design fire flows for the Site are calculated using guidance from the Fire Underwriters Survey and the Ontario Building Code (OBC). For the purposes of determining the fire demand flow, it is proposed that a likely worst case condition design fire would include one entire 5 unit townhouse block with limited combustible contents.

| Fire Underwriters Criteria |                                |
|----------------------------|--------------------------------|
| Building footprint area    | 1500 sq. m.                    |
| Number of storeys          | 2                              |
| Construction Type          | Type III (Common construction) |
| Occupancy                  | Group C residential            |
| Exposure distance (side 1) | 4m                             |
| Exposure distance (side 2) | 4m                             |
| Exposure distance (rear)   | 20m                            |
|                            |                                |

The calculations prepared in Appendix 8 conclude that a fire demand of 16,000 L/min (265 L/s) is appropriate for the proposed development at the Site. Note that this rate is calculated using the Fire Underwriters procedure as a worst case; OBC procedure results in a lower flow requirement.

The overall required design flow for the development is the sum of domestic (max day) and fire demand flows:

### 7.2 Parcel A Water Service

The proposed development on Parcel A will include water distribution infrastructure in accordance with the requirements of PUC Services Inc., including pipe size and material, hydrant spacing, isolation valve arrangements, etc.

Connections to the existing potable water network will be provided at Chippewa Avenue and Atwater Street. This will provide a looped water main with redundant supply and will provide pressure and flow balancing in the overall system. The proposed water system is shown on the design drawings attached in Appendix 9.

Service connections to private lots in Parcel A will be made in accordance with the requirements of PUC Services Inc.

### 7.3 Parcel B and Parcel C Water Service

The proposed water service for Parcels B and C will include a connection to the existing distribution system at Amherst Street, as well as the extension of Atwater Street in Parcel A. It is also proposed that there will be an interconnection between Parcels B and C. The proposed water system is shown on the drawings attached in Appendix 9.

PUC Services Inc. may require backflow prevention and metering at the property boundaries for Parcels B and C. The detailed design of this will be determined during the site plan approval process.

### 8 Stormwater Management

### 8.1 General Requirements

The City requires that the developer implement a stormwater management plan (SWMP) for the Site. The plan is intended to address the quantity/rate of stormwater discharge from the Site, as well as the quality of the water leaving the Site. The stormwater management design also includes the roadway drainage infrastructure such as sewers, maintenance holes, catch basins, inlet and outlet structures.

In accordance with the City of Sault Ste. Marie's Stormwater Management Policy, the peak rate of stormwater flow leaving the Site following development should not exceed the peak rate prior to development. In Sault Ste. Marie, this quantity control is typically accommodated through the construction of a dry pond or subsurface storage. The City policy also outlines quality parameters which must be addressed.

A copy of the SWMP for the Site is attached in Appendix 4.

#### 8.2 Parcel A Stormwater Management

Stormwater drainage for Parcel A will be provided through a dual system approach consisting of a minor system of piped storm drains as well as a major system with overland drainage paths. The City requires that the minor system accommodate a storm event with a 10 year return period, whereas larger flows will be handled by the major system.

A stormwater management facility (SWMF) proposed for Parcel A will include one dry pond with an outlet piped to the West Davignon Creek channel. The pond will provide quantity and quality control as required by the City.

### 8.3 Parcel B and Parcel C Stormwater Management

Similar to the approach for Parcel A, the stormwater drainage system for Parcels B and C will be accommodated through a dual system approach consisting of minor and major systems.

A separate, private, SWMF will be constructed in Parcel C to accommodate the stormwater quantity and quality treatment required for these parcels. The SWMF will consist of a dry pond with outlet to the West Davignon Creek Channel.

### 9 Electrical and Roadway Lighting

Electrical servicing and roadway lighting for the proposed development will be provided by the local hydro utility, PUC Distribution Inc. During the detailed design of the development, PUC Distribution Inc. will be consulted to ensure their requirements are accommodated.

### 10 Other Utilities Servicing

It is anticipated that the proposed development will be serviced by additional utilities such as:

- Enbridge (natural gas)
- Rogers Communications (Telecom)
- Bell Canada (Telecom)

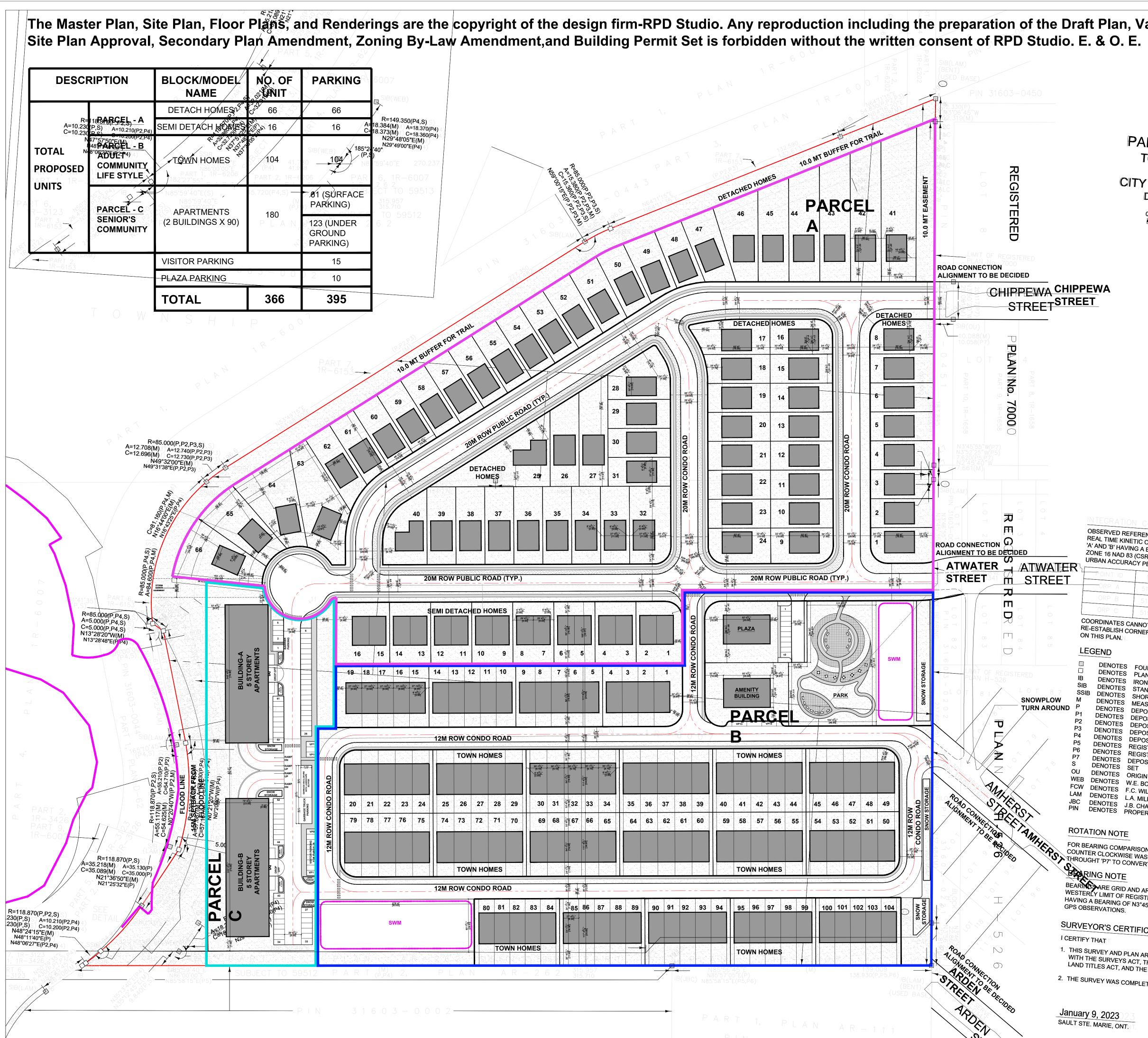
Each of these utilities currently have existing services in Broadview Gardens adjacent to the Site.

### 11 Conclusions

Based on the information above, the following conclusions are presented

- 1. The proposed development of the Site is functionally feasible.
- 2. The site can be adequately serviced with Municipal sanitary sewer, potable water and transportation networks.
- 3. Stormwater management meeting the requirements of the City is achievable.
- 4. The extension of existing gas, hydro and telecommunications infrastructure will be required to service the proposed development.

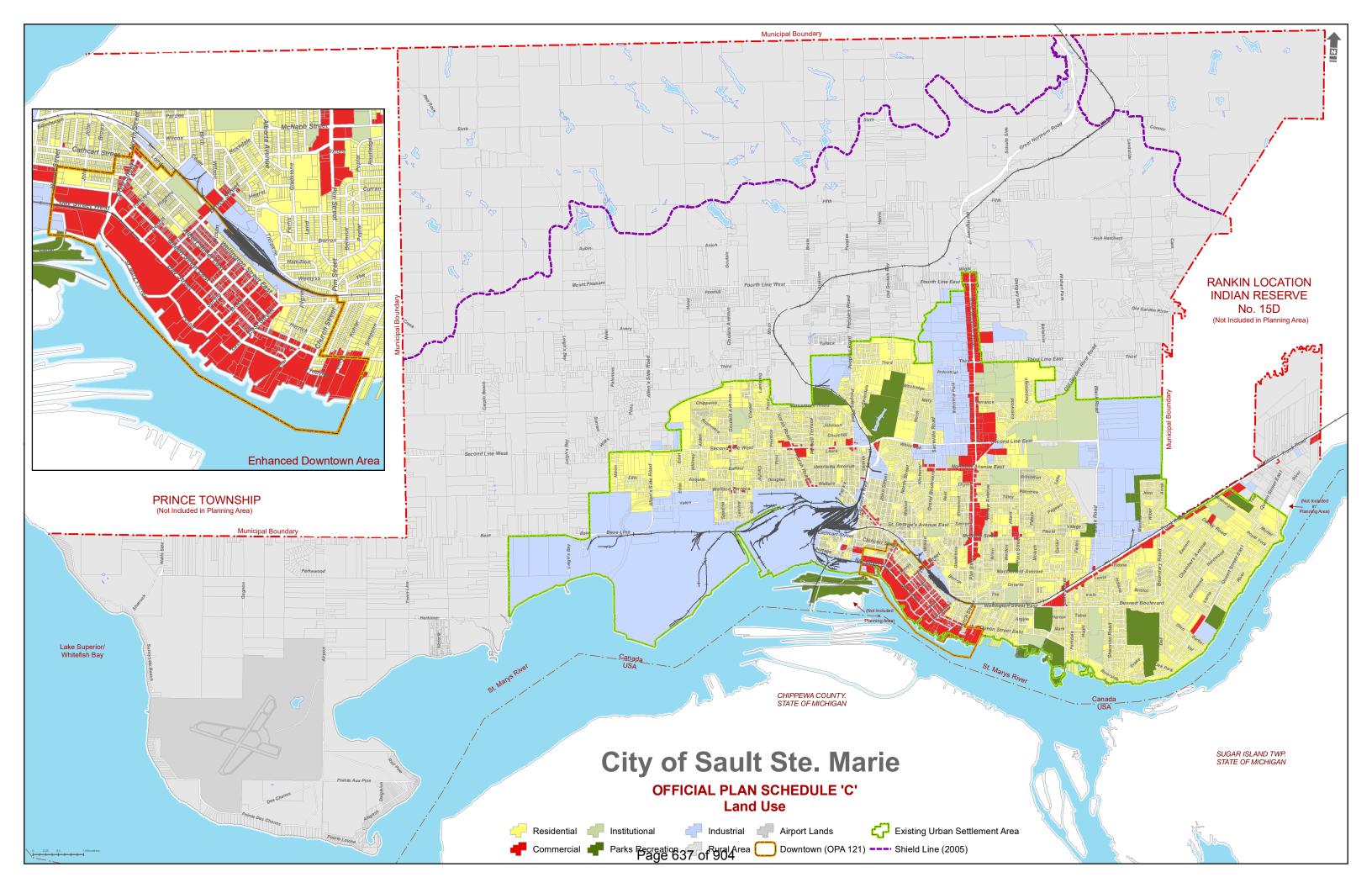
Appendix 1 Proposed Site Plan



| Plan, Vacant Land Condominium Plan,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | RP                                                                                           |                            |
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| NOTES L.A. MILLER OUS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                              | Project:                   |
| NOTES J.B. CHAMBERS, O.L.S. S<br>NOTES PROPERTY IDENTIFICATION NUMBER?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                              |                            |
| ON NOTE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 0 CHIPPEWA                                                                                   | STREET                     |
| RING COMPARISONS, A ROTATION OF 1°53'25" 3'25"<br>CLOCKWISE WAS APPLIED TO PLANS 'P'S 'P'<br>T 'P7' TO CONVERT TO GRID BEARINGS.NGS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | CITY OF SAULT S                                                                              |                            |
| G NOTE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | DISTRICT OF A                                                                                |                            |
| ARE GRID AND ARE REFERRED TO THE THE<br>LIMIT OF REGISTERED PLAN H-526-526                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                              |                            |
| RVATIONS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | N                                                                                            | Scale:                     |
| DR'S CERTIFICATE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                              | 1"=80'-0"<br>Drawn by:     |
| VEY AND PLAN ARE CORRECT AND IN ACCORDANCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                              | HL<br>Checked by:          |
| ES ACT, AND THE REGULATIONS MADE UNDER THE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                              | RP<br>Project No.:         |
| EY WAS COMPLETED ON JANUARY 6, 2023. 2023.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                              | Date:<br>2023/08/23        |
| 2023 23                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                              | 2023/08/23<br>Drawing No.: |
| IARIE, ONT. D.S. URSO<br>ONTARIO LAND OLIDION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                              | A-2.0                      |

Appendix 2

Sault Ste. Marie Official Plan Schedule C – Land use



Appendix 4

Stormwater Management Plan

# Stormwater Management Report

Proposed Residential Subdivision, O Chippewa Avenue Sault Ste. Marie, Ontario

Prepared for: Mamta Homes



June 2024 KEC Ref: 2278

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### APPENDICES

- Appendix A Stormwater Modelling
- Appendix B Engineering Drawings
- Appendix C Stormceptor Manual
- Appendix D Statement of Limitations

### 1. Introduction

Kresin Engineering Corporation ("KEC") has been retained by Mamta Homes Inc. ("Mamta") to prepare a stormwater management plan ("SWMP") for the planned subdivision at 0 Chippewa Avenue (the "site"). Mamta is proposing to develop the site for mixed density residential use, including single family homes, semi-detached homes, townhouses and apartment buildings.

### 2. Background

The site is a vacant 15.1 hectare parcel of land in the west end of Sault Ste. Marie, located north of Second Line and west of Goulais Avenue, adjacent to the existing Broadview Gardens neighbourhood. The site is bordered on the west by the West Davignon Creek, constructed ditches to the north and south and Broadview Gardens to the east..



Figure 1: Project Location in Sault Ste. Marie, Ontario

It is our understanding that the property has historically been used for agricultural purposes, and it is currently zoned as Rural Area Zone in the City's zoning by-law.

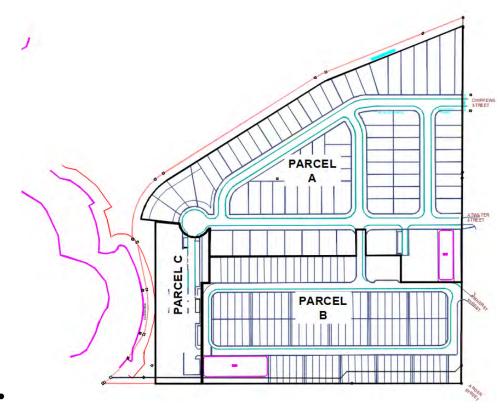
### 3. Proposed Subdivision

The proposed development consists of residential uses in a mix of densities including single family, semi-detached and multi-family as follows:

| Table 1: Lot Count        |                |
|---------------------------|----------------|
| Use                       | Number of Lots |
| Single Family Residential | 66             |
| Semi-Detached             | 16             |
| Townhouse                 | 104            |
| Apartment                 | 2              |

The proposed subdivision is divided into the following three parcels as shown in Figure 2:

- Parcel A: Freehold single family and semi-detached with municipal roads/services.
- Parcel B: Townhouse condominium with private roads (condo association).
- Parcel C: Apartment buildings.



• Figure 2: 0 Chippewa Avenue (the "Site")

This report is intended to address the SWMP for Parcel A only, as Parcel A servicing will be municipally owned. Stormwater management for Parcels B and C will be addressed during the site plan approval stage for those projects.

The development is to include construction of local roads, sewers, and water distribution, as well as electrical, natural gas and telecom infrastructure. The proposed roads are to be Class

"A" pavement including curbs and gutters with storm sewers. Storm water infrastructure will include yard drainage, road drainage and connections for foundation drains/sump pumps of individual buildings.

### 4. Stormwater Management

The City of Sault Ste. Marie ("City") Stormwater Management Guidelines (the "Guidelines") provides direction for the design of stormwater drainage systems serving developments within the City. As stated in the Guidelines, the goals of these drainage systems is to:

- Protect human health and safety;
- Protect property, structures and infrastructure from damage;
- Preserve natural water courses and wetlands; and,
- Minimize impacts on the quantity and quality of surface and groundwater.

The goals are to be addressed through the engineered design of stormwater collection, transmission and management systems. The collection and transmission components comprise catch basins and other inlets, as well as ditches, swales, culverts and other piped storm sewers. Stormwater management systems may include lot level, and/or a development scale approaches to control quantity, rate and quality of stormwater discharge.

### Existing Conditions (Pre-Development)

Stormwater runoff for the pre-development conditions of Parcel A is projected using the airport method, with an estimated runoff coefficient of 0.35 (MTO Drainage Management Manual, Design Chart 1.07, flat woodland, clay soil). With the topographic characteristics described above and available rainfall IDF data for Sault Ste. Marie, the following runoff volumes are estimated:

| Table 2: Existing runoff rates |                   |
|--------------------------------|-------------------|
| Storm Return Period            | Peak runoff (L/s) |
| 10 year                        | 281               |
| 100 year                       | 467               |
| Regional Storm                 | 592               |

Calculation summary sheets are attached in Appendix A.

### Post Development

It is proposed that Parcel A of the subdivision will discharge stormwater flows to a constructed dry pond of sufficient capacity to accommodate the required design storm. The pond will be equipped with flow control structure(s) designed to ensure that the peak outflow does not exceed the pre-development flows noted above.

### Storm Sewer System

In accordance with the Guidelines, the storm sewer system (minor system) has been designed to accommodate flows from a 10 year return storm event without surcharging. Flows exceeding

the capacity of the storm sewers will be accommodated via overland pathways and directed to avoid flooding of buildings.

Overland flow pathways are sized to accommodate flows up to and including the design major storm event (i.e. 100 year return event and the Regional Storm) without negative impacts to private property.

Storm sewer design plans and sheets are attached in Appendix B.

### Storm Water Management Facility

The proposed Stormwater Management (SWM) Facility is designed to accommodate the required flow rates and quantities, and is in accordance with the City's design criteria, including:

- Quality control for enhanced level of protection;
- Municipal Stormwater Management Guidelines; and,
- Provincial Stormwater Management Standards.

Based on the design rainfall events, the SWM pond can accommodate a volume of approximately 2120m<sup>3</sup> of runoff with a maximum depth of 1.5m. In accordance with City guidelines, the pond will be constructed with 4:1 side slopes and will provide at least 0.3m of freeboard above the maximum operating level.

The outlet structure of the SWM pond has been designed to limit the rate of discharge to ensure pre-development rates are not exceeded; a summary is shown in Table 3. The discharge from the pond is directed to an existing municipal drainage ditch.

| Table 3: SWM Pond Summary |       |                            |           |                          |  |  |  |  |  |  |
|---------------------------|-------|----------------------------|-----------|--------------------------|--|--|--|--|--|--|
| Design Storm              | Runof | f rate (m <sup>3</sup> /s) | SWM Pond  |                          |  |  |  |  |  |  |
|                           | Pre   | Post                       | Depth (m) | Volume (m <sup>3</sup> ) |  |  |  |  |  |  |
| 10 year                   | 0.281 | 0.562                      | 1.03      | 1300                     |  |  |  |  |  |  |
| 100 year                  | 0.467 | 0.848                      | 1.19      | 1575                     |  |  |  |  |  |  |
| Regional Storm            | 0.592 | 0.863                      | 1.45      | 2040                     |  |  |  |  |  |  |

In addition to managing the flow rate of runoff, the SWM facility will also provide the necessary enhanced level of protection for stormwater quality. Enhanced protection is defined as the long term average removal of 80% of total suspended solids (TSS) up to and including a 10 year return storm; this will be achieved utilizing Stormscepter oil/grit separator (OGS) at the pond inlet.

### 5. Maintenance and Operation

The storm sewer system will require maintenance in order to ensure proper function and long term performance. Routine maintenance may include catch-basin cleaning, vegetation management at the SWMP, pipeline inspections and maintenance hole cleaning. The timing of the maintenance should coincide with the City's standard procedures for storm sewer systems.

Stormceptor OGS unit(s) will require routine inspection and periodic sediment removal. Initially following installation and during the development build-out stage, annual inspection is recommended to confirm proper function and to observe sediment build-up. Once the development is built and landscaping has been established, the inspection interval may be extended pending observations.

Sediment removal, using a vacuum truck, will be required when the depth of sediment is approximately 15% of the unit's total storage capacity.

A copy of the Stormceptor manual is attached in Appendix C.

### 6. Closure

This stormwater management plan has been developed to provide the intended results in accordance with the Guidelines.

Runoff from the Site following storm events will be treated for minimum 80% TSS removal.

Flow rates from storm events will be tempered through the SWM facility so that the overall downstream peak flows will not increase when compared to pre-development discharge rate.

Thank you.

Yours Very Truly, Kresin Engineering Corporation

Michael Kresin, P. Eng. Consulting Engineer

2278 mk SWMP.docx

APPENDIX A

STORMWATER MODELLING

#### Storm Sewer Design Sheet

Project: Chippewa Ave. Subdivision Client: Mamta Homes

KEC Project: 2278.03 Date Updated: March 8, 2023

Bransby Williams Formula Time of Concentration= 0.057xL/(Sw^0.2xA^0.1) L= Watershed Length 571.00m Sw= 0.70% Watershed Slope 7.31ha A= Watershed Area Time of Concentration= 10.00min

#### **Design Parameters:**

Storm Event Data: Sault Ste. Marie Airport AES IDF Curve (2010) Use Rational Formula: Q=2.78CiA, for runoff generation. Use Mannings Equation for sewer capacity determination. Time of concentration: where C > 0.4 use Bransby Williams Formula (Tc=  $0.057 \times L / Sw0.2 \times A0.1$ ) where C < 0.4 use Airport Formula (Tc=  $(3.26^{*}(1.1^{*}C)^{*}L^{0.5})/S_{w}^{0.33})$ 

Pipe diameter are actual ID. From manufacturer's catalogs. Pipe less then 600 nominal - PVC PROFILE PIPE Pipe 600 nominal and larger - CONCRETE

| LOCATION DESIGN FLOWS |                   |                      |                              |                               |                              |                              |                               |                                  | PIPE DESIGN                      |                                  |                                    |                                 |                    |                          |                              |                                          |                                     |                              |                                                            |                          |
|-----------------------|-------------------|----------------------|------------------------------|-------------------------------|------------------------------|------------------------------|-------------------------------|----------------------------------|----------------------------------|----------------------------------|------------------------------------|---------------------------------|--------------------|--------------------------|------------------------------|------------------------------------------|-------------------------------------|------------------------------|------------------------------------------------------------|--------------------------|
| -                     | to<br>MH          | Area                 |                              | TRIBUTARYAREA                 |                              |                              |                               |                                  |                                  |                                  | SEWER                              |                                 | ER DATA            |                          |                              |                                          |                                     |                              |                                                            |                          |
| from<br>MH            |                   |                      | Roads<br>C= 0.90<br>(ha)     | Single Fam<br>C= 0.35<br>(ha) | Grass<br>C= 0.20<br>(ha)     | Semis<br>C= 0.50<br>(ha)     | Commercial<br>C= 0.85<br>(ha) |                                  |                                  | Rainfall<br>Intensity<br>(mm/hr) | Flow<br>"Q <sub>d</sub> "<br>(L/s) | Trade<br>Size                   | Average ID<br>(mm) | Grade<br>(%)             | Length<br>(m)                | Capacity<br>"Q <sub>cap</sub> "<br>(L/s) | Velocity<br>(m/s)                   | Time<br>(min)                | Pipe<br>Utilization<br>(Q <sub>d</sub> /Q <sub>cap</sub> ) |                          |
| 1<br>5                | 2<br>2            | A1<br>A2             | 0.05<br>0.10                 | 0.15<br>0.36                  | 0.23<br>0.20                 | 0.00                         | 0.00                          | 0.399<br>0.712                   | 0.399                            | 10.0<br>10.9                     | 116.1<br>109.2                     | 46.3<br>121.3                   |                    | 375<br>525               | 0.15<br>0.13                 | 33.9<br>79.8                             | 67.91<br>155.06                     | 0.62<br>0.72                 | 10.0<br>10.9                                               | 68%<br>78%               |
| 2<br>3                | 3<br>4            | A3<br>A4             | 0.08<br>0.13                 | 0.52<br>0.61                  | 0.00<br>0.00                 | 0.00                         | 0.00                          | 0.706<br>0.919                   | 1.817<br>2.736                   | 12.8<br>15.0                     | 97.8<br>87.5                       | 177.7<br>239.3                  |                    | 750<br>750               | 0.06<br>0.05                 | 81.9<br>74.9                             | 272.70<br>248.94                    | 0.62<br>0.56                 | 12.8<br>15.0                                               | 65%<br>96%               |
| 6<br>7<br>8<br>9      | 7<br>8<br>9<br>10 | B1<br>B2<br>B3<br>B4 | 0.09<br>0.13<br>0.04<br>0.14 | 0.46<br>0.78<br>0.17<br>0.59  | 0.00<br>0.00<br>0.00<br>0.00 | 0.00<br>0.00<br>0.00<br>0.00 | 0.00<br>0.00<br>0.00<br>0.00  | 0.673<br>1.084<br>0.273<br>0.924 | 0.673<br>1.757<br>2.030<br>2.954 | 10.0<br>12.7<br>15.5<br>16.5     | 116.1<br>98.1<br>85.6<br>81.6      | 78.1<br>172.4<br>173.8<br>241.1 |                    | 450<br>600<br>675<br>750 | 0.08<br>0.08<br>0.07<br>0.06 | 82.8<br>100.7<br>40.8<br>109.7           | 80.64<br>173.67<br>222.40<br>272.70 | 0.51<br>0.61<br>0.62<br>0.62 | 10.0<br>12.7<br>15.5<br>16.5                               | 97%<br>99%<br>78%<br>88% |
| 11<br>12              | 12<br>13          | C1<br>C2             | 0.18<br>0.07                 | 0.50                          | 0.00                         | 0.12                         | 0.00                          | 1.109<br>0.728                   | 1.109<br>1.837                   | 10.0<br>11.1                     | 116.1<br>108.0                     | 128.7<br>198.3                  |                    | 450<br>600               | 0.23<br>0.12                 | 56.5<br>61.0                             | 136.73<br>212.70                    | 0.86<br>0.75                 | 10.0<br>11.1                                               | 94%<br>93%               |
| 13<br>10<br>4         | 10<br>4<br>POND   | C3<br>C4             | 0.14<br>0.06<br>0.00<br>0.18 | 0.46<br>0.00<br>0.00<br>0.35  | 0.00<br>0.00<br>0.00<br>0.00 | 0.31<br>0.00<br>0.00<br>0.30 | 0.00<br>0.15<br>0.00<br>0.00  | 1.229<br>0.505<br>0.000          | 3.066<br>6.525<br>9.260          | 12.4<br>14.7<br>16.4             | 99.6<br>88.6<br>82.1               | 305.4<br>578.1<br>760.0         |                    | 825<br>900<br>900        | 0.07<br>0.09<br>0.16         | 96.8<br>87.0<br>25.0                     | 379.78<br>543.09<br>724.12          | 0.71<br>0.85<br>1.14         | 12.4<br>14.7<br>16.4                                       | 80%<br>106%<br>105%      |
|                       | TOTAL             |                      | 1.40                         | 5.19                          | 0.43                         | 0.96                         | 0.15                          |                                  |                                  |                                  |                                    |                                 |                    |                          |                              | 930.8                                    |                                     |                              |                                                            |                          |



#### Sewer Capacity:

Mannings Equation - Q = 1/n \* A \*  $R^{2/3} * S^{1/2}$ Roughness Coefficient (n) - 0.013 Hydraulic Radius (R) - 0.25 \* pipe diameter Design Flow Velocity - V=  $1/n * R^{2/3} * S^{1/2}$ 

Stormwater modelling output

EPA SWMM/Autodesk SSA

O Chippewa Avenue Development - Municipal portion

10 year return event

Autodesk<sup>®</sup> Storm and Sanitary Analysis 2016 - Version 13.0.94 (Build 0)

## \*\*\*\*\*

File Name ..... CHIPPEWA WITH STORM IMPORT.SPF
Description ..... S:\projects\2022\2278 Chippewa Ave Development\2278 Acad\Design\C3D-2278.03 P1 P2
P3 P4.dwg

#### \*\*\*\*\*

Analysis Options \*\*\*\*\*\*\*\*\*

| Flow Units                  | LPS                  |
|-----------------------------|----------------------|
| Subbasin Hydrograph Method. | EPA SWMM             |
| Infiltration Method         | Horton               |
| Link Routing Method         | Kinematic Wave       |
| Storage Node Exfiltration   | None                 |
| Starting Date               | JUN-09-2024 00:00:00 |
| Ending Date                 | JUN-10-2024 00:00:00 |
| Antecedent Dry Days         | 0.0                  |
| Report Time Step            | 00:05:00             |
| Wet Time Step               | 00:05:00             |
| Dry Time Step               | 01:00:00             |
| Routing Time Step           | 30.00 sec            |

### \*\*\*\*\*

| Number of links<br>Number of pollutan<br>Number of land use | ts 0          |                 |                 |           |          |
|-------------------------------------------------------------|---------------|-----------------|-----------------|-----------|----------|
| *****                                                       |               |                 |                 |           |          |
| Raingage Summary<br>*****                                   |               |                 |                 |           |          |
| Gage                                                        | Data          | Da              | ata             | Recording |          |
| ID                                                          | Source        | Ту              | уре             | Interval  | min      |
| 100-yr storm                                                | 10-yr         | <br>II          | NTENSITY        | 6.00      |          |
| 10-yr storm                                                 | 10-yr         | II              | NTENSITY        | 6.00      |          |
| timmins                                                     | 10-yr         | II              | NTENSITY        | 6.00      |          |
| *****                                                       |               |                 |                 |           |          |
| Subbasin Summary<br>*****                                   |               |                 |                 |           |          |
| Subbasin                                                    | Total<br>Area | Equiv.<br>Width | Imperv.<br>Area |           | Raingage |
| тр                                                          | hastanas      |                 | 0/              |           |          |

| ID       | Area<br>hectares | wiath  | Area<br>% | Siope % |             |
|----------|------------------|--------|-----------|---------|-------------|
| U        | nectares         | m<br>  | /0        | /0      |             |
| PRE DVLP | 7.31             | 100.00 | 0.00      | 1.2600  | 10-yr storm |
| Sub-05   | 0.60             | 60.00  | 25.00     | 1.2600  | 10-yr storm |
| Sub-06   | 0.60             | 40.00  | 25.00     | 1.2600  | 10-yr storm |
| Sub-07   | 0.60             | 60.00  | 25.00     | 1.2600  | 10-yr storm |
| Sub-08   | 0.60             | 60.00  | 25.00     | 1.2600  | 10-yr storm |
| Sub-09   | 0.60             | 60.00  | 25.00     | 1.2600  | 10-yr storm |
| Sub-10   | 0.60             | 60.00  | 25.00     | 1.2600  | 10-yr storm |
| Sub-11   | 0.60             | 60.00  | 25.00     | 1.2600  | 10-yr storm |
| Sub-12   | 0.60             | 60.00  | 25.00     | 1.2600  | 10-yr storm |
| Sub-13   | 0.60             | 60.00  | 25.00     | 1.2600  | 10-yr storm |
| Sub-14   | 0.60             | 60.00  | 25.00     | 1.2600  | 10-yr storm |
|          |                  |        |           |         |             |

| Sub-15 | 0.60 | 60.00 | 25.00 | 1.2600 | 10-yr storm |
|--------|------|-------|-------|--------|-------------|
| Sub-16 | 0.60 | 60.00 | 25.00 | 1.2600 | 10-yr storm |
| Sub-17 | 0.60 | 60.00 | 25.00 | 1.2600 | 10-yr storm |

# Node Summary \*\*\*\*\*

| Node<br>ID                                                                                                                                                                                                                                                                                                                                                         | Element<br>Type                                                                                                                                                         | Invert<br>Elevation<br>m | Maximum<br>Elev.<br>m                                                                                                                    |                                                                                                              |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|--|
| EndNullStruct0<br>MH 1 (Proposed Stor<br>MH 10 (Proposed Sto<br>MH 11 (Proposed Sto<br>MH 12 (Proposed Sto<br>MH 13 (Proposed Sto<br>MH 2 (Proposed Stor<br>MH 3 (Proposed Stor<br>MH 4 (Proposed Stor<br>MH 5 (Proposed Stor<br>MH 6 (Proposed Stor<br>MH 7 (Proposed Stor<br>MH 8 (Proposed Stor<br>MH 8 (Proposed Stor<br>MH 9 (Proposed Stor<br>Out-01<br>POND | m)JUNCTION<br>rm)JUNCTION<br>rm)JUNCTION<br>rm)JUNCTION<br>m)JUNCTION<br>m)JUNCTION<br>m)JUNCTION<br>m)JUNCTION<br>m)JUNCTION<br>m)JUNCTION<br>m)JUNCTION<br>m)JUNCTION |                          | 195.60<br>195.64<br>196.27<br>196.11<br>195.70<br>195.26<br>194.94<br>196.27<br>196.20<br>196.68<br>194.88<br>194.88<br>196.10<br>192.50 | 0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00 |  |

### \*\*\*\*\*

Link Summary \*\*\*\*\*

| Link | From Node | To Node | Element | Length | Slope | Manning's |
|------|-----------|---------|---------|--------|-------|-----------|
| ID   |           |         | Туре    | m      | %     | Roughness |

| {Proposed Storm}.MH 1 - MH 2 (Proposed Storm)MH 1 (Proposed Storm)MH 2 (Proposed Storm)CONDUIT<br>0.2000 0.0120 | 33.9    |
|-----------------------------------------------------------------------------------------------------------------|---------|
| {Proposed Storm}.MH 10 - MH 4 (Proposed Storm)MH 10 (Proposed Storm)MH 4 (Proposed Storm)CONDUIT                |         |
| 87.0 0.2529 0.0130                                                                                              |         |
| {Proposed Storm}.MH 11 - MH 12 (Proposed Storm)MH 11 (Proposed Storm)MH 12 (Proposed Storm)CONDUIT              |         |
| 53.5 0.2000 0.0130                                                                                              |         |
| {Proposed Storm}.MH 12 - MH 13 (Proposed Storm)MH 12 (Proposed Storm)MH 13 (Proposed Storm)CONDUIT              |         |
| 64.0 0.2000 0.0130                                                                                              |         |
| {Proposed Storm}.MH 13 - MH 10 (Proposed Storm)MH 13 (Proposed Storm)MH 10 (Proposed Storm)CONDUIT              |         |
| 96.8 0.2000 0.0120                                                                                              |         |
| {Proposed Storm}.MH 2 - MH 3 (Proposed Storm)MH 2 (Proposed Storm)MH 3 (Proposed Storm)CONDUIT                  | 81.9    |
| 0.2000 0.0120                                                                                                   |         |
| {Proposed Storm}.MH 3 - MH 4 (Proposed Storm)MH 3 (Proposed Storm)MH 4 (Proposed Storm)CONDUIT                  | 74.9    |
| 0.2000 0.0120                                                                                                   |         |
| {Proposed Storm}.MH 4 - POND (Proposed Storm)MH 4 (Proposed Storm)POND CONDUIT                                  | 25.0    |
| 0.2000 0.0120                                                                                                   |         |
| {Proposed Storm}.MH 5 - MH 2 (Proposed Storm)MH 5 (Proposed Storm)MH 2 (Proposed Storm)CONDUIT                  | 79.8    |
| 0.2000 0.0120                                                                                                   |         |
| {Proposed Storm}.MH 7 - MH 88 (Proposed Storm)MH 7 (Proposed Storm)MH 8 (Proposed Storm)CONDUIT                 | 99.8    |
| 0.2000 0.0120                                                                                                   |         |
| {Proposed Storm}.MH 8 - MH 9 (Proposed Storm)MH 8 (Proposed Storm)MH 9 (Proposed Storm)CONDUIT                  | 40.6    |
| 0.2000 0.0120                                                                                                   |         |
| {Proposed Storm}.MH 9 - MH 10 (Proposed Storm)MH 9 (Proposed Storm)MH 10 (Proposed Storm)CONDUIT                |         |
|                                                                                                                 |         |
| {Proposed Storm}.MH 9 - MH 11 (Proposed Storm)MH 6 (Proposed Storm)MH 7 (Proposed Storm)CONDUIT                 | 82.8    |
|                                                                                                                 |         |
| Orifice-01 POND Out-01 ORIFICE                                                                                  |         |
|                                                                                                                 |         |
| **********                                                                                                      |         |
| Cross Section Summary<br>************                                                                           |         |
| Link Shape Depth/ Width No. of Cross Full Flow                                                                  | Design  |
| ID Diameter Barrels Sectional Hydraulic                                                                         | Flow    |
|                                                                                                                 | Dagot 4 |
|                                                                                                                 | Page: 4 |

| m m                                                                          |      | Area<br>m² | Radius<br>m | Capacity<br>LPS |
|------------------------------------------------------------------------------|------|------------|-------------|-----------------|
| {Proposed Storm}.MH 1 - MH 2 (Proposed Storm) CIRCULAR<br>0.11 138.14        | 0.45 | 0.45       | 1           | 0.16            |
| {Proposed Storm}.MH 10 - MH 4 (Proposed Storm) CIRCULAR<br>0.19 559.91       | 0.75 | 0.75       |             | 1 0.44          |
| {Proposed Storm}.MH 11 - MH 12 (Proposed Storm) CIRCULAR<br>0.16 0.11 127.51 | 0.45 | 0.45       |             | 1               |
| {Proposed Storm}.MH 12 - MH 13 (Proposed Storm) CIRCULAR<br>0.28 0.15 274.61 | 0.60 | 0.60       |             | 1               |
| {Proposed Storm}.MH 13 - MH 10 (Proposed Storm) CIRCULAR<br>0.44 0.19 539.39 | 0.75 | 0.75       |             | 1               |
| {Proposed Storm}.MH 2 - MH 3 (Proposed Storm) CIRCULAR<br>0.19 539.39        | 0.75 | 0.75       | 1           | 0.44            |
| {Proposed Storm}.MH 3 - MH 4 (Proposed Storm) CIRCULAR<br>0.19 539.39        | 0.75 | 0.75       | 1           |                 |
| <pre>{Proposed Storm}.MH 4 - POND (Proposed Storm) CIRCULAR</pre>            | 0.90 | 0.90       | 1           |                 |
| {Proposed Storm}.MH 5 - MH 2 (Proposed Storm) CIRCULAR<br>0.11 138.14        | 0.45 | 0.45       | 1           |                 |
| {Proposed Storm}.MH 7 - MH 88 (Proposed Storm) CIRCULAR<br>0.15 297.50       | 0.60 | 0.60       |             | 1 0.28          |
| {Proposed Storm}.MH 8 - MH 9 (Proposed Storm) CIRCULAR<br>0.15 297.50        | 0.60 | 0.60       | 1           |                 |
| {Proposed Storm}.MH 9 - MH 10 (Proposed Storm) CIRCULAR<br>0.19 539.39       | 0.75 | 0.75       |             | 1 0.44          |
| {Proposed Storm}.MH 9 - MH 11 (Proposed Storm) CIRCULAR<br>0.11 138.14       | 0.45 | 0.45       |             | 1 0.16          |

| *******                    | Volume    | Depth  |  |
|----------------------------|-----------|--------|--|
| Runoff Quantity Continuity | hectare-m | mm     |  |
| *******                    |           |        |  |
| Total Precipitation        | 1.086     | 71.563 |  |

| Evaporation Loss<br>Infiltration Loss<br>Surface Runoff<br>Final Surface Storage<br>Continuity Error (%) | 0.000<br>0.102<br>0.868<br>0.117<br>-0.050 | 0.000<br>6.717<br>57.182<br>7.699 |
|----------------------------------------------------------------------------------------------------------|--------------------------------------------|-----------------------------------|
| ******                                                                                                   | Volume                                     | Volume                            |
| Flow Routing Continuity                                                                                  | hectare-m                                  | Mliters                           |
| *******                                                                                                  |                                            |                                   |
| Dry Weather Inflow                                                                                       | 0.000                                      | 0.000                             |
| Wet Weather Inflow                                                                                       | 0.867                                      | 8.666                             |
| Groundwater Inflow                                                                                       | 0.000                                      | 0.000                             |
| RDII Inflow                                                                                              | 0.000                                      | 0.000                             |
| External Inflow                                                                                          | 0.000                                      | 0.000                             |
| External Outflow                                                                                         | 0.863                                      | 8.633                             |
| Surface Flooding                                                                                         | 0.000                                      | 0.000                             |
| Evaporation Loss                                                                                         | 0.000                                      | 0.000                             |
| Initial Stored Volume                                                                                    | 0.000                                      | 0.000                             |
| Final Stored Volume                                                                                      | 0.001                                      | 0.014                             |
| Continuity Error (%)                                                                                     | 0.217                                      |                                   |
|                                                                                                          |                                            |                                   |

### 

 $Tc = (0.94 * (L^{0.6}) * (n^{0.6})) / ((i^{0.4}) * (S^{0.3}))$ 

### Where:

Tc = Time of Concentration (min)
L = Flow Length (ft)
n = Manning's Roughness

| i | = | Rainfall Intensity | (in/hr) |
|---|---|--------------------|---------|
| S | = | Slope (ft/ft)      |         |

-----

Subbasin PRE DVLP

-----

| Flow length (m):                       | 731.20  |
|----------------------------------------|---------|
| Pervious Manning's Roughness:          | 0.10000 |
| Impervious Manning's Roughness:        | 0.40000 |
| Pervious Rainfall Intensity (mm/hr):   | 2.98180 |
| Impervious Rainfall Intensity (mm/hr): | 2.98180 |
| Slope (%):                             | 1.26000 |
| Computed TOC (minutes):                | 220.48  |

-----

Subbasin Sub-05

-----

| Flow length (m):                                  | 100.83  |
|---------------------------------------------------|---------|
| Pervious Manning's Roughness:                     | 0.10000 |
| Impervious Manning's Roughness:                   | 0.01500 |
| Pervious Rainfall Intensity (mm/hr):              | 2.98180 |
| <pre>Impervious Rainfall Intensity (mm/hr):</pre> | 2.98180 |
| Slope (%):                                        | 1.26000 |
| Computed TOC (minutes):                           | 56.51   |

-----

Subbasin Sub-06

-----

| Flow length (m):                     | 151.25  |
|--------------------------------------|---------|
| Pervious Manning's Roughness:        | 0.10000 |
| Impervious Manning's Roughness:      | 0.01500 |
| Pervious Rainfall Intensity (mm/hr): | 2.98180 |

| Impervious Rainfall Intensity (mm/hr | ): 2.98180 |  |  |  |  |  |  |
|--------------------------------------|------------|--|--|--|--|--|--|
| Slope (%):                           | 1.26000    |  |  |  |  |  |  |
| Computed TOC (minutes):              | 72.08      |  |  |  |  |  |  |
| Subbasin Sub-07                      |            |  |  |  |  |  |  |
| Flow length (m):                     | 100.83     |  |  |  |  |  |  |
| Pervious Manning's Roughness:        | 0.10000    |  |  |  |  |  |  |
| Impervious Manning's Roughness:      | 0.01500    |  |  |  |  |  |  |
| Pervious Rainfall Intensity (mm/hr): | 2.98180    |  |  |  |  |  |  |
| Impervious Rainfall Intensity (mm/hr | ): 2.98180 |  |  |  |  |  |  |
| Slope (%):                           | 1.26000    |  |  |  |  |  |  |
| Computed TOC (minutes):              | 56.51      |  |  |  |  |  |  |
| Subbasin Sub-08                      |            |  |  |  |  |  |  |
| Flow length (m):                     | 100.83     |  |  |  |  |  |  |
| Pervious Manning's Roughness:        | 0.10000    |  |  |  |  |  |  |
| Impervious Manning's Roughness:      | 0.01500    |  |  |  |  |  |  |
| Pervious Rainfall Intensity (mm/hr): | 2.98180    |  |  |  |  |  |  |
| Impervious Rainfall Intensity (mm/hr | ): 2.98180 |  |  |  |  |  |  |
| Slope (%):                           | 1.26000    |  |  |  |  |  |  |
| Computed TOC (minutes):              | 56.51      |  |  |  |  |  |  |
| Subbasin Sub-09                      |            |  |  |  |  |  |  |
| Flow length (m):                     | 100.83     |  |  |  |  |  |  |
| Pervious Manning's Roughness:        | 0.10000    |  |  |  |  |  |  |
| Impervious Manning's Roughness:      | 0.01500    |  |  |  |  |  |  |

| Pervious Rainfall Intensity (mm/hr):   | 2.98180 |  |  |  |  |  |
|----------------------------------------|---------|--|--|--|--|--|
| Impervious Rainfall Intensity (mm/hr): | 2.98180 |  |  |  |  |  |
| Slope (%):                             | 1.26000 |  |  |  |  |  |
| Computed TOC (minutes):                | 56.51   |  |  |  |  |  |
| Subbasin Sub-10                        |         |  |  |  |  |  |
| Flow length (m):                       | 100.83  |  |  |  |  |  |
| Pervious Manning's Roughness:          | 0.10000 |  |  |  |  |  |
| Impervious Manning's Roughness:        | 0.01500 |  |  |  |  |  |
| Pervious Rainfall Intensity (mm/hr):   | 2.98180 |  |  |  |  |  |
| Impervious Rainfall Intensity (mm/hr): | 2.98180 |  |  |  |  |  |
| Slope (%):                             | 1.26000 |  |  |  |  |  |
| Computed TOC (minutes):                | 56.51   |  |  |  |  |  |
| Subbasin Sub-11                        |         |  |  |  |  |  |
| Flow length (m):                       | 100.83  |  |  |  |  |  |
| Pervious Manning's Roughness:          | 0.10000 |  |  |  |  |  |
| Impervious Manning's Roughness:        | 0.01500 |  |  |  |  |  |
| Pervious Rainfall Intensity (mm/hr):   | 2.98180 |  |  |  |  |  |
| Impervious Rainfall Intensity (mm/hr): | 2.98180 |  |  |  |  |  |
| Slope (%):                             | 1.26000 |  |  |  |  |  |
| Computed TOC (minutes):                | 56.51   |  |  |  |  |  |
| Subbasin Sub-12                        |         |  |  |  |  |  |
| Flow length (m):                       | 100.83  |  |  |  |  |  |
| Pervious Manning's Roughness:          | 0.10000 |  |  |  |  |  |

| Impervious Manning's Roughness:<br>Pervious Rainfall Intensity (mm/hr):<br>Impervious Rainfall Intensity (mm/hr):<br>Slope (%):<br>Computed TOC (minutes):                                                      | 0.01500<br>2.98180<br>2.98180<br>1.26000<br>56.51                      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| Subbasin Sub-13                                                                                                                                                                                                 |                                                                        |
| Flow length (m):<br>Pervious Manning's Roughness:<br>Impervious Manning's Roughness:<br>Pervious Rainfall Intensity (mm/hr):<br>Impervious Rainfall Intensity (mm/hr):<br>Slope (%):<br>Computed TOC (minutes): | 100.83<br>0.10000<br>0.01500<br>2.98180<br>2.98180<br>1.26000<br>56.51 |
| Subbasin Sub-14                                                                                                                                                                                                 |                                                                        |
| Flow length (m):<br>Pervious Manning's Roughness:<br>Impervious Manning's Roughness:<br>Pervious Rainfall Intensity (mm/hr):<br>Impervious Rainfall Intensity (mm/hr):<br>Slope (%):<br>Computed TOC (minutes): | 100.83<br>0.10000<br>0.01500<br>2.98180<br>2.98180<br>1.26000<br>56.51 |
| Subbasin Sub-15                                                                                                                                                                                                 |                                                                        |
| Flow length (m):                                                                                                                                                                                                | 100.83                                                                 |

|         | Pervious Manning's Roughness:<br>Impervious Manning's Roughness:<br>Pervious Rainfall Intensity (mm/hr):<br>Impervious Rainfall Intensity (mm/hr):<br>Slope (%):<br>Computed TOC (minutes):                     | 0.10000<br>0.01500<br>2.98180<br>2.98180<br>1.26000<br>56.51           |
|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| Subbasi | n Sub-16                                                                                                                                                                                                        |                                                                        |
|         |                                                                                                                                                                                                                 |                                                                        |
|         | Flow length (m):<br>Pervious Manning's Roughness:<br>Impervious Manning's Roughness:<br>Pervious Rainfall Intensity (mm/hr):<br>Impervious Rainfall Intensity (mm/hr):<br>Slope (%):<br>Computed TOC (minutes): | 100.83<br>0.10000<br>0.01500<br>2.98180<br>2.98180<br>1.26000<br>56.51 |
| Cubbaci | <br>n Sub-17                                                                                                                                                                                                    |                                                                        |
| SUDDASI | n Sud-17                                                                                                                                                                                                        |                                                                        |
|         | Flow length (m):<br>Pervious Manning's Roughness:<br>Impervious Manning's Roughness:<br>Pervious Rainfall Intensity (mm/hr):<br>Impervious Rainfall Intensity (mm/hr):<br>Slope (%):<br>Computed TOC (minutes): | 100.83<br>0.10000<br>0.01500<br>2.98180<br>2.98180<br>1.26000<br>56.51 |

| Subbasin | Total    | Total | Total | Total  | Total  | Peak   | Runoff      |      | Time of   |
|----------|----------|-------|-------|--------|--------|--------|-------------|------|-----------|
| ID       | Rainfall | Runon | Evap. | Infil. | Runoff | Runoff | Coefficient | Conc | entration |
|          | mm       | mm    | mm    | mm     | mm     | LPS    |             | days | hh:mm:ss  |
| PRE DVLP | 71.56    | 0.00  | 0.00  | 4.17   | 56.68  | 281.68 | 0.792       |      | 03:40:28  |
| Sub-05   | 71.56    | 0.00  | 0.00  | 9.08   | 57.66  | 43.65  | 0.806       | 0    | 00:56:30  |
| Sub-06   | 71.56    | 0.00  | 0.00  | 9.08   | 57.45  | 41.05  | 0.803       | 0    | 01:12:04  |
| Sub-07   | 71.56    | 0.00  | 0.00  | 9.08   | 57.66  | 43.65  | 0.806       | 0    | 00:56:30  |
| Sub-08   | 71.56    | 0.00  | 0.00  | 9.08   | 57.66  | 43.65  | 0.806       | 0    | 00:56:30  |
| Sub-09   | 71.56    | 0.00  | 0.00  | 9.08   | 57.66  | 43.65  | 0.806       | 0    | 00:56:30  |
| Sub-10   | 71.56    | 0.00  | 0.00  | 9.08   | 57.66  | 43.65  | 0.806       | 0    | 00:56:30  |
| Sub-11   | 71.56    | 0.00  | 0.00  | 9.08   | 57.66  | 43.65  | 0.806       | 0    | 00:56:30  |
| Sub-12   | 71.56    | 0.00  | 0.00  | 9.08   | 57.66  | 43.65  | 0.806       | 0    | 00:56:30  |
| Sub-13   | 71.56    | 0.00  | 0.00  | 9.08   | 57.66  | 43.65  | 0.806       | 0    | 00:56:30  |
| Sub-14   | 71.56    | 0.00  | 0.00  | 9.08   | 57.66  | 43.65  | 0.806       | 0    | 00:56:30  |
| Sub-15   | 71.56    | 0.00  | 0.00  | 9.08   | 57.66  | 43.65  | 0.806       | 0    | 00:56:30  |
| Sub-16   | 71.56    | 0.00  | 0.00  | 9.08   | 57.66  | 43.65  | 0.806       | 0    | 00:56:30  |
| Sub-17   | 71.56    | 0.00  | 0.00  | 9.08   | 57.66  | 43.65  | 0.806       | 0    | 00:56:30  |

Node Depth Summary \*\*\*\*\*\*\*\*\*

| Node<br>ID                       | Average<br>Depth<br>Attained | Maximum<br>Depth<br>Attained | Maximum<br>HGL<br>Attained | Time o<br>Occur |               | Total<br>Flooded<br>Volume | Total<br>Time<br>Flooded | Retention<br>Time    |
|----------------------------------|------------------------------|------------------------------|----------------------------|-----------------|---------------|----------------------------|--------------------------|----------------------|
|                                  | m                            | m                            | m                          | days            | hh:mm         | ha-mm                      | minutes                  | hh:mm:ss             |
| EndNullStruct0<br>MH 1 (Proposed |                              | 0.00<br>0.04                 | 0.00<br>0.17 193           | 0<br>8.96       | 00:00<br>0 12 | 0<br>2:12                  | 0                        | 0:00:00<br>0 0:00:00 |

| MH 10 (Proposed Storm) | 0.10  | 0.43  | 194.06 | 0    | 12:14 |   | 0 | 0   | 0:00:00 |
|------------------------|-------|-------|--------|------|-------|---|---|-----|---------|
| MH 11 (Proposed Storm) | 0.04  | 0.18  | 194.03 | 0    | 12:12 |   | 0 | 0   | 0:00:00 |
| MH 12 (Proposed Storm) | 0.09  | 0.23  | 193.98 | 0    | 12:12 |   | 0 | 0   | 0:00:00 |
| MH 13 (Proposed Storm) | 0.11  | 0.30  | 193.98 | 0    | 12:13 |   | 0 | 0   | 0:00:00 |
| MH 2 (Proposed Storm)  | 0.14  | 0.27  | 193.91 | 0    | 12:12 | 6 | ) | 0   | 0:00:00 |
| MH 3 (Proposed Storm)  | 0.09  | 0.29  | 193.85 | 0    | 12:13 | 6 | ) | 0   | 0:00:00 |
| MH 4 (Proposed Storm)  | 0.24  | 0.52  | 193.90 | 0    | 12:14 | 6 | ) | 0   | 0:00:00 |
| MH 5 (Proposed Storm)  | 0.04  | 0.17  | 194.01 | 0    | 12:12 | 6 | ) | 0   | 0:00:00 |
| MH 6 (Proposed Storm)  | 0.04  | 0.17  | 194.27 | 0    | 12:12 | ( | ) | 0   | 0:00:00 |
| MH 7 (Proposed Storm)  | 0.09  | 0.22  | 194.17 | 0    | 12:13 | ( | ) | 0   | 0:00:00 |
| MH 8 (Proposed Storm)  | 0.08  | 0.28  | 194.11 | 0    | 12:13 | 6 | ) | 0   | 0:00:00 |
| MH 9 (Proposed Storm)  | 0.11  | 0.33  | 194.07 | 0    | 12:14 | 6 | ) | 0   | 0:00:00 |
| Out-01 0.0             | 0 0.0 | 0 192 | .50 0  | 00:0 | 0     | 0 | 0 | 0:0 | 0:00    |
| POND 0.1               | 5 1.0 | 3 194 | .03 0  | 13:0 | 8     | 0 | 0 | 0:0 | 0:00    |

Node Flow Summary \*\*\*\*\*\*\*\*

| Node            | Element         | Maximum | Peak   | Time     | of Max    | imum Time of P | eak |
|-----------------|-----------------|---------|--------|----------|-----------|----------------|-----|
| ID              | Type            | Lateral | Inflow | Peak Inf | low Flood | ding Flood     | ing |
|                 |                 | Inflow  |        | Occurre  | nce Over  | flow Occurre   | nce |
|                 |                 | LPS     | LPS    | days hh  | :mm       |                | :mm |
|                 |                 |         |        |          |           |                |     |
| EndNullStruct0  | JUNCTION        | 0.00    | 0.00   | 0 00     | :00       | 0.00           |     |
| MH 1 (Proposed  | Storm) JUNCTION | 43.65   | 43.65  | 0 1      | 2:12      | 0.00           |     |
| MH 10 (Proposed | Storm) JUNCTION | 43.65   | 347.62 | 2 0      | 12:14     | 0.00           |     |
| MH 11 (Proposed | Storm) JUNCTION | 43.65   | 43.65  | 5 0      | 12:12     | 0.00           |     |
| MH 12 (Proposed | Storm) JUNCTION | 43.65   | 87.16  | 5 0      | 12:12     | 0.00           |     |
| MH 13 (Proposed | Storm) JUNCTION | 43.65   | 130.60 | 9 0      | 12:13     | 0.00           |     |
| MH 2 (Proposed  | Storm) JUNCTION | 43.65   | 130.73 | 0 1      | 2:12      | 0.00           |     |
| MH 3 (Proposed  | Storm) JUNCTION | 41.05   | 171.66 | 0 1      | 2:13      | 0.00           |     |
| MH 4 (Proposed  | Storm) JUNCTION | 43.65   | 562.32 | 0 1      | 2:14      | 0.00           |     |

| MH 5 (Propo<br>MH 6 (Propo<br>MH 7 (Propo<br>MH 8 (Propo<br>MH 9 (Propo<br>Out-01<br>POND | osed Storm)<br>osed Storm)<br>osed Storm)<br>osed Storm) | JUNCTION<br>JUNCTION<br>JUNCTION | 43.65<br>43.65<br>43.65<br>43.65<br>43.65<br>281.68<br>0.00 | 43.65<br>43.65<br>87.11<br>130.45<br>173.86<br>541.77<br>562.32 |        | 12:12<br>12:12<br>12:12<br>12:13<br>12:13<br>12:54<br>12:15 | 2 0<br>2 0<br>3 0 |         |              |              |
|-------------------------------------------------------------------------------------------|----------------------------------------------------------|----------------------------------|-------------------------------------------------------------|-----------------------------------------------------------------|--------|-------------------------------------------------------------|-------------------|---------|--------------|--------------|
| *******                                                                                   | ****                                                     |                                  |                                                             |                                                                 |        |                                                             |                   |         |              |              |
| Storage Nod<br>********                                                                   |                                                          |                                  |                                                             |                                                                 |        |                                                             |                   |         |              |              |
| Storage Nod                                                                               | e ID                                                     |                                  | Maximun                                                     | n Time                                                          | of Ma  |                                                             | Average           | Average | <br>Maximum  | <br>Maximum  |
| Time of Max.                                                                              | Tota                                                     | al<br>Ponded                     | Pondec                                                      | ł                                                               | Ponde  | d                                                           | Ponded            | Ponded  | Storage Node | Exfiltration |
| Exfiltration                                                                              |                                                          | ed<br>Volume                     | Volume                                                      | 2                                                               | Volum  | ie                                                          | Volume            | Volume  | Outflow      | Rate         |
| Rate<br>hh:mm:ss                                                                          | Volume<br>1000 m³                                        | 1000 m³                          | (%)                                                         | ) days                                                          | s hh:m | im 1                                                        | 1000 m³           | (%)     | LPS          | cmm          |
|                                                                                           |                                                          |                                  |                                                             |                                                                 |        |                                                             |                   |         |              |              |
| POND<br>0:00:00                                                                           | 0.000                                                    | 1.300                            | 61                                                          | L 0                                                             | 13:0   | )7                                                          | 0.151             | 7       | 265.41       | 0.00         |

Outfall Loading Summary \*\*\*\*\*\*\*\*\*\*\*\*

| Outfall Node ID | Flow<br>Frequency<br>(%) | Average<br>Flow<br>LPS | Peak<br>Inflow<br>LPS |
|-----------------|--------------------------|------------------------|-----------------------|
| Out-01          | 96.95                    | 103.04                 | 541.77                |
| System          | 96.95                    | 103.04                 | 541.77                |

Link Flow Summary \*\*\*\*\*\*\*

| Link ID                                                            | Element                                         | Time of                                                              | Maximum                           | Length      | Peak Flow      | De           | sign         | Ratio of   | Ratio of |               |
|--------------------------------------------------------------------|-------------------------------------------------|----------------------------------------------------------------------|-----------------------------------|-------------|----------------|--------------|--------------|------------|----------|---------------|
| otal Reported                                                      |                                                 |                                                                      |                                   | 0           |                |              | 0            |            |          |               |
|                                                                    | Туре                                            | Peak Flow                                                            | Velocity                          | Factor      | during         |              | Flow         | Maximum    | Maximum  |               |
| Time Condition                                                     |                                                 | Occurrence                                                           | Attained                          |             | Analysis       | Cana         | city         | /Design    | Flow     |               |
| urcharged                                                          |                                                 | occurrence                                                           | Attaineu                          |             | Analysis       | Capa         | CILY         | /Destan    | FIOW     |               |
| 0                                                                  |                                                 | days hh:mm                                                           | m/sec                             |             | LPS            |              | LPS          | Flow       | Depth    |               |
| inutes                                                             |                                                 |                                                                      |                                   |             |                |              |              |            |          |               |
|                                                                    |                                                 |                                                                      |                                   |             |                |              |              |            |          |               |
|                                                                    |                                                 |                                                                      |                                   |             |                |              |              |            |          |               |
|                                                                    |                                                 |                                                                      |                                   |             |                |              |              |            |          |               |
| {Proposed Storm}.M                                                 | 1H1-MH2(                                        | Proposed Stor                                                        | m) CONDUIT                        | 0           | 12:12          | 0.77         | 1.00         | 43.        | 62 138   | 3.14          |
| 0.32 0.39                                                          | 0                                               | Calculated                                                           |                                   |             |                |              |              |            |          |               |
| 0.32 0.39<br>{Proposed Storm}.M                                    | 0<br>1H 10 - MH 4                               | Calculated<br>(Proposed Sto                                          |                                   |             | 12:12<br>12:15 | 0.77<br>1.33 | 1.00<br>1.00 |            |          | 3.14<br>59.91 |
| 0.32 0.39<br>{Proposed Storm}.M<br>0.62 0.57                       | 0<br>1H 10 - MH 4<br>0                          | Calculated<br>(Proposed Sto<br>Calculated                            | rm) CONDUI                        | т 0         | 12:15          | 1.33         | 1.00         | 347        | .53 5!   |               |
| 0.32 0.39<br>{Proposed Storm}.M                                    | 0<br>1H 10 - MH 4<br>0                          | Calculated<br>(Proposed Sto<br>Calculated                            | rm) CONDUI                        | т 0         |                |              |              | 347        |          |               |
| 0.32 0.39<br>{Proposed Storm}.M<br>0.62 0.57<br>{Proposed Storm}.M | 0<br>1H 10 - MH 4<br>0<br>1H 11 - MH 12<br>0.40 | Calculated<br>(Proposed Sto<br>Calculated<br>(Proposed St<br>0 Calcu | rm) CONDUI<br>orm) CONDU<br>lated | T 0<br>IT ( | 12:15          | 1.33         | 1.00         | 347<br>0 4 | .53 5!   |               |

| 274.61    | 0.32      | 0.39      | 0 Calculate                   | ed          |         |      |      |        |        |
|-----------|-----------|-----------|-------------------------------|-------------|---------|------|------|--------|--------|
| {Proposed | Storm}.MH | 13 - MH 1 | L0 (Proposed Storm)           | ) CONDUIT 🤅 | ) 12:14 | 1.01 | 1.00 | 130.53 |        |
| 539.39    | 0.24      | 0.34      | 0 Calculate                   | ed          |         |      |      |        |        |
| {Proposed | Storm}.MH | 2 - MH 3  | (Proposed Storm) (            | CONDUIT 0   | 12:13   | 1.01 | 1.00 | 130.64 | 539.39 |
| 0.24      | 0.34      |           | Calculated                    |             |         |      |      |        |        |
| {Proposed | Storm}.MH | 3 - MH 4  | (Proposed Storm) (            | CONDUIT 0   | 12:14   | 1.08 | 1.00 | 171.60 | 539.39 |
| 0.32      | 0.39      | 0         | Calculated                    |             |         |      |      |        |        |
| {Proposed | Storm}.MH | 4 - POND  | (Proposed Storm) (            | CONDUIT 0   | 12:15   | 1.46 | 1.00 | 562.32 | 877.11 |
| 0.64      | 0.58      | 0         | Calculated                    |             |         |      |      |        |        |
| {Proposed | Storm}.MH | 5 - MH 2  | (Proposed Storm) (            | CONDUIT 0   | 12:13   | 0.77 | 1.00 | 43.57  | 138.14 |
| 0.32      | 0.39      | -         | Calculated                    |             |         |      |      |        |        |
| {Proposed | Storm}.MH | 7 - MH 88 | 3 (Proposed Storm)            | CONDUIT 0   | 12:14   | 0.91 | 1.00 | 87.03  | 297.50 |
| 0.29      | 0.37      | (         | O Calculated                  |             |         |      |      |        |        |
| {Proposed | Storm}.MH | 8 - MH 9  | (Proposed Storm) (            | CONDUIT 0   | 12:14   | 1.02 | 1.00 | 130.44 | 297.50 |
| 0.44      | 0.46      | -         | Calculated                    |             |         |      |      |        |        |
| {Proposed | Storm}.MH | 9 - MH 10 | <pre>0 (Proposed Storm)</pre> | CONDUIT 0   | 12:14   | 1.09 | 1.00 | 173.79 | 539.39 |
| 0.32      | 0.39      | -         | O Calculated                  |             |         |      |      |        |        |
| {Proposed | Storm}.MH |           | L (Proposed Storm)            | CONDUIT 0   | 12:13   | 0.77 | 1.00 | 43.57  | 138.14 |
| 0.32      | 0.39      | (         | O Calculated                  |             |         |      |      |        |        |
| Orifice-0 | 1         | ORIFICE   | 0 13:08                       |             | 265.41  |      |      |        |        |

Link {Proposed Storm}.MH 4 - POND (Proposed Storm) (1)

\*\*\*\*\*\*

Routing Time Step Summary

| Minimum Time S | Step | : | 30.00 sec |  |
|----------------|------|---|-----------|--|
| Average Time S | Step | : | 30.00 sec |  |
| Maximum Time S | Step | : | 30.00 sec |  |

Percent in Steady State : 0.00 Average Iterations per Step : 1.39

Analysis began on: Sun Jun 09 19:54:10 2024 Analysis ended on: Sun Jun 09 19:54:10 2024 Total elapsed time: < 1 sec Stormwater modelling output

EPA SWMM/Autodesk SSA

O Chippewa Avenue Development - Municipal portion

100 year return event

Autodesk<sup>®</sup> Storm and Sanitary Analysis 2016 - Version 13.0.94 (Build 0)

## \*\*\*\*\*

File Name ..... CHIPPEWA WITH STORM IMPORT.SPF
Description ..... S:\projects\2022\2278 Chippewa Ave Development\2278 Acad\Design\C3D-2278.03 P1 P2
P3 P4.dwg

#### \*\*\*\*\*

Analysis Options \*\*\*\*\*\*\*\*

| Flow Units                  | LPS                  |
|-----------------------------|----------------------|
| Subbasin Hydrograph Method. | EPA SWMM             |
| Infiltration Method         | Horton               |
| Link Routing Method         | Kinematic Wave       |
| Storage Node Exfiltration   | None                 |
| Starting Date               | JUN-09-2024 00:00:00 |
| Ending Date                 | JUN-10-2024 00:00:00 |
| Antecedent Dry Days         | 0.0                  |
| Report Time Step            | 00:05:00             |
| Wet Time Step               | 00:05:00             |
| Dry Time Step               | 01:00:00             |
| Routing Time Step           | 30.00 sec            |

### \*\*\*\*\*

| Number of links<br>Number of pollutar<br>Number of land use | nts 0    |        |          |           |                |
|-------------------------------------------------------------|----------|--------|----------|-----------|----------------|
| *****                                                       |          |        |          |           |                |
| Raingage Summary<br>*****                                   |          |        |          |           |                |
| Gage                                                        | Data     | Da     | ata      | Recording |                |
| ID                                                          | Source   | Ty     | уре      | Interval  | min            |
| 100-yr storm                                                | 100 YR   | <br>II | NTENSITY | 6.00      |                |
| 10-yr storm                                                 | 100 YR   | I      | NTENSITY | 6.00      |                |
| timmins                                                     | 100 YR   | I      | NTENSITY | 6.00      |                |
| *****                                                       |          |        |          |           |                |
| Subbasin Summary<br>*****                                   |          |        |          |           |                |
| Subbasin                                                    | Total    | Equiv. | Imperv.  | Average   | Raingage       |
|                                                             | Area     | Width  | Area     | Slope     |                |
| ID                                                          | hectares | m      | %        | %         |                |
| PRE DVLP                                                    | 7.31     | 100.00 | 0.00     | 1.2600    | <br>100-yr sto |
| Sub-05                                                      | 0.60     | 60.00  | 25.00    |           | 100-yr sto     |
| Sub-06                                                      | 0.60     | 40.00  | 25.00    |           | 100-yr sto     |
| Sub-07                                                      | 0.60     | 60.00  | 25.00    | 1.2600    | 100-yr sto     |
| Sub-08                                                      | 0.60     | 60.00  | 25.00    | 1.2600    | 100-yr sto     |
| Sub-09                                                      | 0.60     | 60.00  | 25.00    | 1.2600    | 100-yr sto     |
| Sub-10                                                      | 0.60     | 60.00  | 25.00    | 1.2600    | 100-yr sto     |
| Sub-11                                                      | 0.60     | 60.00  | 25.00    | 1.2600    | 100-yr sto     |
| C   10                                                      | 0.60     | ~~ ~~  |          | 4 9 4 9 9 | 4.0.0          |

0.60

0.60

0.60

60.00

60.00

60.00

25.00

25.00

25.00

Sub-12

Sub-13

Sub-14

Page: 2

1.2600

1.2600

1.2600

100-yr storm

100-yr storm

100-yr storm

| Sub-15 | 0.60 | 60.00 | 25.00 | 1.2600 | 100-yr storm |
|--------|------|-------|-------|--------|--------------|
| Sub-16 | 0.60 | 60.00 | 25.00 | 1.2600 | 100-yr storm |
| Sub-17 | 0.60 | 60.00 | 25.00 | 1.2600 | 100-yr storm |

# Node Summary \*\*\*\*\*

| EndNullStruct0JUNCTION0.000.000.00MH 1 (Proposed Storm)JUNCTION193.79195.600.00MH 10 (Proposed Storm)JUNCTION193.63195.600.00MH 11 (Proposed Storm)JUNCTION193.85195.640.00MH 12 (Proposed Storm)JUNCTION193.75196.270.00MH 13 (Proposed Storm)JUNCTION193.64195.700.00MH 2 (Proposed Storm)JUNCTION193.64195.700.00MH 3 (Proposed Storm)JUNCTION193.86196.210.00MH 4 (Proposed Storm)JUNCTION193.38194.940.00MH 5 (Proposed Storm)JUNCTION193.84196.270.00MH 6 (Proposed Storm)JUNCTION193.84196.200.00MH 7 (Proposed Storm)JUNCTION193.95196.680.00MH 8 (Proposed Storm)JUNCTION193.83194.880.00MH 8 (Proposed Storm)JUNCTION193.74196.100.00MH 9 (Proposed Storm)JUNCTION193.74196.100.00 | Node<br>ID                                                                                                                                                                                                                                                                    | Element<br>Type                                                                                                                                                                                             | Invert<br>Elevation<br>m                                                                                                                 |                                                                                                                                          |                                                                                                      |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|--|
| POND STORAGE 193.00 194.50 0.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | MH 1 (Proposed S<br>MH 10 (Proposed S<br>MH 11 (Proposed S<br>MH 12 (Proposed S<br>MH 2 (Proposed S<br>MH 2 (Proposed S<br>MH 3 (Proposed S<br>MH 4 (Proposed S<br>MH 5 (Proposed S<br>MH 6 (Proposed S<br>MH 7 (Proposed S<br>MH 8 (Proposed S<br>MH 9 (Proposed S<br>Out-01 | torm)JUNCTION<br>Storm)JUNCTION<br>Storm)JUNCTION<br>Storm)JUNCTION<br>torm)JUNCTION<br>torm)JUNCTION<br>torm)JUNCTION<br>torm)JUNCTION<br>torm)JUNCTION<br>torm)JUNCTION<br>torm)JUNCTION<br>torm)JUNCTION | 193.79<br>193.63<br>193.85<br>193.75<br>193.68<br>193.64<br>193.56<br>193.38<br>193.84<br>194.10<br>193.95<br>193.83<br>193.74<br>192.50 | 195.60<br>195.64<br>196.27<br>196.11<br>195.70<br>195.26<br>194.94<br>196.27<br>196.20<br>196.68<br>194.88<br>194.88<br>196.10<br>192.50 | 0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00 |  |

### \*\*\*\*\*

Link Summary \*\*\*\*\*

| Link | From Node | To Node | Element | Length | Slope | Manning's |
|------|-----------|---------|---------|--------|-------|-----------|
| ID   |           |         | Туре    | m      | %     | Roughness |

| <pre>{Proposed Storm}.MH 1 - MH 2 (Proposed Storm)MH 1 (Proposed Storm)MH 2 (Proposed Storm)CONDUIT<br/>0.2000 0.0120</pre> | 33.9    |
|-----------------------------------------------------------------------------------------------------------------------------|---------|
| {Proposed Storm}.MH 10 - MH 4 (Proposed Storm)MH 10 (Proposed Storm)MH 4 (Proposed Storm)CONDUIT                            |         |
| 87.0 0.2529 0.0130                                                                                                          |         |
| {Proposed Storm}.MH 11 - MH 12 (Proposed Storm)MH 11 (Proposed Storm)MH 12 (Proposed Storm)CONDUIT                          |         |
| 53.5 0.2000 0.0130                                                                                                          |         |
| {Proposed Storm}.MH 12 - MH 13 (Proposed Storm)MH 12 (Proposed Storm)MH 13 (Proposed Storm)CONDUIT                          |         |
| 64.0 0.2000 0.0130                                                                                                          |         |
| {Proposed Storm}.MH 13 - MH 10 (Proposed Storm)MH 13 (Proposed Storm)MH 10 (Proposed Storm)CONDUIT                          |         |
| 96.8 0.2000 0.0120                                                                                                          |         |
| {Proposed Storm}.MH 2 - MH 3 (Proposed Storm)MH 2 (Proposed Storm)MH 3 (Proposed Storm)CONDUIT                              | 81.9    |
| 0.2000 0.0120                                                                                                               |         |
| {Proposed Storm}.MH 3 - MH 4 (Proposed Storm)MH 3 (Proposed Storm)MH 4 (Proposed Storm)CONDUIT                              | 74.9    |
| 0.2000 0.0120                                                                                                               |         |
| {Proposed Storm}.MH 4 - POND (Proposed Storm)MH 4 (Proposed Storm)POND CONDUIT                                              | 25.0    |
| 0.2000 0.0120                                                                                                               |         |
| {Proposed Storm}.MH 5 - MH 2 (Proposed Storm)MH 5 (Proposed Storm)MH 2 (Proposed Storm)CONDUIT                              | 79.8    |
| 0.2000 0.0120                                                                                                               |         |
| {Proposed Storm}.MH 7 - MH 88 (Proposed Storm)MH 7 (Proposed Storm)MH 8 (Proposed Storm)CONDUIT                             | 99.8    |
|                                                                                                                             | 10 6    |
| {Proposed Storm}.MH 8 - MH 9 (Proposed Storm)MH 8 (Proposed Storm)MH 9 (Proposed Storm)CONDUIT                              | 40.6    |
| 0.2000 0.0120                                                                                                               |         |
| {Proposed Storm}.MH 9 - MH 10 (Proposed Storm)MH 9 (Proposed Storm)MH 10 (Proposed Storm)CONDUIT                            |         |
| 109.7 0.2000 0.0120                                                                                                         | 82.8    |
| {Proposed Storm}.MH 9 - MH 11 (Proposed Storm)MH 6 (Proposed Storm)MH 7 (Proposed Storm)CONDUIT<br>0.2000 0.0120            | 82.8    |
| Orifice-01 POND Out-01 ORIFICE                                                                                              |         |
| OFITICE-01 POND OUL-01 ORIFICE                                                                                              |         |
|                                                                                                                             |         |
| **********                                                                                                                  |         |
| Cross Section Summary                                                                                                       |         |
| *************                                                                                                               |         |
| Link Shape Depth/ Width No.of Cross Full Flow                                                                               | Design  |
| ID Diameter Barrels Sectional Hydraulic                                                                                     | Flow    |
|                                                                                                                             | Page: 4 |
|                                                                                                                             | rage. 4 |

| m m                                                                          |      | Area<br>m² | Radius<br>m | Capacity<br>LPS |
|------------------------------------------------------------------------------|------|------------|-------------|-----------------|
| {Proposed Storm}.MH 1 - MH 2 (Proposed Storm) CIRCULAR<br>0.11 138.14        | 0.45 | 0.45       | 1           | 0.16            |
| {Proposed Storm}.MH 10 - MH 4 (Proposed Storm) CIRCULAR<br>0.19 559.91       | 0.75 | 0.75       |             | 1 0.44          |
| {Proposed Storm}.MH 11 - MH 12 (Proposed Storm) CIRCULAR<br>0.16 0.11 127.51 | 0.45 | 0.45       |             | 1               |
| {Proposed Storm}.MH 12 - MH 13 (Proposed Storm) CIRCULAR<br>0.28 0.15 274.61 | 0.60 | 0.60       |             | 1               |
| {Proposed Storm}.MH 13 - MH 10 (Proposed Storm) CIRCULAR<br>0.44 0.19 539.39 | 0.75 | 0.75       |             | 1               |
| {Proposed Storm}.MH 2 - MH 3 (Proposed Storm) CIRCULAR<br>0.19 539.39        | 0.75 | 0.75       | 1           | 0.44            |
| {Proposed Storm}.MH 3 - MH 4 (Proposed Storm) CIRCULAR<br>0.19 539.39        | 0.75 | 0.75       | 1           |                 |
| <pre>{Proposed Storm}.MH 4 - POND (Proposed Storm) CIRCULAR</pre>            | 0.90 | 0.90       | 1           |                 |
| {Proposed Storm}.MH 5 - MH 2 (Proposed Storm) CIRCULAR<br>0.11 138.14        | 0.45 | 0.45       | 1           |                 |
| {Proposed Storm}.MH 7 - MH 88 (Proposed Storm) CIRCULAR<br>0.15 297.50       | 0.60 | 0.60       |             | 1 0.28          |
| {Proposed Storm}.MH 8 - MH 9 (Proposed Storm) CIRCULAR<br>0.15 297.50        | 0.60 | 0.60       | 1           |                 |
| {Proposed Storm}.MH 9 - MH 10 (Proposed Storm) CIRCULAR<br>0.19 539.39       | 0.75 | 0.75       |             | 1 0.44          |
| {Proposed Storm}.MH 9 - MH 11 (Proposed Storm) CIRCULAR<br>0.11 138.14       | 0.45 | 0.45       |             | 1 0.16          |

| *******                    | Volume    | Depth   |  |
|----------------------------|-----------|---------|--|
| Runoff Quantity Continuity | hectare-m | mm      |  |
| *******                    |           |         |  |
| Total Precipitation        | 1.584     | 104.363 |  |

| Evaporation Loss<br>Infiltration Loss<br>Surface Runoff<br>Final Surface Storage<br>Continuity Error (%) | 0.000<br>0.103<br>1.352<br>0.129<br>-0.052 | 0.000<br>6.793<br>89.100<br>8.524 |
|----------------------------------------------------------------------------------------------------------|--------------------------------------------|-----------------------------------|
| *******                                                                                                  | Volume                                     | Volume                            |
| Flow Routing Continuity **********                                                                       | hectare-m                                  | Mliters                           |
| Dry Weather Inflow                                                                                       | 0.000                                      | 0.000                             |
| Wet Weather Inflow                                                                                       | 1.350                                      | 13.503                            |
| Groundwater Inflow                                                                                       | 0.000                                      | 0.000                             |
| RDII Inflow                                                                                              | 0.000                                      | 0.000                             |
| External Inflow                                                                                          | 0.000                                      | 0.000                             |
| External Outflow                                                                                         | 1.346                                      | 13.460                            |
| Surface Flooding                                                                                         | 0.000                                      | 0.000                             |
| Evaporation Loss                                                                                         | 0.000                                      | 0.000                             |
| Initial Stored Volume                                                                                    | 0.000                                      | 0.000                             |
| Final Stored Volume                                                                                      | 0.002                                      | 0.021                             |
| Continuity Error (%)                                                                                     | 0.165                                      |                                   |

### 

 $Tc = (0.94 * (L^{0.6}) * (n^{0.6})) / ((i^{0.4}) * (S^{0.3}))$ 

### Where:

Tc = Time of Concentration (min)
L = Flow Length (ft)
n = Manning's Roughness

| i | = Rainfall In | tensity (in/hr) |
|---|---------------|-----------------|
| S | = Slope (ft/f | t)              |

-----

Subbasin PRE DVLP

-----

| Flow length (m):                                  | 731.20  |
|---------------------------------------------------|---------|
| Pervious Manning's Roughness:                     | 0.10000 |
| Impervious Manning's Roughness:                   | 0.40000 |
| Pervious Rainfall Intensity (mm/hr):              | 4.34846 |
| <pre>Impervious Rainfall Intensity (mm/hr):</pre> | 4.34846 |
| Slope (%):                                        | 1.26000 |
| Computed TOC (minutes):                           | 189.58  |

-----

Subbasin Sub-05

-----

| Flow length (m):                                  | 100.83  |
|---------------------------------------------------|---------|
| Pervious Manning's Roughness:                     | 0.10000 |
| Impervious Manning's Roughness:                   | 0.01500 |
| Pervious Rainfall Intensity (mm/hr):              | 4.34846 |
| <pre>Impervious Rainfall Intensity (mm/hr):</pre> | 4.34846 |
| Slope (%):                                        | 1.26000 |
| Computed TOC (minutes):                           | 48.59   |
|                                                   |         |

-----

Subbasin Sub-06

-----

| Flow length (m):                     | 151.25  |
|--------------------------------------|---------|
| Pervious Manning's Roughness:        | 0.10000 |
| Impervious Manning's Roughness:      | 0.01500 |
| Pervious Rainfall Intensity (mm/hr): | 4.34846 |

| Slope (%):                                            | Rainfall Intensity<br>C (minutes):                                                                             | (mm/hr): 4.34846<br>1.26000<br>61.98 |
|-------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|--------------------------------------|
| Subbasin Sub-07                                       |                                                                                                                |                                      |
| Impervious<br>Pervious Ra<br>Impervious<br>Slope (%): | (m):<br>nning's Roughness:<br>Manning's Roughness<br>infall Intensity (r<br>Rainfall Intensity<br>C (minutes): | nm/hr): 4.34846                      |
| Subbasin Sub-08                                       |                                                                                                                |                                      |
| Impervious<br>Pervious Ra<br>Impervious<br>Slope (%): | (m):<br>nning's Roughness:<br>Manning's Roughness<br>infall Intensity (r<br>Rainfall Intensity<br>C (minutes): | nm/hr): 4.34846                      |
| Subbasin Sub-09                                       |                                                                                                                |                                      |
|                                                       | (m):<br>nning's Roughness:<br>Manning's Roughness                                                              | 100.83<br>0.10000<br>s: 0.01500      |

| Pervious Rainfall Intensity (mm/hr):   | 4.34846 |
|----------------------------------------|---------|
| Impervious Rainfall Intensity (mm/hr): | 4.34846 |
| Slope (%):                             | 1.26000 |
| Computed TOC (minutes):                | 48.59   |
| Subbasin Sub-10                        |         |
| Flow length (m):                       | 100.83  |
| Pervious Manning's Roughness:          | 0.10000 |
| Impervious Manning's Roughness:        | 0.01500 |
| Pervious Rainfall Intensity (mm/hr):   | 4.34846 |
| Impervious Rainfall Intensity (mm/hr): | 4.34846 |
| Slope (%):                             | 1.26000 |
| Computed TOC (minutes):                | 48.59   |
| Subbasin Sub-11                        |         |
| Flow length (m):                       | 100.83  |
| Pervious Manning's Roughness:          | 0.10000 |
| Impervious Manning's Roughness:        | 0.01500 |
| Pervious Rainfall Intensity (mm/hr):   | 4.34846 |
| Impervious Rainfall Intensity (mm/hr): | 4.34846 |
| Slope (%):                             | 1.26000 |
| Computed TOC (minutes):                | 48.59   |
| Subbasin Sub-12                        |         |
| Flow length (m):                       | 100.83  |
| Pervious Manning's Roughness:          | 0.10000 |

| Impervious Manning's Roughness:<br>Pervious Rainfall Intensity (mm/hr):<br>Impervious Rainfall Intensity (mm/hr):<br>Slope (%):<br>Computed TOC (minutes):                                                      | 0.01500<br>4.34846<br>4.34846<br>1.26000<br>48.59                      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| Subbasin Sub-13                                                                                                                                                                                                 |                                                                        |
|                                                                                                                                                                                                                 |                                                                        |
| Flow length (m):<br>Pervious Manning's Roughness:<br>Impervious Manning's Roughness:<br>Pervious Rainfall Intensity (mm/hr):<br>Impervious Rainfall Intensity (mm/hr):<br>Slope (%):<br>Computed TOC (minutes): | 100.83<br>0.10000<br>0.01500<br>4.34846<br>4.34846<br>1.26000<br>48.59 |
| Subbasin Sub-14                                                                                                                                                                                                 |                                                                        |
| Flow length (m):<br>Pervious Manning's Roughness:<br>Impervious Manning's Roughness:<br>Pervious Rainfall Intensity (mm/hr):<br>Impervious Rainfall Intensity (mm/hr):<br>Slope (%):<br>Computed TOC (minutes): | 100.83<br>0.10000<br>0.01500<br>4.34846<br>4.34846<br>1.26000<br>48.59 |
| Subbasin Sub-15                                                                                                                                                                                                 |                                                                        |
| Flow length (m):                                                                                                                                                                                                | 100.83                                                                 |

| Pervious Manning's Roughness:<br>Impervious Manning's Roughness:<br>Pervious Rainfall Intensity (mm/l<br>Impervious Rainfall Intensity (mm<br>Slope (%):<br>Computed TOC (minutes):                     |   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| Subbasin Sub-16                                                                                                                                                                                         |   |
|                                                                                                                                                                                                         |   |
| Flow length (m):<br>Pervious Manning's Roughness:<br>Impervious Manning's Roughness:<br>Pervious Rainfall Intensity (mm/l<br>Impervious Rainfall Intensity (mm<br>Slope (%):<br>Computed TOC (minutes): |   |
| Subbasin Sub-17                                                                                                                                                                                         |   |
| Subbasin Sub-1/                                                                                                                                                                                         |   |
| Flow length (m):<br>Pervious Manning's Roughness:<br>Impervious Manning's Roughness:<br>Pervious Rainfall Intensity (mm/M<br>Impervious Rainfall Intensity (mm<br>Slope (%):<br>Computed TOC (minutes): | • |

| Subbasin | Total    | Total | Total | Total  | Total  | Peak   | Runoff      |      | Time of   |
|----------|----------|-------|-------|--------|--------|--------|-------------|------|-----------|
| ID       | Rainfall | Runon | Evap. | Infil. | Runoff | Runoff | Coefficient | Conc | entration |
|          | mm       | mm    | mm    | mm     | mm     | LPS    |             | days | hh:mm:ss  |
| PRE DVLP | 104.36   | 0.00  | 0.00  | 4.21   | 88.13  | 467.06 | 0.844       |      | 03:09:34  |
| Sub-05   | 104.36   | 0.00  | 0.00  | 9.19   | 90.02  | 65.76  | 0.863       | 0    | 00:48:35  |
| Sub-06   | 104.36   | 0.00  | 0.00  | 9.19   | 89.72  | 62.78  | 0.860       | 0    | 01:01:58  |
| Sub-07   | 104.36   | 0.00  | 0.00  | 9.19   | 90.02  | 65.76  | 0.863       | 0    | 00:48:35  |
| Sub-08   | 104.36   | 0.00  | 0.00  | 9.19   | 90.02  | 65.76  | 0.863       | 0    | 00:48:35  |
| Sub-09   | 104.36   | 0.00  | 0.00  | 9.19   | 90.02  | 65.76  | 0.863       | 0    | 00:48:35  |
| Sub-10   | 104.36   | 0.00  | 0.00  | 9.19   | 90.02  | 65.76  | 0.863       | 0    | 00:48:35  |
| Sub-11   | 104.36   | 0.00  | 0.00  | 9.19   | 90.02  | 65.76  | 0.863       | 0    | 00:48:35  |
| Sub-12   | 104.36   | 0.00  | 0.00  | 9.19   | 90.02  | 65.76  | 0.863       | 0    | 00:48:35  |
| Sub-13   | 104.36   | 0.00  | 0.00  | 9.19   | 90.02  | 65.76  | 0.863       | 0    | 00:48:35  |
| Sub-14   | 104.36   | 0.00  | 0.00  | 9.19   | 90.02  | 65.76  | 0.863       | 0    | 00:48:35  |
| Sub-15   | 104.36   | 0.00  | 0.00  | 9.19   | 90.02  | 65.76  | 0.863       | 0    | 00:48:35  |
| Sub-16   | 104.36   | 0.00  | 0.00  | 9.19   | 90.02  | 65.76  | 0.863       | 0    | 00:48:35  |
| Sub-17   | 104.36   | 0.00  | 0.00  | 9.19   | 90.02  | 65.76  | 0.863       | 0    | 00:48:35  |

Node Depth Summary \*\*\*\*\*\*\*\*\*

| Node<br>ID                       | Average<br>Depth<br>Attained | Maximum<br>Depth<br>Attained | Maximum<br>HGL<br>Attained | iL Occurrence |               | Total<br>Flooded<br>Volume | Total<br>Time<br>Flooded | Retention<br>Time    |  |
|----------------------------------|------------------------------|------------------------------|----------------------------|---------------|---------------|----------------------------|--------------------------|----------------------|--|
|                                  | m                            | m                            | m                          | days          | hh:mm         | ha-mm                      | minutes                  | hh:mm:ss             |  |
| EndNullStruct0<br>MH 1 (Proposed |                              | 0.00<br>0.05                 | 0.00<br>0.22 194           | 0<br>4.01     | 00:00<br>0 12 | 0<br>2:12                  | 0                        | 0:00:00<br>0 0:00:00 |  |

| MH 10 (Proposed Storm) | 0.13   | 0.58  | 194.21 | (     | ) 12:13 |   | 0 | 0   | 0:00:00 |
|------------------------|--------|-------|--------|-------|---------|---|---|-----|---------|
| MH 11 (Proposed Storm) | 0.05   | 0.23  | 194.08 | (     | ) 12:12 |   | 0 | 0   | 0:00:00 |
| MH 12 (Proposed Storm) | 0.10   | 0.29  | 194.04 | (     | ) 12:12 |   | 0 | 0   | 0:00:00 |
| MH 13 (Proposed Storm) | 0.12   | 0.36  | 194.04 | (     | ) 12:12 |   | 0 | 0   | 0:00:00 |
| MH 2 (Proposed Storm)  | 0.15   | 0.32  | 193.96 | 0     | 12:12   | e | ) | 0   | 0:00:00 |
| MH 3 (Proposed Storm)  | 0.10   | 0.37  | 193.93 | 0     | 12:13   | e |   | 0   | 0:00:00 |
| MH 4 (Proposed Storm)  | 0.26   | 0.71  | 194.09 | 0     | 12:13   | e |   | 0   | 0:00:00 |
| MH 5 (Proposed Storm)  | 0.05   | 0.22  | 194.06 | 0     | 12:12   | e |   | 0   | 0:00:00 |
| MH 6 (Proposed Storm)  | 0.05   | 0.22  | 194.32 | 0     | 12:12   | e | ) | 0   | 0:00:00 |
| MH 7 (Proposed Storm)  | 0.10   | 0.28  | 194.23 | 0     | 12:12   | e | ) | 0   | 0:00:00 |
| MH 8 (Proposed Storm)  | 0.10   | 0.36  | 194.19 | 0     | 12:12   | e |   | 0   | 0:00:00 |
| MH 9 (Proposed Storm)  | 0.13   | 0.41  | 194.15 | 0     | 12:13   | e | ) | 0   | 0:00:00 |
| Out-01 0.00            | 9 0.00 | 9 192 | .50    | 00:00 | 30      | 0 | 0 | 0:0 | 0:00    |
| POND 0.1               | 5 1.19 | 9 194 | .19    | ð 12: | 58      | 0 | 0 | 0:0 | 0:00    |

Node Flow Summary \*\*\*\*\*\*\*\*

| Node            | Element         | Maximum | Peak   | Time      | of Maximun  | I Time of Peak |
|-----------------|-----------------|---------|--------|-----------|-------------|----------------|
| ID              | Type            | Lateral | Inflow | Peak Infl | ow Flooding | Flooding       |
|                 |                 | Inflow  |        | Occurren  | ce Overflow |                |
|                 |                 | LPS     | LPS    |           | mm LPS      |                |
|                 |                 | LIJ     | LIJ    | aays ini. | 213         |                |
| EndNullStruct0  | JUNCTION        | 0.00    | 0.00   | 0 00:     | 00 0.00     | )              |
| MH 1 (Proposed  | Storm) JUNCTION | 65.76   | 65.76  | 0 12      | :12 0.6     | 0              |
| MH 10 (Proposed | Storm) JUNCTION | 65.76   | 524.10 | 0 1       | 2:13 0.     | 00             |
| MH 11 (Proposed | Storm) JUNCTION | 65.76   | 65.76  | 501       | 2:12 0.     | 00             |
| MH 12 (Proposed | Storm) JUNCTION | 65.76   | 131.33 | 3 0 1     | 2:12 0.     | 00             |
| MH 13 (Proposed | Storm) JUNCTION | 65.76   | 196.81 | L 01      | 2:12 0.     | 00             |
| MH 2 (Proposed  | Storm) JUNCTION | 65.76   | 196.97 | 0 12      | :12 0.0     | 0              |
| MH 3 (Proposed  | Storm) JUNCTION | 62.78   | 259.53 | 0 12      | :13 0.0     | 0              |
| MH 4 (Proposed  | Storm) JUNCTION | 65.76   | 848.50 | 0 12      | :13 0.0     | 0              |

| MH 5 (Proposed                         | Storm) JUNCTION    | 65.76  | 65.76   | 0     | 12:12  | 0.00         |         |         |
|----------------------------------------|--------------------|--------|---------|-------|--------|--------------|---------|---------|
| MH 6 (Proposed                         | Storm) JUNCTION    | 65.76  | 65.76   | 0     | 12:12  | 0.00         |         |         |
| MH 7 (Proposed                         | Storm) JUNCTION    | 65.76  | 131.27  | 0     | 12:12  | 0.00         |         |         |
| MH 8 (Proposed                         | Storm) JUNCTION    | 65.76  | 196.65  | 0     | 12:12  | 0.00         |         |         |
| MH 9 (Proposed                         | Storm) JUNCTION    | 65.76  | 262.18  | 0     | 12:12  | 0.00         |         |         |
| Out-01                                 | OUTFALL            | 467.06 | 932.90  | 0     | 12:48  | 0.00         |         |         |
| POND                                   | STORAGE            | 0.00   | 848.51  | 0     | 12:14  | 0.00         |         |         |
| ************************************** | ımmary             |        |         |       |        |              |         |         |
| Storage Node ID                        | ) Maximum<br>Total | Maximu | ım Time | of Ma | ax Ave | rage Average | Maximum | Maximum |

| Storage Nod     |            | Maximum      | Maximum | Time of Max | Average | Average | Maximum      | Maximum      |
|-----------------|------------|--------------|---------|-------------|---------|---------|--------------|--------------|
| Time of Max.    | Tota       | Ponded       | Ponded  | Ponded      | Ponded  | Ponded  | Storage Node | Exfiltration |
| Exfiltration    | Exfiltrate | ed<br>Volume | Volume  | Volume      | Volume  | Volume  | Outflow      | Rate         |
| Rate            | Volume     | 1000 m³      | (%)     | days hh:mm  | 1000 m³ | (%)     | LPS          | cmm          |
| hh:mm:ss        | 1000 m³    |              |         |             |         |         |              |              |
|                 |            |              |         |             |         |         |              |              |
| POND<br>0:00:00 | 0.000      | 1.575        | 74      | 0 12:58     | 0.151   | 7       | 472.43       | 0.00         |

Outfall Loading Summary \*\*\*\*\*\*\*\*\*\*\*\*

| Outfall Node ID | Flow<br>Frequency<br>(%) | Average<br>Flow<br>LPS | Peak<br>Inflow<br>LPS |
|-----------------|--------------------------|------------------------|-----------------------|
| Out-01          | 97.29                    | 160.08                 | 932.90                |
| System          | 97.29                    | 160.08                 | 932.90                |

Link Flow Summary \*\*\*\*\*\*\*

| Link ID                                                            | Element                                       | Time of                                                              | Maximum                           | length      | Peak Flow      | Πa           | cian         | Ratio of   | Ratio o       | f                |
|--------------------------------------------------------------------|-----------------------------------------------|----------------------------------------------------------------------|-----------------------------------|-------------|----------------|--------------|--------------|------------|---------------|------------------|
| Total Reported                                                     | Licilicite                                    | Time of                                                              | Haximum                           | Lengen      | I COR I I OW   |              | 31811        |            | Nacio o       | •                |
| · · · · · · · · · · · · · · · · · · ·                              | Туре                                          | Peak Flow                                                            | Velocity                          | Factor      | during         |              | Flow         | Maximum    | Maximu        | m                |
| Time Condition                                                     |                                               |                                                                      | -                                 |             | -              |              |              |            |               |                  |
|                                                                    |                                               | Occurrence                                                           | Attained                          |             | Analysis       | Сара         | city         | /Design    | Flo           | W                |
| Surcharged                                                         |                                               |                                                                      |                                   |             |                |              |              | <b>[]</b>  | Davet         | la .             |
| ninutes                                                            |                                               | days hh:mm                                                           | m/sec                             |             | LPS            |              | LPS          | Flow       | Dept          | n                |
| IIIIIIII                                                           |                                               |                                                                      |                                   |             |                |              |              |            |               |                  |
|                                                                    |                                               |                                                                      |                                   |             |                |              |              |            |               |                  |
|                                                                    |                                               |                                                                      |                                   |             |                |              |              |            |               |                  |
|                                                                    |                                               |                                                                      |                                   |             |                |              |              |            |               |                  |
| <pre>{Proposed Storm}.M</pre>                                      | •                                             | •                                                                    | m) CONDUIT                        |             | 12:12          | 0.86         | 1.00         | 65.        | <br>71        | <br>138.14       |
| 0.48 0.49                                                          | 0                                             | Calculated                                                           | ·                                 |             |                |              |              |            |               |                  |
| 0.48 0.49<br>{Proposed Storm}.M                                    | 0<br>H 10 - MH 4                              | Calculated<br>(Proposed Sto                                          | ·                                 |             | 12:12<br>12:14 | 0.86<br>1.44 | 1.00<br>1.00 |            | <br>71<br>.97 | 138.14<br>559.91 |
| 0.48 0.49<br>{Proposed Storm}.M<br>0.94 0.77                       | 0<br>H 10 - MH 4<br>0                         | Calculated<br>(Proposed Sto<br>Calculated                            | rm) CONDUI                        | г 0         | 12:14          | 1.44         | 1.00         | 523        | .97           |                  |
| 0.48 0.49<br>{Proposed Storm}.M<br>0.94 0.77<br>{Proposed Storm}.M | 0<br>H 10 - MH 4<br>0                         | Calculated<br>(Proposed Sto<br>Calculated                            | rm) CONDUI<br>orm) CONDU          | г 0         |                |              |              | 523        |               |                  |
| 0.48 0.49<br>{Proposed Storm}.M<br>0.94 0.77<br>{Proposed Storm}.M | 0<br>H 10 - MH 4<br>0<br>H 11 - MH 12<br>0.51 | Calculated<br>(Proposed Sto<br>Calculated<br>(Proposed St<br>0 Calcu | rm) CONDUI<br>orm) CONDU<br>lated | г 0<br>IT ( | 12:14          | 1.44         | 1.00         | 523<br>0 6 | .97           |                  |

| 274.61 0.48        | •••••                | Calculated        | -    |           |      |      |        |        |
|--------------------|----------------------|-------------------|------|-----------|------|------|--------|--------|
|                    | H 13 - MH 10 (Propos | •                 | 0    | 12:13     | 1.13 | 1.00 | 196.74 |        |
| 539.39 0.36        | ••••                 | Calculated        | 0 44 |           |      | 4 00 | 106.00 |        |
|                    | H 2 - MH 3 (Proposed | •                 | 0 12 | 2:13      | 1.13 | 1.00 | 196.89 | 539.39 |
| 0.37 0.42          | 0 Calculat           |                   |      |           |      |      |        |        |
| {Proposed Storm}.M | H 3 - MH 4 (Proposed | d Storm) CONDUIT  | 0 12 | 2:13      | 1.21 | 1.00 | 259.45 | 539.39 |
| 0.48 0.49          | 0 Calcula            | ted               |      |           |      |      |        |        |
| {Proposed Storm}.M | H 4 - POND (Proposed | d Storm) CONDUIT  | 0 12 | 2:14      | 1.57 | 1.00 | 848.51 | 877.11 |
| 0.97 0.79          | 0 Calcula            | ted               |      |           |      |      |        |        |
| {Proposed Storm}.M | H 5 - MH 2 (Proposed | d Storm) CONDUIT  | 0 12 | 2:12      | 0.86 | 1.00 | 65.67  | 138.14 |
| 0.48 0.49          | 0 Calcula            | ted               |      |           |      |      |        |        |
| {Proposed Storm}.M | H 7 - MH 88 (Propose | ed Storm) CONDUIT | 0 1  | 12:13     | 1.02 | 1.00 | 131.19 | 297.50 |
| 0.44 0.46          | 0 Calcula            | ated              |      |           |      |      |        |        |
| {Proposed Storm}.M | H 8 - MH 9 (Propose  | d Storm) CONDUIT  | 0 12 | 2:13      | 1.12 | 1.00 | 196.64 | 297.50 |
| 0.66 0.59          | 0 Calcula            | ,                 |      |           |      |      |        |        |
| {Proposed Storm}.M | H 9 - MH 10 (Propos  | ed Storm) CONDUIT | 0 1  | 12:13     | 1.21 | 1.00 | 262.05 | 539.39 |
| 0.49 0.49          | 0 Calcula            | •                 |      |           |      |      |        |        |
|                    | H 9 - MH 11 (Propos  |                   | 0 -  | 12:12     | 0.86 | 1.00 | 65,66  | 138.14 |
| 0.48 0.49          | 0 Calcula            | •                 | 5.   |           | 0.00 |      |        |        |
| Orifice-01         |                      | 12:58             |      | 472.43    |      |      |        |        |
| J. I. ICC VI       |                      | 12.30             |      | 17 2 • 75 |      |      |        |        |

Highest Flow Instability Indexes

Link {Proposed Storm}.MH 10 - MH 4 (Proposed Storm) (1)

\*\*\*\*\*\*

Average Iterations per Step : 1.46

Analysis began on: Sun Jun 09 19:38:06 2024 Analysis ended on: Sun Jun 09 19:38:06 2024 Total elapsed time: < 1 sec Stormwater modelling output

EPA SWMM/Autodesk SSA

O Chippewa Avenue Development - Municipal portion

Regional Storm event

Autodesk<sup>®</sup> Storm and Sanitary Analysis 2016 - Version 13.0.94 (Build 0)

## \*\*\*\*\*

File Name ..... CHIPPEWA WITH STORM IMPORT.SPF
Description ..... S:\projects\2022\2278 Chippewa Ave Development\2278 Acad\Design\C3D-2278.03 P1 P2
P3 P4.dwg

#### \*\*\*\*\*

Analysis Options \*\*\*\*\*\*\*\*

| Flow Units                  | LPS                  |
|-----------------------------|----------------------|
| Subbasin Hydrograph Method. | EPA SWMM             |
| Infiltration Method         | Horton               |
| Link Routing Method         | Kinematic Wave       |
| Storage Node Exfiltration   | None                 |
| Starting Date               | JUN-09-2024 00:00:00 |
| Ending Date                 | JUN-10-2024 00:00:00 |
| Antecedent Dry Days         | 0.0                  |
| Report Time Step            | 00:05:00             |
| Wet Time Step               | 00:05:00             |
| Dry Time Step               | 01:00:00             |
| Routing Time Step           | 30.00 sec            |

#### \*\*\*\*\*

| Number of links .<br>Number of polluta<br>Number of land us | nts 0         |                 |                 |           |                |
|-------------------------------------------------------------|---------------|-----------------|-----------------|-----------|----------------|
| *****                                                       |               |                 |                 |           |                |
| Raingage Summary<br>******                                  |               |                 |                 |           |                |
| Gage                                                        | Data          | Da              | ata             | Recording |                |
| ID                                                          | Source        | Ту              | ype             | Interval  |                |
|                                                             |               |                 |                 |           | min            |
| 100-yr storm                                                | timmins       | <br>II          | NTENSITY        | 6.00      |                |
| 10-yr storm                                                 | timmins       | IL              | NTENSITY        | 6.00      |                |
| timmins                                                     | timmins       | I               | NTENSITY        | 6.00      |                |
| ******************<br>Subbasin                              | Total<br>Area | Equiv.<br>Width | Imperv.<br>Area | 0         | Raing          |
| ID                                                          | hectares      | m               | %               | %         |                |
| PRE DVLP                                                    | 7.31          | 100.00          | 0.00            | 1.2600    | timmi          |
| Sub-05                                                      | 0.60          | 60.00           | 25.00           | 1.2600    | timmi          |
| Sub-06                                                      | 0.60          | 40.00           | 25.00           | 1.2600    | timmi          |
| Sub-07                                                      | 0.60          | 60.00           | 25.00           | 1.2600    | timmi          |
| Sub-08                                                      | 0.60          | 60.00           | 25.00           | 1.2600    | timmi          |
| Sub-09                                                      | 0.60          | 60.00           | 25.00           |           | timmi          |
| Sub-10                                                      | 0.60          | 60.00           | 25.00           |           | timmi          |
| Sub-11                                                      | 0.60          | 60.00           | 25.00           |           | timmi          |
| Sub-12                                                      | 0.60          | 60.00           | 25.00           |           | timmi          |
|                                                             |               |                 |                 |           |                |
| Sub-13<br>Sub-14                                            | 0.60<br>0.60  | 60.00<br>60.00  | 25.00<br>25.00  |           | timmi<br>timmi |

| Sub-15 | 0.60 | 60.00 | 25.00 | 1.2600 | timmins |
|--------|------|-------|-------|--------|---------|
| Sub-16 | 0.60 | 60.00 | 25.00 | 1.2600 | timmins |
| Sub-17 | 0.60 | 60.00 | 25.00 | 1.2600 | timmins |

#### \*\*\*\*\*\*

## Node Summary \*\*\*\*\*

| Node<br>ID                                                                                                                                                         | Element<br>Type                                                                                                                    | Invert<br>Elevation<br>m             | Maximum<br>Elev.<br>m                                                                          |                                                             | External<br>Inflow |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|------------------------------------------------------------------------------------------------|-------------------------------------------------------------|--------------------|
| MH 10 (Proposed<br>MH 11 (Proposed<br>MH 12 (Proposed<br>MH 13 (Proposed<br>MH 2 (Proposed<br>MH 3 (Proposed<br>MH 4 (Proposed<br>MH 5 (Proposed<br>MH 6 (Proposed | Storm)JUNCTION<br>d Storm)JUNCTION<br>d Storm)JUNCTION<br>d Storm)JUNCTION<br>d Storm)JUNCTION<br>Storm)JUNCTION<br>Storm)JUNCTION | 0.00<br>193.79                       | 0.00<br>195.60<br>195.64<br>196.27<br>196.11<br>195.70<br>195.26<br>194.94<br>196.27<br>196.20 | 0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.0 |                    |
| • •                                                                                                                                                                | Storm)JUNCTION<br>Storm)JUNCTION<br>OUTFALL<br>STORAGE                                                                             | 193.83<br>193.74<br>192.50<br>193.00 | 196.10<br>192.50                                                                               | 0.00<br>0.00                                                |                    |

#### \*\*\*\*\*\*\*

Link Summary \*\*\*\*\*

| Link | From Node | To Node | Element | Length | Slope | Manning's |
|------|-----------|---------|---------|--------|-------|-----------|
| ID   |           |         | Туре    | m      | %     | Roughness |

| {Proposed Storm}.MH 1 -        | MH 2 (Proposed Storm)                  | 1H 1 (Propose | ed Storm)MH  | 2 (Proposed S | torm)CONDUIT     | 33.9    |
|--------------------------------|----------------------------------------|---------------|--------------|---------------|------------------|---------|
| 0.2000 0.0120                  |                                        |               |              | _             |                  |         |
| {Proposed Storm}.MH 10 -       | • MH 4 (Proposed Storm)                | )MH 10 (Propo | osed Storm)M | H 4 (Proposed | Storm)CONDUIT    |         |
| 87.0 0.2529 0.0130             |                                        |               |              |               |                  |         |
| {Proposed Storm}.MH 11 -       | • MH 12 (Proposed Storm                | n)MH 11 (Prop | osed Storm)  | MH 12 (Propos | ed Storm)CONDUIT |         |
| 53.5 0.2000 0.0130             | )                                      |               |              |               |                  |         |
| {Proposed Storm}.MH 12 -       | • MH 13 (Proposed Storm                | n)MH 12 (Prop | osed Storm)  | MH 13 (Propos | ed Storm)CONDUIT |         |
| 64.0 0.2000 0.0130             | )                                      |               |              |               |                  |         |
| {Proposed Storm}.MH 13 -       | MH 10 (Proposed Storm                  | n)MH 13 (Prop | osed Storm)  | MH 10 (Propos | ed Storm)CONDUIT |         |
| 96.8 0.2000 0.0120             | • •                                    | , , ,         |              | · ·           | •                |         |
| {Proposed Storm}.MH 2 -        | MH 3 (Proposed Storm)                  | 4H 2 (Propose | ed Storm)MH  | 3 (Proposed S | torm)CONDUIT     | 81.9    |
| 0.2000 0.0120                  |                                        |               | ,            |               | ,                |         |
| {Proposed Storm}.MH 3 -        | MH 4 (Proposed Storm)                  | MH 3 (Propose | ed Storm)MH  | 4 (Proposed S | torm)CONDUIT     | 74.9    |
| 0.2000 0.0120                  | ( ,                                    | - 、           | ,            | <b>、</b> - F  | ,                |         |
| {Proposed Storm}.MH 4 -        | POND (Proposed Storm)                  | MH 4 (Propose | d Storm)PON  | D             | CONDUIT          | 25.0    |
| 0.2000 0.0120                  | · · · · · · · · · · · · · · · · · · ·  |               | ,,.          |               |                  |         |
| {Proposed Storm}.MH 5 -        | MH 2 (Proposed Storm)                  | MH 5 (Propose | d Storm)MH   | 2 (Proposed S | torm)CONDUIT     | 79.8    |
| 0.2000 0.0120                  |                                        |               |              | - (           |                  |         |
| {Proposed Storm}.MH 7 -        | MH 88 (Proposed Storm)                 | MH 7 (Propos  | sed Storm)MH | 8 (Proposed   | Storm)CONDUIT    | 99.8    |
| 0.2000 0.0120                  | ······································ | ,             | ····,···,··· | - (           |                  |         |
| {Proposed Storm}.MH 8 -        | MH 9 (Proposed Storm)                  | MH 8 (Propose | d Storm)MH   | 9 (Proposed S | torm)CONDUIT     | 40.6    |
| 0.2000 0.0120                  | ······································ |               |              | - (epeece     |                  |         |
| {Proposed Storm}.MH 9 -        | MH 10 (Proposed Storm)                 | MH 9 (Propo   | sed Storm)MH | 10 (Proposed  | Storm)CONDUTT    |         |
| 109.7 0.2000 0.012             | · · · · ·                              | , (epe        |              | ( op ====     |                  |         |
| {Proposed Storm}.MH 9 -        |                                        | MH 6 (Propo   | sed Storm)MH | 7 (Pronosed   | Storm)CONDUIT    | 82.8    |
| 0.2000 0.0120                  |                                        |               |              | , (IT oposed  | Scormyconborr    | 02.0    |
| Orifice-01 POND                | Out-01                                 | ORIFICE       |              |               |                  |         |
|                                | 001-01                                 | UNIT ICE      |              |               |                  |         |
|                                |                                        |               |              |               |                  |         |
| *****                          |                                        |               |              |               |                  |         |
| Cross Section Summary ******** |                                        |               |              |               |                  |         |
| Link Shape                     | Depth/                                 | Width         | No. of       | Cross         | Full Flow        | Design  |
| ID                             | Diameter                               | MIGCH         | Barrels      | Sectional     | Hydraulic        | Flow    |
| τ <b>υ</b>                     | Drameter                               |               | Daillers     | Sectional     | ilyul autic      |         |
|                                |                                        |               |              |               |                  | Page: 4 |
|                                |                                        |               |              |               |                  |         |

| m m                                                                          |      | Area<br>m² | Radius<br>m | Capacity<br>LPS |
|------------------------------------------------------------------------------|------|------------|-------------|-----------------|
| {Proposed Storm}.MH 1 - MH 2 (Proposed Storm) CIRCULAR<br>0.11 138.14        | 0.45 | 0.45       | 1           | 0.16            |
| {Proposed Storm}.MH 10 - MH 4 (Proposed Storm) CIRCULAR<br>0.19 559.91       | 0.75 | 0.75       |             | 1 0.44          |
| {Proposed Storm}.MH 11 - MH 12 (Proposed Storm) CIRCULAR<br>0.16 0.11 127.51 | 0.45 | 0.45       |             | 1               |
| {Proposed Storm}.MH 12 - MH 13 (Proposed Storm) CIRCULAR<br>0.28 0.15 274.61 | 0.60 | 0.60       |             | 1               |
| {Proposed Storm}.MH 13 - MH 10 (Proposed Storm) CIRCULAR<br>0.44 0.19 539.39 | 0.75 | 0.75       |             | 1               |
| {Proposed Storm}.MH 2 - MH 3 (Proposed Storm) CIRCULAR<br>0.19 539.39        | 0.75 | 0.75       | 1           | 0.44            |
| {Proposed Storm}.MH 3 - MH 4 (Proposed Storm) CIRCULAR<br>0.19 539.39        | 0.75 | 0.75       | 1           | 0.44            |
| {Proposed Storm}.MH 4 - POND (Proposed Storm) CIRCULAR<br>0.23 877.11        | 0.90 | 0.90       | 1           |                 |
| {Proposed Storm}.MH 5 - MH 2 (Proposed Storm) CIRCULAR<br>0.11 138.14        | 0.45 | 0.45       | 1           |                 |
| {Proposed Storm}.MH 7 - MH 88 (Proposed Storm) CIRCULAR<br>0.15 297.50       | 0.60 | 0.60       |             | 1 0.28          |
| {Proposed Storm}.MH 8 - MH 9 (Proposed Storm) CIRCULAR<br>0.15 297.50        | 0.60 | 0.60       | 1           |                 |
| {Proposed Storm}.MH 9 - MH 10 (Proposed Storm) CIRCULAR<br>0.19 539.39       | 0.75 | 0.75       |             | 1 0.44          |
| {Proposed Storm}.MH 9 - MH 11 (Proposed Storm) CIRCULAR<br>0.11 138.14       | 0.45 | 0.45       |             | 1 0.16          |

| ******                     | Volume    | Depth   |
|----------------------------|-----------|---------|
| Runoff Quantity Continuity | hectare-m | mm      |
| *******                    |           |         |
| Total Precipitation        | 2.875     | 189.404 |

| Evaporation Loss0.000Infiltration Loss0.105Surface Runoff2.713Final Surface Storage0.055Continuity Error (%)0.016 | 6.950<br>178.774<br>3.649 |
|-------------------------------------------------------------------------------------------------------------------|---------------------------|
| ************************ Volume                                                                                   | Volume                    |
| Flow Routing Continuity hectare-m                                                                                 | Mliters                   |
| ***************                                                                                                   |                           |
| Dry Weather Inflow 0.000                                                                                          | 0.000                     |
| Wet Weather Inflow 2.714                                                                                          | 27.142                    |
| Groundwater Inflow 0.000                                                                                          | 0.000                     |
| RDII Inflow                                                                                                       | 0.000                     |
| External Inflow 0.000                                                                                             | 0.000                     |
| External Outflow 2.709                                                                                            | 27.094                    |
| Surface Flooding 0.000                                                                                            | 0.000                     |
| Evaporation Loss 0.000                                                                                            | 0.000                     |
| Initial Stored Volume 0.000                                                                                       | 0.000                     |
| Final Stored Volume 0.000                                                                                         | 0.000                     |
| Continuity Error (%) 0.178                                                                                        |                           |

#### 

 $Tc = (0.94 * (L^{0.6}) * (n^{0.6})) / ((i^{0.4}) * (S^{0.3}))$ 

#### Where:

Tc = Time of Concentration (min)
L = Flow Length (ft)
n = Manning's Roughness

| i | = Rainfall I | Intensity | (in/hr) |
|---|--------------|-----------|---------|
| S | = Slope (ft/ | ′ft)      |         |

-----

Subbasin PRE DVLP

-----

| Flow length (m):                                  | 731.20   |
|---------------------------------------------------|----------|
| Pervious Manning's Roughness:                     | 0.10000  |
| Impervious Manning's Roughness:                   | 0.40000  |
| Pervious Rainfall Intensity (mm/hr):              | 15.78370 |
| <pre>Impervious Rainfall Intensity (mm/hr):</pre> | 15.78370 |
| Slope (%):                                        | 1.26000  |
| Computed TOC (minutes):                           | 113.17   |

-----

Subbasin Sub-05

-----

| Flow length (m):                                  | 100.83   |
|---------------------------------------------------|----------|
| Pervious Manning's Roughness:                     | 0.10000  |
| Impervious Manning's Roughness:                   | 0.01500  |
| Pervious Rainfall Intensity (mm/hr):              | 15.78370 |
| <pre>Impervious Rainfall Intensity (mm/hr):</pre> | 15.78370 |
| Slope (%):                                        | 1.26000  |
| Computed TOC (minutes):                           | 29.01    |
|                                                   |          |

-----

Subbasin Sub-06

-----

| Flow length (m):                     | 151.25   |
|--------------------------------------|----------|
| Pervious Manning's Roughness:        | 0.10000  |
| Impervious Manning's Roughness:      | 0.01500  |
| Pervious Rainfall Intensity (mm/hr): | 15.78370 |

| Impervious Rainf<br>Slope (%):<br>Computed TOC (mi                                                                                 | -                                                                  | (mm/hr): 15.783<br>1.260<br>37 | 900                             |
|------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|--------------------------------|---------------------------------|
| Subbasin Sub-07                                                                                                                    |                                                                    |                                |                                 |
| Flow length (m):<br>Pervious Manning<br>Impervious Manni<br>Pervious Rainfal<br>Impervious Rainf<br>Slope (%):<br>Computed TOC (mi | 's Roughness:<br>ng's Roughness<br>l Intensity (<br>all Intensity  | nm/hr): 15.783                 | 900<br>500<br>370<br>370<br>370 |
| Subbasin Sub-08                                                                                                                    |                                                                    |                                |                                 |
| Flow length (m):<br>Pervious Manning<br>Impervious Manni<br>Pervious Rainfal<br>Impervious Rainf<br>Slope (%):<br>Computed TOC (mi | 's Roughness:<br>ng's Roughness<br>l Intensity (i<br>all Intensity | mm/hr): 15.783                 | 900<br>500<br>370<br>370<br>900 |
| Subbasin Sub-09                                                                                                                    |                                                                    |                                |                                 |
| Flow length (m):<br>Pervious Manning<br>Impervious Manni                                                                           | 's Roughness:                                                      | 100<br>0.100<br>s: 0.01        | 900                             |

| Pervious Rainfall Intensity (mm/hr):   | 15.78370 |
|----------------------------------------|----------|
| Impervious Rainfall Intensity (mm/hr): | 15.78370 |
| Slope (%):                             | 1.26000  |
| Computed TOC (minutes):                | 29.01    |
| Subbasin Sub-10                        |          |
| Flow length (m):                       | 100.83   |
| Pervious Manning's Roughness:          | 0.10000  |
| Impervious Manning's Roughness:        | 0.01500  |
| Pervious Rainfall Intensity (mm/hr):   | 15.78370 |
| Impervious Rainfall Intensity (mm/hr): | 15.78370 |
| Slope (%):                             | 1.26000  |
| Computed TOC (minutes):                | 29.01    |
| Subbasin Sub-11                        |          |
| Flow length (m):                       | 100.83   |
| Pervious Manning's Roughness:          | 0.10000  |
| Impervious Manning's Roughness:        | 0.01500  |
| Pervious Rainfall Intensity (mm/hr):   | 15.78370 |
| Impervious Rainfall Intensity (mm/hr): | 15.78370 |
| Slope (%):                             | 1.26000  |
| Computed TOC (minutes):                | 29.01    |
| Subbasin Sub-12                        |          |
| Flow length (m):                       | 100.83   |
| Pervious Manning's Roughness:          | 0.10000  |

| Impervious Manning's Roughness:<br>Pervious Rainfall Intensity (mm/hr):<br>Impervious Rainfall Intensity (mm/hr):<br>Slope (%):<br>Computed TOC (minutes):                                                      |                                                                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| Subbasin Sub-13                                                                                                                                                                                                 |                                                                          |
| Flow length (m):<br>Pervious Manning's Roughness:<br>Impervious Manning's Roughness:<br>Pervious Rainfall Intensity (mm/hr):<br>Impervious Rainfall Intensity (mm/hr):<br>Slope (%):<br>Computed TOC (minutes): |                                                                          |
| Subbasin Sub-14                                                                                                                                                                                                 |                                                                          |
| Flow length (m):<br>Pervious Manning's Roughness:<br>Impervious Manning's Roughness:<br>Pervious Rainfall Intensity (mm/hr):<br>Impervious Rainfall Intensity (mm/hr):<br>Slope (%):<br>Computed TOC (minutes): | 100.83<br>0.10000<br>0.01500<br>15.78370<br>15.78370<br>1.26000<br>29.01 |
| Subbasin Sub-15                                                                                                                                                                                                 |                                                                          |
| Flow length (m):                                                                                                                                                                                                | 100.83                                                                   |

| Pervious Manning's Roughness<br>Impervious Manning's Roughne<br>Pervious Rainfall Intensity<br>Impervious Rainfall Intensit<br>Slope (%):<br>Computed TOC (minutes):                     | ess: 0.01500<br>(mm/hr): 15.78370 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|
| Subbasin Sub-16                                                                                                                                                                          |                                   |
|                                                                                                                                                                                          |                                   |
| Flow length (m):<br>Pervious Manning's Roughness<br>Impervious Manning's Roughne<br>Pervious Rainfall Intensity<br>Impervious Rainfall Intensit<br>Slope (%):<br>Computed TOC (minutes): | ess: 0.01500<br>(mm/hr): 15.78370 |
|                                                                                                                                                                                          |                                   |
| Subbasin Sub-17                                                                                                                                                                          |                                   |
| Flow length (m):<br>Pervious Manning's Roughness<br>Impervious Manning's Roughne<br>Pervious Rainfall Intensity<br>Impervious Rainfall Intensit<br>Slope (%):<br>Computed TOC (minutes): | ess: 0.01500<br>(mm/hr): 15.78370 |

\*\*\*\*\*\*

| Subbasin | Total    | Total | Total | Total  | Total  | Peak   | Runoff      |      | Time of   |
|----------|----------|-------|-------|--------|--------|--------|-------------|------|-----------|
| ID       | Rainfall | Runon | Evap. | Infil. | Runoff | Runoff | Coefficient | Conc | entration |
|          | mm       | mm    | mm    | mm     | mm     | LPS    |             | days | hh:mm:ss  |
| PRE DVLP | 189.40   | 0.00  | 0.00  | 4.29   | 178.31 | 592.63 | 0.941       |      | 01:53:10  |
| Sub-05   | 189.40   | 0.00  | 0.00  | 9.42   | 179.23 | 66.69  | 0.946       | 0    | 00:29:00  |
| Sub-06   | 189.40   | 0.00  | 0.00  | 9.42   | 178.91 | 65.14  | 0.945       | 0    | 00:36:59  |
| Sub-07   | 189.40   | 0.00  | 0.00  | 9.42   | 179.23 | 66.69  | 0.946       | 0    | 00:29:00  |
| Sub-08   | 189.40   | 0.00  | 0.00  | 9.42   | 179.23 | 66.69  | 0.946       | 0    | 00:29:00  |
| Sub-09   | 189.40   | 0.00  | 0.00  | 9.42   | 179.23 | 66.69  | 0.946       | 0    | 00:29:00  |
| Sub-10   | 189.40   | 0.00  | 0.00  | 9.42   | 179.23 | 66.69  | 0.946       | 0    | 00:29:00  |
| Sub-11   | 189.40   | 0.00  | 0.00  | 9.42   | 179.23 | 66.69  | 0.946       | 0    | 00:29:00  |
| Sub-12   | 189.40   | 0.00  | 0.00  | 9.42   | 179.23 | 66.69  | 0.946       | 0    | 00:29:00  |
| Sub-13   | 189.40   | 0.00  | 0.00  | 9.42   | 179.23 | 66.69  | 0.946       | 0    | 00:29:00  |
| Sub-14   | 189.40   | 0.00  | 0.00  | 9.42   | 179.23 | 66.69  | 0.946       | 0    | 00:29:00  |
| Sub-15   | 189.40   | 0.00  | 0.00  | 9.42   | 179.23 | 66.69  | 0.946       | 0    | 00:29:00  |
| Sub-16   | 189.40   | 0.00  | 0.00  | 9.42   | 179.23 | 66.69  | 0.946       | 0    | 00:29:00  |
| Sub-17   | 189.40   | 0.00  | 0.00  | 9.42   | 179.23 | 66.69  | 0.946       | 0    | 00:29:00  |

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Node Depth Summary \*\*\*\*\*\*\*\*\*

| Node<br>ID                       | Average<br>Depth | Maximum<br>Depth | Maximum<br>HGL   | Time of<br>Occurre |              | Total<br>Flooded | Total<br>Time      | Retention<br>Time    |
|----------------------------------|------------------|------------------|------------------|--------------------|--------------|------------------|--------------------|----------------------|
|                                  | Attained<br>m    | Attained<br>m    | Attained<br>m    | days hh            | :mm          | Volume<br>ha-mm  | Flooded<br>minutes | hh:mm:ss             |
| EndNullStruct0<br>MH 1 (Proposed |                  | 0.00<br>0.06     | 0.00<br>0.22 194 |                    | 0:00<br>0 07 | 0<br>:06         | 0                  | 0:00:00<br>0 0:00:00 |

| MH 10 (Proposed Storm | ) 0.17 | 0.58  | 194.21 | 0     | 07:12 | ( | 9 | 0   | 0:00:00 |
|-----------------------|--------|-------|--------|-------|-------|---|---|-----|---------|
| MH 11 (Proposed Storm | ) 0.07 | 0.23  | 194.08 | 0     | 07:06 | ( | 9 | 0   | 0:00:00 |
| MH 12 (Proposed Storm | ) 0.12 | 0.29  | 194.04 | 0     | 07:07 | ( | 9 | 0   | 0:00:00 |
| MH 13 (Proposed Storm | ) 0.14 | 0.37  | 194.05 | 0     | 07:08 | ( | 9 | 0   | 0:00:00 |
| MH 2 (Proposed Storm) | 0.16   | 0.32  | 193.96 | 0     | 07:07 | 0 |   | 0   | 0:00:00 |
| MH 3 (Proposed Storm) | 0.13   | 0.37  | 193.93 | 0     | 07:12 | 0 |   | 0   | 0:00:00 |
| MH 4 (Proposed Storm) | 0.29   | 0.73  | 194.11 | 0     | 07:12 | 0 |   | 0   | 0:00:00 |
| MH 5 (Proposed Storm) | 0.06   | 0.22  | 194.06 | 0     | 07:06 | 0 |   | 0   | 0:00:00 |
| MH 6 (Proposed Storm) | 0.06   | 0.22  | 194.32 | 0     | 07:06 | 0 |   | 0   | 0:00:00 |
| MH 7 (Proposed Storm) | 0.11   | 0.28  | 194.23 | 0     | 07:08 | 0 |   | 0   | 0:00:00 |
| MH 8 (Proposed Storm) | 0.12   | 0.36  | 194.19 | 0     | 07:09 | 0 |   | 0   | 0:00:00 |
| MH 9 (Proposed Storm) | 0.15   | 0.41  | 194.15 | 0     | 07:10 | 0 |   | 0   | 0:00:00 |
| Out-01 0.             | 0.0    | 0 192 | .50 0  | 00:00 | 0     | 0 | 0 | 0:0 | 0:00    |
| POND 0.               | 34 1.4 | 5 194 | .45 0  | 08:0  | 6     | 0 | 0 | 0:0 | 0:00    |

\*\*\*\*\*\*

Node Flow Summary \*\*\*\*\*\*\*\*

| Node            | Element         | Maximum | Peak   | Time     | of    | Maximum Ti | me of Peak |
|-----------------|-----------------|---------|--------|----------|-------|------------|------------|
| ID              | Type            | Lateral | Inflow | Peak Inf | low F | looding    | Flooding   |
|                 |                 | Inflow  |        | Occurre  | nce O | verflow    | Occurrence |
|                 |                 | LPS     | LPS    |          | :mm   |            | ays hh:mm  |
|                 |                 |         |        |          |       |            |            |
| EndNullStruct0  | JUNCTION        | 0.00    | 0.00   | 0 00     | :00   | 0.00       |            |
| MH 1 (Proposed  | Storm) JUNCTION | 66.69   | 66.69  | 00       | 7:06  | 0.00       |            |
| MH 10 (Proposed | Storm) JUNCTION | 66.69   | 532.45 | 5 0      | 07:12 | 0.00       |            |
| MH 11 (Proposed | Storm) JUNCTION | 66.69   | 66.69  | 9 0      | 07:06 | 0.00       |            |
| MH 12 (Proposed | Storm) JUNCTION | 66.69   | 133.28 | 3 0      | 07:07 | 0.00       |            |
| MH 13 (Proposed | Storm) JUNCTION | 66.69   | 199.85 | 5 0      | 07:08 | 0.00       |            |
| MH 2 (Proposed  | Storm) JUNCTION | 66.69   | 199.88 | 00       | 7:07  | 0.00       |            |
| MH 3 (Proposed  | Storm) JUNCTION | 65.14   | 264.76 | 00       | 7:12  | 0.00       |            |
| MH 4 (Proposed  | Storm) JUNCTION | 66.69   | 863.67 | 00       | 7:12  | 0.00       |            |

| MH 5 (Proposed Storm | ) JUNCTION | 66.69  | 66.69   | 0 | 07:06 | 0.00 |
|----------------------|------------|--------|---------|---|-------|------|
| MH 6 (Proposed Storm | ) JUNCTION | 66.69  | 66.69   | 0 | 07:06 | 0.00 |
| MH 7 (Proposed Storm | ) JUNCTION | 66.69  | 133.24  | 0 | 07:08 | 0.00 |
| MH 8 (Proposed Storm | ) JUNCTION | 66.69  | 199.72  | 0 | 07:09 | 0.00 |
| MH 9 (Proposed Storm | ) JUNCTION | 66.69  | 266.26  | 0 | 07:12 | 0.00 |
| Out-01               | OUTFALL    | 592.63 | 1100.65 | 0 | 07:48 | 0.00 |
| POND                 | STORAGE    | 0.00   | 863.65  | 0 | 07:12 | 0.00 |

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| Storage Nod  | le ID     | Maximum | Maximum | Time of Max | Average | Average | Maximum      | Maximum      |
|--------------|-----------|---------|---------|-------------|---------|---------|--------------|--------------|
| Time of Max. | Tot       | al      |         |             | -       | -       |              |              |
|              |           | Ponded  | Ponded  | Ponded      | Ponded  | Ponded  | Storage Node | Exfiltration |
| Exfiltration | Exfiltrat | ed      |         |             |         |         | -            |              |
|              |           | Volume  | Volume  | Volume      | Volume  | Volume  | Outflow      | Rate         |
| Rate         | Volume    |         |         |             |         |         |              |              |
|              |           | 1000 m³ | (%)     | days hh:mm  | 1000 m³ | (%)     | LPS          | cmm          |
| hh:mm:ss     | 1000 m³   |         |         |             |         |         |              |              |
|              |           |         |         |             |         |         |              |              |
| POND         |           | 2.040   | 95      | 0 08:05     | 0.411   | 19      | 520.62       | 0.00         |
| 0:00:00      | 0.000     |         |         |             |         |         |              |              |

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Outfall Loading Summary \*\*\*\*\*\*\*\*\*\*\*

#### Outfall Node ID Flow Average Peak Frequency Flow Inflow (%) LPS LPS \_ \_ \_ \_ \_ \_ \_ \_ Out-01 98.99 316.66 1100.65 - - - -- - - ------System 98.99 316.66 1100.65

#### \*\*\*\*\*\*

| Link ID<br>Total Report | Element                           | Time of                      | Maximum    | Length | Peak Flow | De   | sign | Ratio of | Ratio of |         |
|-------------------------|-----------------------------------|------------------------------|------------|--------|-----------|------|------|----------|----------|---------|
| Time Condi              | Туре                              | Peak Flow                    | Velocity   | Factor | during    |      | Flow | Maximum  | Maximum  |         |
| TIME CONUL              |                                   | Occurrence                   | Attained   |        | Analysis  | Сара | city | /Design  | Flow     |         |
| Surcharged              |                                   | days hh:mm                   | m/sec      |        | LPS       |      | LPS  | Flow     | Depth    |         |
| minutes                 |                                   | ,.                           | ,          |        |           |      |      |          |          |         |
|                         |                                   |                              |            |        |           |      |      |          |          |         |
| {Proposed \$<br>0.48    | <br>Storm}.MH 1 - MH 2<br>0.49 0  | (Proposed Stor<br>Calculated | m) CONDUIT | 0      | 07:07     | 0.86 | 1.00 | 66.      | 65 1     | 38.14   |
| {Proposed S<br>0.95     | Storm}.MH 10 - MH 4<br>0.78 0     | (Proposed Sto<br>Calculated  | rm) CONDUI | т 0    | 07:12     | 1.44 | 1.00 | 532      | .42      | 559.91  |
| {Proposed S             | Storm}.MH 11 - MH 12<br>0.52 0.51 |                              | •          | IT     | 0 07:07   | 0.81 | 1.0  | 00 6     | 6.64     |         |
|                         | Storm}.MH 12 - MH 1               |                              |            | IT (   | 0 07:08   | 0.96 | 1.0  | 00 13    | 3.25     |         |
|                         |                                   |                              |            |        |           |      |      |          | Р        | age: 15 |

| 274.61    | 0.49      | 0.49      | 0 Calculate             | ed        |        |      |      |        |        |
|-----------|-----------|-----------|-------------------------|-----------|--------|------|------|--------|--------|
| {Proposed | Storm}.MH | 13 - MH : | L0 (Proposed Storm)     | ) CONDUIT | 07:09  | 1.13 | 1.00 | 199.80 |        |
| 539.39    | 0.37      | 0.42      | 0 Calculate             | ed        |        |      |      |        |        |
| {Proposed | Storm}.MH | 2 - MH 3  | (Proposed Storm) (      | CONDUIT 0 | 07:09  | 1.13 | 1.00 | 199.84 | 539.39 |
| 0.37      | 0.42      |           | Calculated              |           |        |      |      |        |        |
| {Proposed | Storm}.MH | 3 - MH 4  | (Proposed Storm) (      | CONDUIT 0 | 07:12  | 1.22 | 1.00 | 264.74 | 539.39 |
| 0.49      | 0.49      | 0         | Calculated              |           |        |      |      |        |        |
| {Proposed | Storm}.MH | 4 - POND  | (Proposed Storm) (      | CONDUIT 0 | 07:12  | 1.57 | 1.00 | 863.65 | 877.11 |
| 0.98      | 0.81      | 0         | Calculated              |           |        |      |      |        |        |
| {Proposed | Storm}.MH | 5 - MH 2  | (Proposed Storm) (      | CONDUIT 0 | 07:08  | 0.86 | 1.00 | 66.62  | 138.14 |
| 0.48      | 0.49      | -         | Calculated              |           |        |      |      |        |        |
| {Proposed | Storm}.MH | 7 - MH 8  | 3 (Proposed Storm)      | CONDUIT 0 | 07:10  | 1.02 | 1.00 | 133.17 | 297.50 |
| 0.45      | 0.47      |           | <pre>0 Calculated</pre> |           |        |      |      |        |        |
| {Proposed | Storm}.MH | 8 - MH 9  | (Proposed Storm) (      | CONDUIT 0 | 07:10  | 1.13 | 1.00 | 199.71 | 297.50 |
| 0.67      | 0.60      | 0         | Calculated              |           |        |      |      |        |        |
| {Proposed | Storm}.MH | 9 - MH 1  | 0 (Proposed Storm)      | CONDUIT 0 | 07:12  | 1.22 | 1.00 | 266.26 | 539.39 |
| 0.49      | 0.50      |           | <pre>0 Calculated</pre> |           |        |      |      |        |        |
| {Proposed | Storm}.MH | 9 - MH 1  | 1 (Proposed Storm)      | CONDUIT 0 | 07:08  | 0.86 | 1.00 | 66.62  | 138.14 |
| 0.48      | 0.49      |           | <pre>0 Calculated</pre> |           |        |      |      |        |        |
| Orifice-0 | 1         | ORIFICE   | 0 08:06                 |           | 520.62 |      |      |        |        |

\*\*\*\*\*\*

Link Orifice-01 (1)

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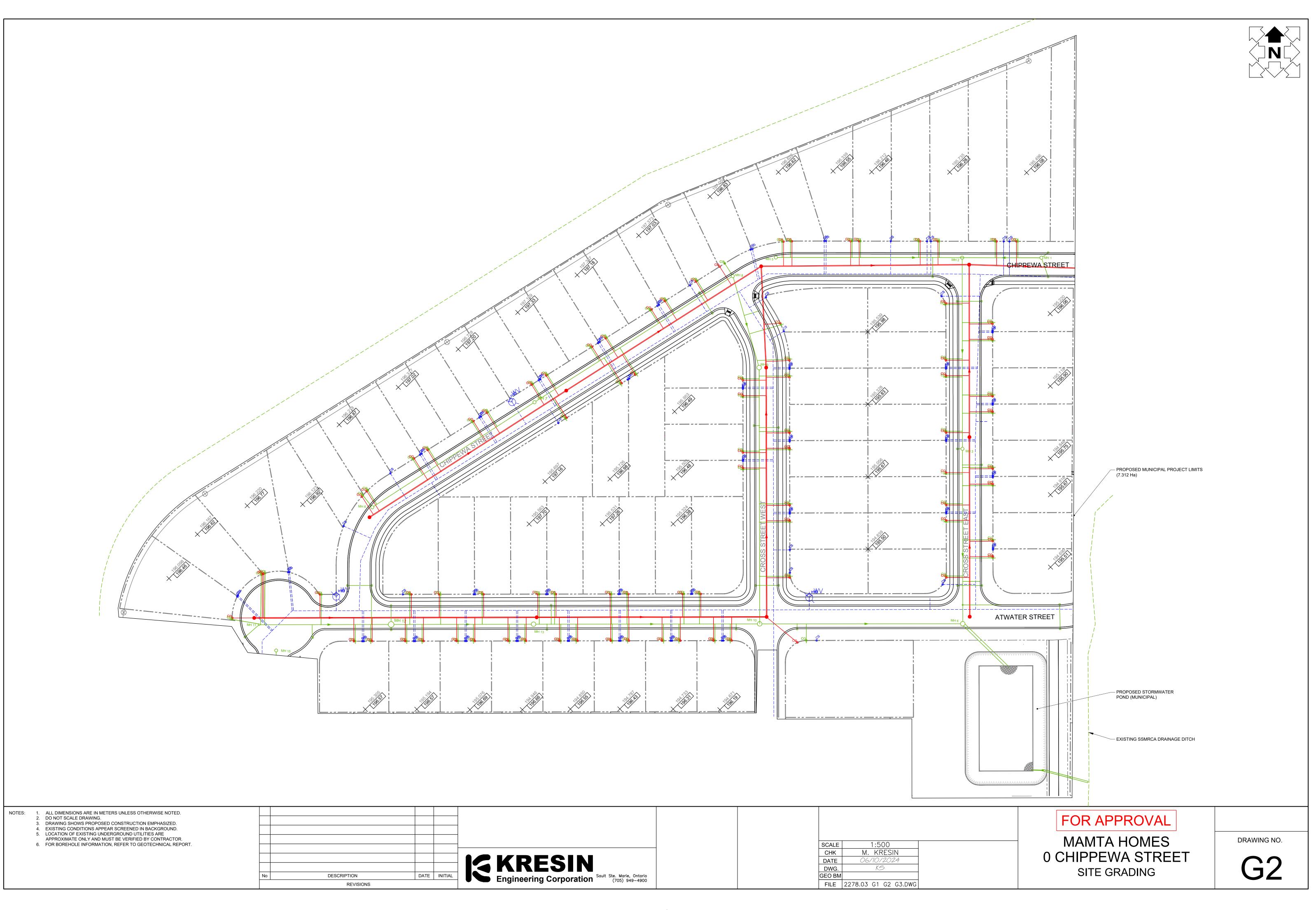
| Minimum Time Step       | : | 30.00 sec |
|-------------------------|---|-----------|
| Average Time Step       | : | 30.00 sec |
| Maximum Time Step       | : | 30.00 sec |
| Percent in Steady State | : | 0.00      |

Average Iterations per Step : 1.94

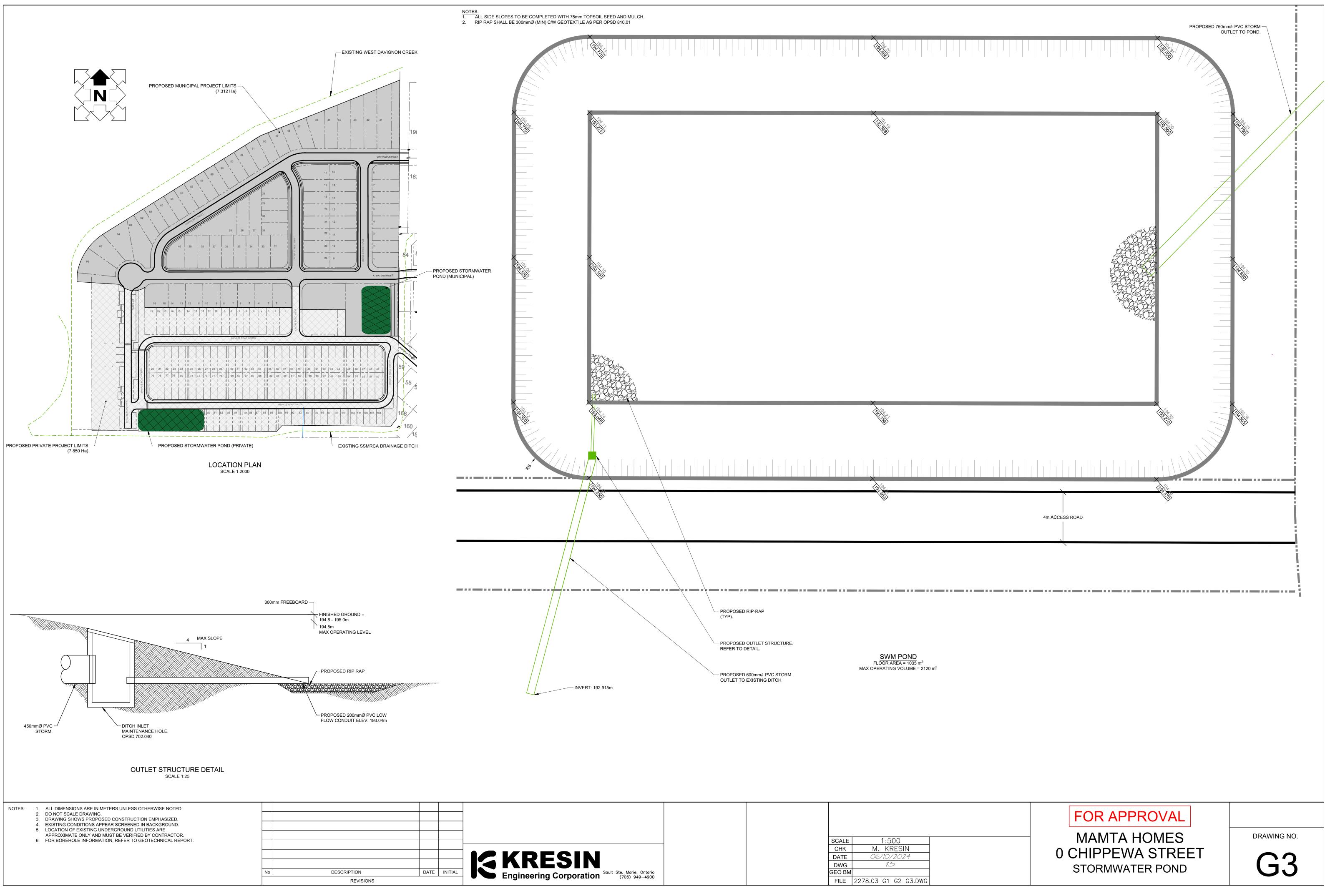
Analysis began on: Sun Jun 09 19:50:06 2024 Analysis ended on: Sun Jun 09 19:50:06 2024 Total elapsed time: < 1 sec

APPENDIX B

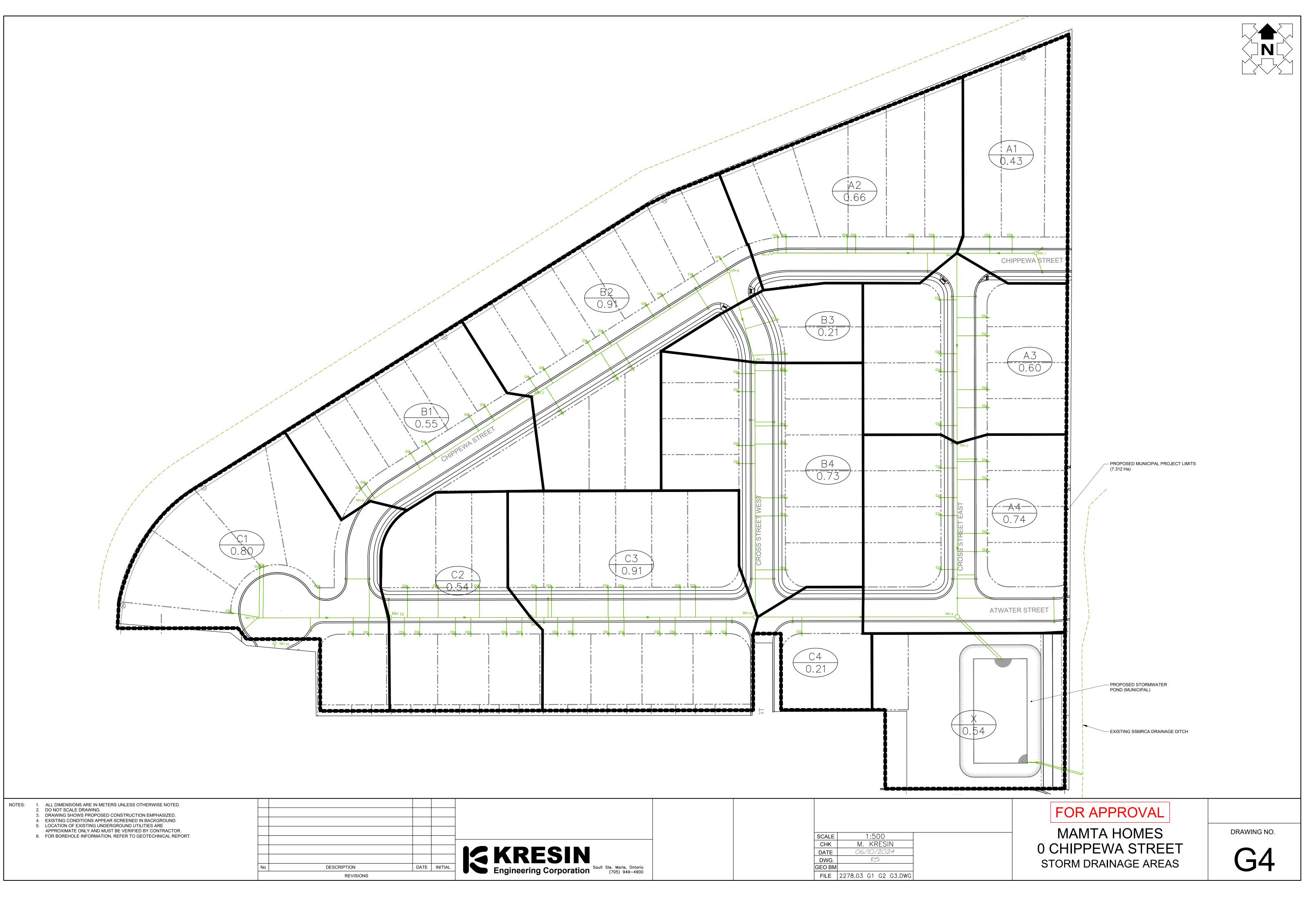
ENGINEERING DRAWINGS



| SCALE  | 1:500                |  |  |  |  |  |
|--------|----------------------|--|--|--|--|--|
| СНК    | M. KRESIN            |  |  |  |  |  |
| DATE   | 06/10/2024           |  |  |  |  |  |
| DWG.   | KS                   |  |  |  |  |  |
| GEO BM |                      |  |  |  |  |  |
| FILE   | 2278.03 G1 G2 G3.DWG |  |  |  |  |  |
|        |                      |  |  |  |  |  |



| SCALE  | 1:500                |  |  |  |  |  |
|--------|----------------------|--|--|--|--|--|
| СНК    | M. KRESIN            |  |  |  |  |  |
| DATE   | 06/10/2024           |  |  |  |  |  |
| DWG.   | KS                   |  |  |  |  |  |
| GEO BM |                      |  |  |  |  |  |
| FILE   | 2278.03 G1 G2 G3.DWG |  |  |  |  |  |
|        |                      |  |  |  |  |  |



| SCALE  | 1:500                |           |  |  |  |  |  |
|--------|----------------------|-----------|--|--|--|--|--|
| CHK    | M. KRESIN            | M. KRESIN |  |  |  |  |  |
| DATE   | 06/10/2024           |           |  |  |  |  |  |
| DWG.   | KS                   |           |  |  |  |  |  |
| GEO BM |                      |           |  |  |  |  |  |
| FILE   | 2278.03 G1 G2 G3.DWG |           |  |  |  |  |  |
|        |                      |           |  |  |  |  |  |

APPENDIX C

STORMCEPTOR MANUAL

# *Stormceptor®EF* Owner's Manual





STORMCEPTOR® EF IS PATENT-PENDING.

## TABLE OF CONTENTS

- STORMCEPTOR EF OVERVIEW
- STORMCEPTOR EF OPERATION AND COMPONENTS
- STORMCEPTOR EF MODEL DETAILS
- STORMCEPTOR EF IDENTIFICATION
- STORMCEPTOR EF INSPECTION AND MAINTENANCE
- STORMCEPTOR CONTACTS

#### **OVERVIEW**

The Stormceptor<sup>®</sup> EF is a continuation and evolution of the most globally recognized oil-grit separator (OGS) stormwater treatment technology - Stormceptor®. Also known as a hydrodynamic separator, fectively removes a

wide variety of pollutants from stormwater and snowmelt runof

original Stormceptor. Stormceptor EF captures and retains sediment (TSS), free oils, gross pollutants and other pollutants that attach to particles, such as nutrients and metals. Stormceptor EF's patent-pending treatment and scour prevention technology and internal bypass ensures sediment is retained during all rainfall events...

Stormceptor EF of

inlet pipe, multiple inlet pipes, and/or from the surface through an inlet grate. Stormceptor EF can also

ensure performance in submerged conditions. With its scour prevention technology and internal bypass, Stormceptor EF can be installed online, eliminating the need for costly additional bypass structures.

#### **OPERATION**

Stormwater enters the Stormceptor upper chamber through the inlet pipe(s) or a surface inlet grate. А weir

, sediment, and

strong vortex draws water, sediment, oil, and debris down the drop pipe cone.

The duct has two large rectangular outlet openings fused through these various opening in multiple directions and at low velocity into the lower chamber.

sump. Pollutants are retained for later removal during maintenance cleaning.

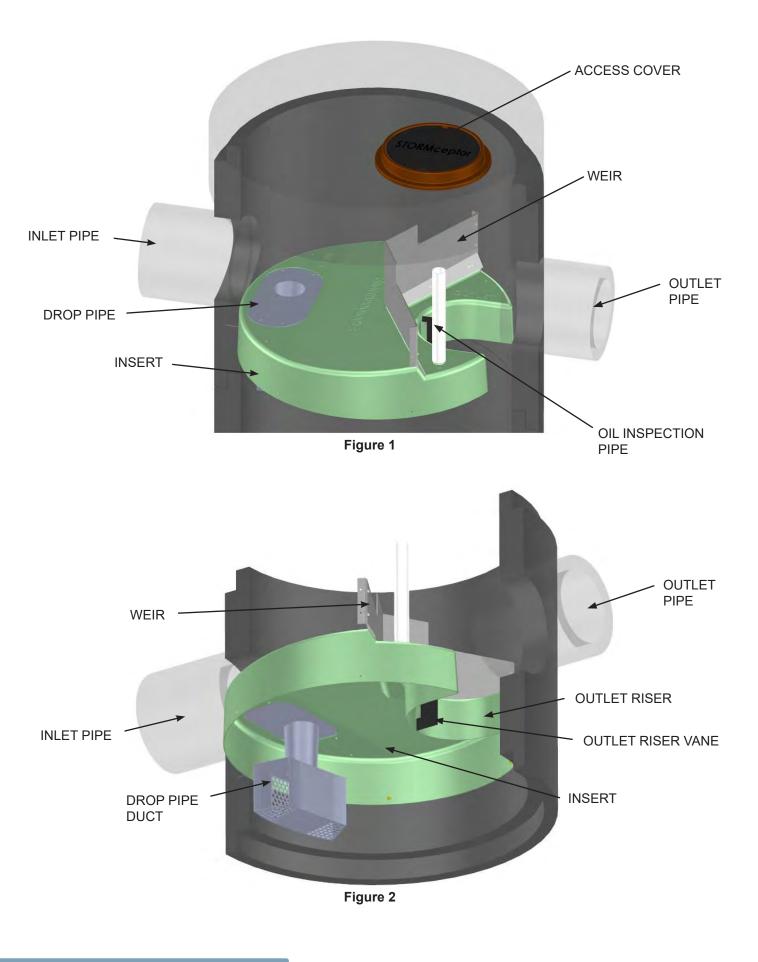
- Т , moves upward, and discharges to the top side of the insert downstream of the weir

of the weir may exceed the height of the weir

to the downstream side of the insert, and exits through the outlet pipe. This internal bypass feature allows for online installation, avoiding the cost of additional bypass structures. During bypass,

Stormceptor EF'

intensity storms.



- Insert separates vessel into upper and lower chambers, and provides double-wall containment of hydrocarbons
- Weir creates stormwater ponding and driving head on top side of insert
- Drop pipe conveys stormwater and pollutants into the lower chamber
- Outlet riser conveys treated stormwater from the lower chamber to the outlet pipe, and provides primary inspection and maintenance access into the lower chamber
- •
- Oil inspection pipe primary access for measuring oil depth, and oil removal

#### **IDENTIFICATION**

trade name **Stormceptor**<sup>®</sup> embossed on the access cover at grade as shown in **Figure 3**. The tradename **Stormceptor**<sup>®</sup> is also embossed on the top of the insert upstream of the weir as shown in **Figure 3**.

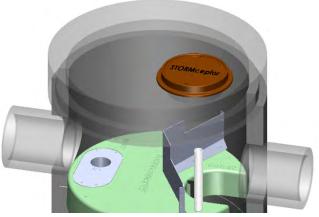


Figure 3

Figure 4.

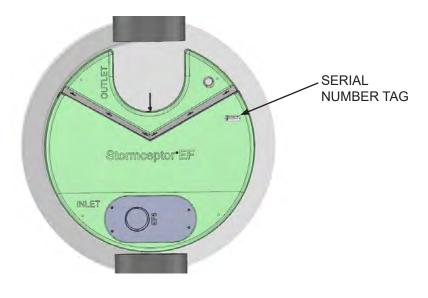


Figure 4

#### **MODEL DETAILS**

|                      | TABLE 1. METRIC DIMENSIONS AND CAPACITIES |                                                 |                                         |               |                                   |                                                 |                                                            |                                              |
|----------------------|-------------------------------------------|-------------------------------------------------|-----------------------------------------|---------------|-----------------------------------|-------------------------------------------------|------------------------------------------------------------|----------------------------------------------|
| Stormceptor<br>Model | Inside<br>Diameter                        | Minimum<br>Surface to<br>Outlet Invert<br>Depth | Depth<br>Below<br>Outlet<br>Pipe Invert | Wet<br>Volume | Sediment<br>Capacity <sup>1</sup> | Hydrocarbon<br>Storage<br>Capacity <sup>2</sup> | Maximum<br>Flow Rate<br>into Lower<br>Chamber <sup>3</sup> | Peak<br>Conveyance<br>Flow Rate <sup>4</sup> |
|                      | (m)                                       | (mm)                                            | (mm)                                    | (L)           | (m³)                              | (L)                                             | (L/s)                                                      | (L/s)                                        |
| EF4 / EFO4           | 1.22                                      | 915                                             | 1524                                    | 1780          | 1.19                              | 265                                             | 22.1 / 10.4                                                | 425                                          |
| EF6 / EFO6           | 1.83                                      | 915                                             | 1930                                    | 5070          | 3.47                              | 610                                             | 49.6 / 23.4                                                | 990                                          |
| EF8 / EFO8           | 2.44                                      | 1219                                            | 2591                                    | 12090         | 8.78                              | 1070                                            | 88.3 / 41.6                                                | 1700                                         |
| EF10 / EFO10         | 3.05                                      | 1219                                            | 3251                                    | 23700         | 17.79                             | 1670                                            | 138 / 65                                                   | 2830                                         |
| EF12 / EF012         | 3.66                                      | 1524                                            | 3886                                    | 40800         | 31.22                             | 2475                                            | 198.7 / 93.7                                               | 2830                                         |

|                      | TABLE 2. U.S. DIMENSIONS AND CAPACITIES |                                                 |                                         |               |                                   |                                                 |                                                            |                                  |  |
|----------------------|-----------------------------------------|-------------------------------------------------|-----------------------------------------|---------------|-----------------------------------|-------------------------------------------------|------------------------------------------------------------|----------------------------------|--|
| Stormceptor<br>Model | Inside<br>Diameter                      | Minimum<br>Surface to<br>Outlet Invert<br>Depth | Depth<br>Below<br>Outlet<br>Pipe Invert | Wet<br>Volume | Sediment<br>Capacity <sup>1</sup> | Hydrocarbon<br>Storage<br>Capacity <sup>2</sup> | Maximum<br>Flow Rate<br>into Lower<br>Chamber <sup>3</sup> | Peak<br>Conveyance<br>Flow Rate⁴ |  |
|                      | (ft)                                    | (in)                                            | (in)                                    | (gal)         | (ft <sup>3</sup> )                | (gal)                                           | (cfs)                                                      | (cfs)                            |  |
| EF4 / EFO4           | 4                                       | 36                                              | 60                                      | 471           | 42                                | 70                                              | 0.78 / 0.37                                                | 15                               |  |
| EF6 / EFO6           | 6                                       | 36                                              | 76                                      | 1339          | 123                               | 160                                             | 1.75 / 0.83                                                | 35                               |  |
| EF8 / EFO8           | 8                                       | 48                                              | 102                                     | 3194          | 310                               | 280                                             | 3.12 / 1.47                                                | 60                               |  |
| EF10 / EFO10         | 10                                      | 48                                              | 128                                     | 6261          | 628                               | 440                                             | 4.87 / 2.30                                                | 100                              |  |
| EF12 / EF012         | 12                                      | 60                                              | 153                                     | 10779         | 1103                              | 655                                             | 7.02 / 3.31                                                | 100                              |  |

1.

2. Hydrocarbon Storage Capacity is measured from the bottom of the outlet riser to the underside of the insert. Hydrocarbon Storage Capacity

EF Maximum Flow Rate into Lower Chamber is based on a maximum surface loading rate (SLR) into the lower chamber of 1135 L/min/m<sup>2</sup> (27.9 gpm/ft<sup>2</sup>). EFO Maximum Flow Rate into Lower Chamber is based on a maximum surface loading rate (SLR) into the lower chamber of 535 L/min/m<sup>2</sup> (13.1 gpm/ft<sup>2</sup>).

4. Peak Conveyance Flow Rate is limited by a maximum velocity of 1. m/s (5 fps).

## **INSPECTION AND MAINTENANCE**

It is important to perform regular inspection and maintenance. Regular inspection and maintenance , keeps maintenance costs low, and provides continued protection of natural waterways.

#### **Quick Reference**

- Typical inspection and maintenance is performed from grade
- Remove manhole cover(s) or inlet grate to access insert and lower chamber

#### beneath inlet grate

- Use Sludge Judge® or similar sediment probe to check sediment depth through the outlet riser
- Oil dipstick can be inserted through the oil inspection pipe
- · Visually inspect the insert for debris, remove debris if present
- Visually inspect the drop pipe opening for blockage, remove blockage if present
- Visually inspect insert and weir for damage, schedule repair if needed
- •
- •

#### When is inspection needed?

- Post-construction inspection is required prior to putting the Stormceptor into service.
- pollutant accumulation.
  - year.
- Inspections should also be performed immediately after oil, fuel, or other chemical spills.

#### What equipment is typically required for inspection?

- Manhole access cover lifting tool
- Oil dipstick / Sediment probe with ball valve (typically <sup>3</sup>/<sub>4</sub>-inch to 1-inch diameter)
- Flashlight
- Camera
- Data log / Inspection Report
- Safety cones and caution tape
- Hard hat, safety shoes, safety glasses, and chemical-resistant gloves

#### When is maintenance cleaning needed?

• If the post-construction inspection indicates presence of construction sediment of a depth greater than a few inches, maintenance is recommended at that time. For optimum performance and normal operation the unit should be cleaned out once the sediment depth reaches the recommended maintenance sediment depth, see **Table 3**.

| TABLE 3<br>RECOMMENDED SEDIMENT DEPTHS FOR MAINTENANCE SERVICE* |        |          |  |  |  |  |  |  |
|-----------------------------------------------------------------|--------|----------|--|--|--|--|--|--|
| MODEL                                                           | Sedime | nt Depth |  |  |  |  |  |  |
| WODEL                                                           | in     | mm       |  |  |  |  |  |  |
| EF4 / EFO4                                                      | 8      | 203      |  |  |  |  |  |  |
| EF6 / EFO6                                                      | 12     | 305      |  |  |  |  |  |  |
| EF8 / EFO8                                                      | 24     | 610      |  |  |  |  |  |  |
| EF10 / EFO10                                                    | 24     | 610      |  |  |  |  |  |  |
| EF12 / EF012                                                    | 24     | 610      |  |  |  |  |  |  |

• Maintain immediately after an oil, fuel, or other chemical spill.

\* Based on a minimum distance of 40 inches (1,016 mm) from bottom of outlet riser to top of sediment bed

The frequency of inspection and maintenance may need to be adjusted based on site conditions to ensure the unit is operating and performing as intended. Maintenance costs will vary based on the size of the unit, site conditions, local requirements, disposal costs, and transportation distance.

#### What equipment is typically required for maintenance?

- Vacuum truck equipped with water hose and jet nozzle
- Small pump and tubing for oil removal
- Manhole access cover lifting tool
- Oil dipstick / Sediment probe with ball valve (typically <sup>3</sup>/<sub>4</sub>-inch to 1-inch diameter)
- Flashlight
- Camera
- Data log / Inspection Report
- Safety cones
- Hard hats, safety shoes, safety glasses, chemical-resistant gloves, and hearing protection for service providers
- Gas analyzer, respiratory gear entry is required (adhere to all OSHA / CCOSH standards)

#### What conditions can compromise Stormceptor performance?

- Presence of construction sediment and debris in the unit prior to activation
- Excessive sediment depth beyond the recommended maintenance depth
- · Oil spill in excess of the oil storage capacity
- · Clogging or restriction of the drop pipe inlet opening with debris
- Downstream blockage that results in a backwater condition

## MAINTENANCE PROCEDURES

- Stormceptor is maintained from grade through a standard surface manhole access cover or inlet grate.
- In the case of submerged or tailwater conditions, extra measures are likely required, such as plugging the inlet and outlet pipes prior to conducting maintenance.
- Inspection and maintenance of upstream catch basins and other stormwater conveyance structures is also recommended to extend the time between future maintenance cycles.
- Sediment depth inspections are performed through the **Outlet Riser** and oil presence can be determined through the **Oil Inspection Pipe** (see Figures 6 and 7).
- Oil presence and sediment depth are determined by inserting a Sludge Judge<sup>®</sup> or measuring stick to quantify the pollutant depths.
- Visually inspect the insert, weir, and drop pipe inlet opening to ensure there is no damage or blockage.

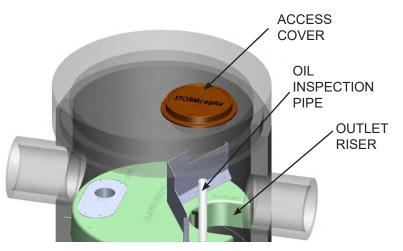


Figure 5



Figure 6

SLUDGE®

• When maintenance is required, a standard vacuum truck is used to remove the pollutants from the lower chamber of the unit through the **Outlet Riser** (see Figure 7).



Figure 7

• The Outlet Riser V minimal, if any, interference (**see Figure 8**).

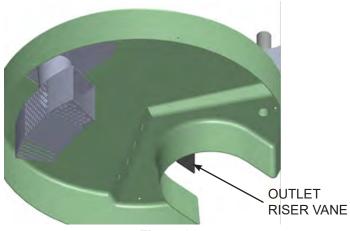


Figure 8

**REMOVABLE FLOW DEFLECTOR** 

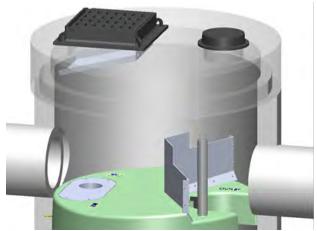
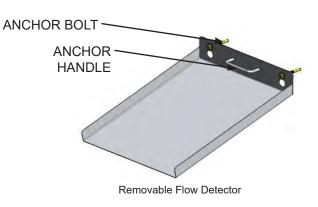


Figure 9



grade (See Figure 9).

#### HYDROCARBON SPILLS

spill potential exists. Should a spill occur

unit should be cleaned immediately by a licensed liquid waste hauler.

#### Disposal

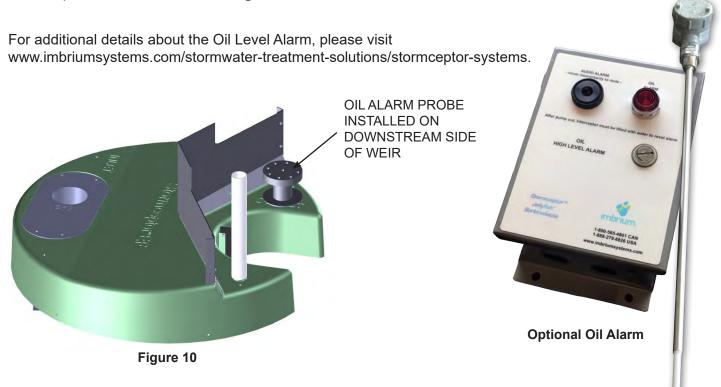
Maintenance providers are to follow all federal, state/ provincial, and local requirements for disposal of material.

#### **Oil Sheens**

When oil is present in stormwater runoff, a sheen may be noticeable at the Stormceptor outlet. An oil rainbow or sheen can be noticeable at very low oil concentrations (< 10 mg/L). Despite the appearance of a sheen, Stormceptor EF/EFO may still be functioning as intended.

#### **Oil Level Alarm**

To mitigate spill liability with 24/7 detection, an electronic Oil Level Alarm monitoring system can be employed to trigger a visual and audible alarm when a pre-set level of oil is captured within the lower chamber or when an oil spill occurs. The oil level alarm is available as an optional feature to include with Stormceptor EF/EFO as shown in **Figure 10**.



#### **REPLACEMENT PARTS**

Stormceptor has no moving parts. Therefore, inspection and maintenance activities are generally focused on pollutant removal. Since there are no moving parts during operation in a Stormceptor, broken, damaged, or worn parts are not typically encountered. However, if replacement parts are necessary, they may be purchased by contacting your local Stormceptor representative.

#### STORMCEPTOR INSPECTION AND MAINTENANCE LOG

Stormceptor Model No:

Serial Number:

Installation Date:

Location Description of Unit:

Recommended Sediment Maintenance Depth: \_\_\_\_\_

| DATE | SEDIMENT<br>DEPTH | OIL DEPTH<br>(inches or mm) | SERVICE<br>REQUIRED<br>(Y/N) | MAINTENANCE<br>PERFORMED | MAINTENANCE<br>PROVIDER | COMMENTS |
|------|-------------------|-----------------------------|------------------------------|--------------------------|-------------------------|----------|
|      |                   |                             |                              |                          |                         |          |
|      |                   |                             |                              |                          |                         |          |
|      |                   |                             |                              |                          |                         |          |
|      |                   |                             |                              |                          |                         |          |
|      |                   |                             |                              |                          |                         |          |
|      |                   |                             |                              |                          |                         |          |
|      |                   |                             |                              |                          |                         |          |
|      |                   |                             |                              |                          |                         |          |
|      |                   |                             |                              |                          |                         |          |
|      |                   |                             |                              |                          |                         |          |
|      |                   |                             |                              |                          |                         |          |
|      |                   |                             |                              |                          |                         |          |
|      |                   |                             |                              |                          |                         |          |
|      |                   |                             |                              |                          |                         |          |
|      |                   |                             |                              |                          |                         |          |
|      |                   |                             |                              |                          |                         |          |
|      |                   |                             |                              |                          |                         |          |
|      |                   |                             |                              |                          |                         |          |
|      |                   |                             |                              |                          |                         |          |

Other Comments: \_\_\_\_\_

#### **CONTACT INFORMATION**

Questions regarding Stormceptor EF/EFO can be addressed by contacting your local Stormceptor representative.

Imbrium Systems Inc. 1-416-960-9900 / 1-800-565-4801 / 888-279-8826

www.imbriumsystems.com www.stormceptor.com info@imbriumsystems.com

APPENDIX D

STATEMENT OF LIMITATIONS

#### Statement of Limitations

This report has been prepared by Kresin Engineering Corporation (KEC) at the request of the Owner for use in support of the development of the Site (as defined in the report). KEC expressly excludes liability to any party for any use or reliance of the information contained in this report for any other purpose.

KEC denies all liability for any use of, or reliance on, this report by any other parties, or for anything other than support of the development of the Site.

Since transmitted files are not under KEC's control, the integrity of the report cannot be guaranteed. The original copy of the report on file at KEC shall govern. KEC denies all liability for unauthorized alterations to the report.

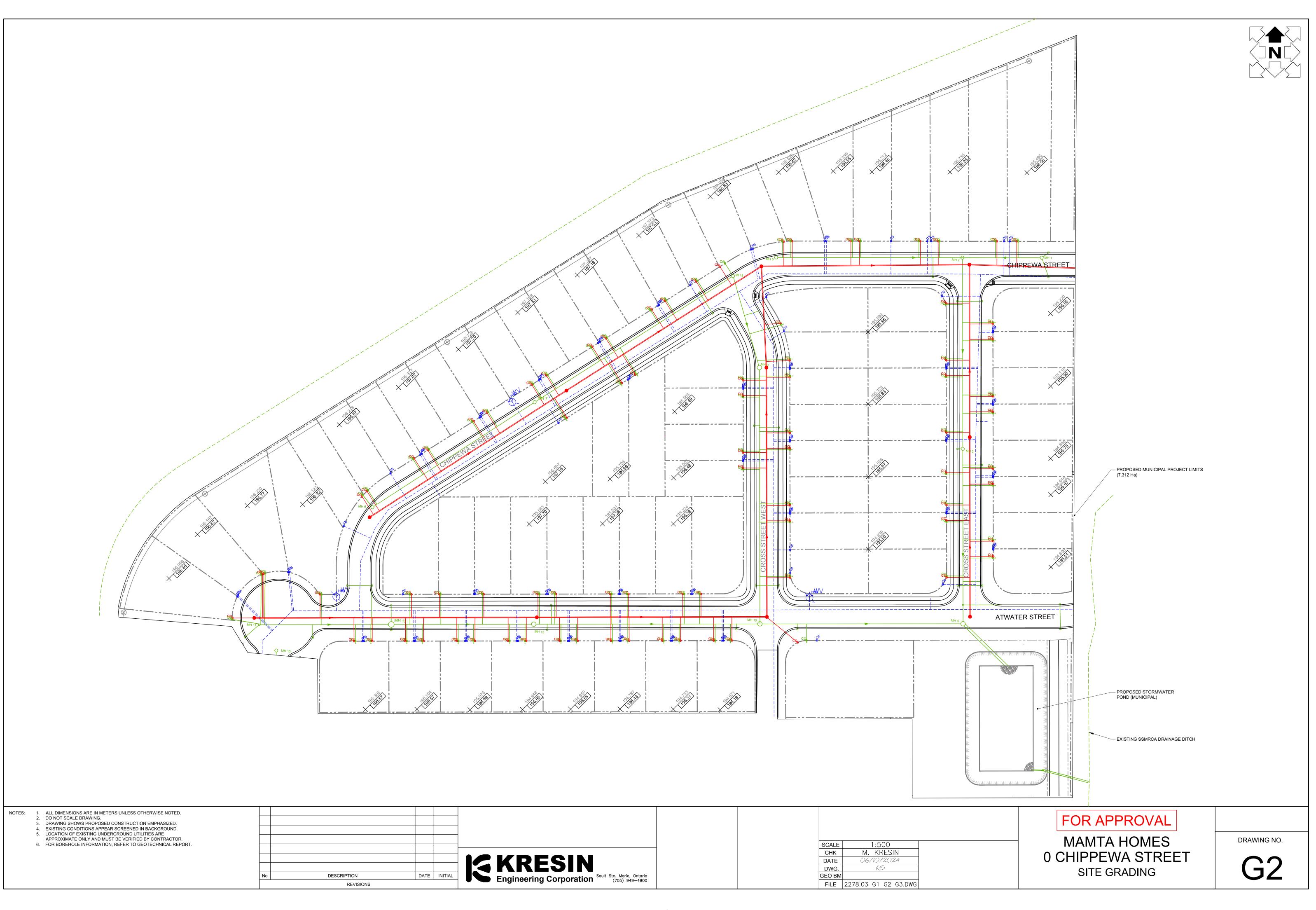
The report has been prepared in KEC's best professional judgement in accordance with accepted industry standards and is subject to limitations in information available at the time the work was carried out. In preparing the report, KEC has relied upon information from third parties which are considered reliable; however, KEC denies all liability for inaccuracies resulting from the use of this information.

The report shall be considered in its entirety. Portions of the report shall not be used out of context.

KEC denies all liability for decisions made or actions taken as a result of this report unless KEC has been retained to participate in such action, in which case our responsibility will be as agreed to at that time. Any user of this report specifically denies any right to claims against the KEC, their officers, agents, and employees in excess of the fee paid for professional services.

This statement of limitations shall be considered a part of the report.

Appendix 5 Preliminary Site Grading Plan



| SCALE  | 1:500                                 |
|--------|---------------------------------------|
| CHK    | M. KRESIN                             |
| DATE   | 06/10/2024                            |
| DWG.   | KS                                    |
| GEO BM |                                       |
| FILE   | 2278.03 G1 G2 G3.DWG                  |
|        | · · · · · · · · · · · · · · · · · · · |

Appendix 7

Sanitary Sewer Design

#### Sanitary Sewer Design Sheet

MALL

COM

shopping centres

commercial areas

|   | Project:<br>Client: |           | Chippewa Avenue Subdivision<br>Mamta Homes         | KEC Project: <b>22</b><br>Date Updated: <b>Ma</b> |     | 3           | Chippewa Ave Capacity Review                         |
|---|---------------------|-----------|----------------------------------------------------|---------------------------------------------------|-----|-------------|------------------------------------------------------|
|   | Are                 | ea Types: |                                                    | Design Flow Rates:                                |     |             | Design Calculations:                                 |
|   | LD                  | 3.5       | low density domestic                               | Domestic Sewage Flow Rate =                       | 400 | L/c/d       | Peaking Factor (Harmon) - M = 1 + 14 / (4 + SQRT (0  |
|   | MD                  | 2         | medium density domestic                            | MALL flow rate =                                  | 5   | L/m²/d      | Peak Flow - Q <sub>p</sub> = P * q * M / 86400 (L    |
|   | HD                  |           | high density domestic (P - actual based on survey) | IND flow rate =                                   | 35  | m³/ha/d     | Peak Extraneous Flow - Q <sub>i</sub> = I*A (L/s)    |
|   | IND                 |           | industrial                                         | COM flow rate =                                   | 28  | m³/ha/d     | Foundation Drain Flow - Q <sub>f</sub> = H * a (L/s) |
| : | SCHOOL              |           | school (P - actual based on school population)     | SCHOOL flow rate =                                | 140 | L/student/d | Peak Design Flow - $Q_d = Q_p + Q_i + Q_f (L/s)$     |

Unit of peak extraneous flow (I) =

HOTEL flow rate =

225

0.15

|            | HOTEL     |             | hotel/mo   | otel (P - actu                                                                              | ual based o                                 | on 5 bed spa | aces per room) |                |     |         | 0.10                             | E/Ha/S                   |                            |                            |       |                            |        |              |                    |       |                              |                       |                            |                  |
|------------|-----------|-------------|------------|---------------------------------------------------------------------------------------------|---------------------------------------------|--------------|----------------|----------------|-----|---------|----------------------------------|--------------------------|----------------------------|----------------------------|-------|----------------------------|--------|--------------|--------------------|-------|------------------------------|-----------------------|----------------------------|------------------|
| LOCA       | ATION     |             |            |                                                                                             | DESIGN FLOWS<br>Tributary Area Sewage Flows |              |                |                |     |         |                                  |                          |                            |                            |       | PIF                        | PE DES | IGN          |                    |       |                              |                       |                            |                  |
| from<br>MH | to<br>MH  | Street      | Area<br>ID | Tributary Area Tributary Area Size Type Description Flow Population, Rate Students, or Area |                                             |              |                |                |     |         | Average<br>Flow<br>(P*q / 86400) | Sev<br>Peaking<br>Factor | vage Flow<br>Peak          | Peak<br>Extraneous         | Flow  | Design<br>Flow             | Length | Pipe<br>I.D. | Type<br>of<br>Pipe | Grade | Full<br>Capacity             | Full flow<br>Velocity | Design<br>Flow<br>Velocity | Utilization      |
|            |           |             |            | Lots                                                                                        | (ha)                                        |              |                | "q"<br>(L/c/d) | "P" |         | (L/s)                            | "M"                      | "Q <sub>p</sub> "<br>(L/s) | "Q <sub>i</sub> "<br>(L/s) | (L/s) | "Q <sub>d</sub> "<br>(L/s) | (m)    | (mm)         | Tipe               | (%)   | "Q <sub>cap</sub> "<br>(L/s) | (m/s)                 | (m/s)                      | Q <sub>cap</sub> |
| Parcel A   | Chippewa  | Subdivision | RES        | 82                                                                                          | 8.10                                        | LD           | Parcel A       | 400            | 287 | persons | 1.33                             | 4.087                    | 5.44                       | 1.22                       | 6.66  | 6.66                       |        |              |                    |       |                              |                       |                            |                  |
| 1          | 2         | Chippewa    | 1          | 10                                                                                          | 1.47                                        | LD           | 1              | 400            | 35  | persons | 0.16                             | 4.344                    | 0.69                       | 0.22                       | 0.91  | 7.57                       | 94.8   | 250          | CONC               | 0.32  | 33.64                        | 0.69                  | 0.46                       | 23%              |
| 2          | 3         | Chippewa    | 2          | 10                                                                                          | 1.47                                        | LD           | 2              | 400            | 35  | persons | 0.16                             | 4.344                    | 0.69                       | 0.22                       | 0.91  | 8.48                       | 98.0   | 250          | CONC               | 0.31  | 33.11                        | 0.67                  | 0.49                       | 26%              |
| 3          | 4         | Chippewa    | 3          | 10                                                                                          | 1.47                                        | LD           | 3              | 400            | 35  | persons | 0.16                             | 4.344                    | 0.69                       | 0.22                       | 0.91  | 9.39                       | 101.8  | 250          | CONC               | 0.27  | 30.90                        | 0.63                  | 0.51                       | 30%              |
| 4          | 5         | Chippewa    | 4          | 10                                                                                          | 1.47                                        | LD           | 4              | 400            | 35  | persons | 0.16                             | 4.344                    | 0.69                       | 0.22                       | 0.91  | 10.30                      | 99.4   | 250          | CONC               | 0.27  | 30.90                        | 0.63                  | 0.54                       | 33%              |
| 5          | 6         | Chippewa    | 5          | 10                                                                                          | 1.47                                        | LD           | 5              | 400            | 35  | persons | 0.16                             | 4.344                    | 0.69                       | 0.22                       | 0.91  | 11.21                      | 102.7  | 250          | CONC               | 0.22  | 27.89                        | 0.57                  | 0.54                       | 40%              |
| 6          | 7         | Chippewa    | 5          | 10                                                                                          | 1.47                                        | LD           | 6              | 400            | 35  | persons | 0.16                             | 4.344                    | 0.69                       | 0.22                       | 0.91  | 12.12                      | 99.1   | 250          | CONC               | 0.24  | 29.13                        | 0.59                  | 0.57                       | 42%              |
| 7          | 8         | Chippewa    | 6          | 10                                                                                          | 1.47                                        | LD           | 7              | 400            | 35  | persons | 0.16                             | 4.344                    | 0.69                       | 0.22                       | 0.91  | 13.03                      | 100.0  | 250          | CONC               | 0.28  | 31.47                        | 0.64                  | 0.62                       | 41%              |
| 8          | Goulais 1 | Chippewa    | /          | 10                                                                                          | 1.47                                        | LD           | 8              | 400            | 35  | persons | 0.16                             | 4.344                    | 0.69                       | 0.22                       | 0.91  | 13.94                      | 101.5  | 250          | CONC               | 0.37  | 36.17                        | 0.74                  | 0.69                       | 39%              |
| Goulais 1  | 2         | Goulais     | 8          | 3                                                                                           | 1.47                                        | LD           | 9              | 400            | 11  | persons | 0.05                             | 4.413                    | 0.22                       | 0.22                       | 0.44  | 14.38                      | 91.3   | 350          | CONC               | 0.46  | 98.93                        | 1.03                  | 0.50                       | 15%              |
|            |           |             |            |                                                                                             | 21.33 578                                   |              |                |                |     |         |                                  |                          | 14.38                      |                            |       |                            |        |              |                    |       |                              |                       |                            |                  |

L/ha/s

L/bedspace/d



= 1 + 14 / (4 + SQRT (0.001p))  $Q_p = P * q * M / 86400$  (L/s)

Mannings Equation -  $Q = 1/n * A * R^{2/3} * S^{1/2}$ Roughness Coefficient (n) - 0.013 Hydraulic Radius (R) - 0.25 \* pipe diameter Design Flow Velocity - Hydraulic elements



202m

#### Sanitary Sewer Design Sheet

| Project:<br>Client: |             | Chippewa Avenue Subdivision<br>Mamta Homes              | KEC Project: 22<br>Date Updated: M |      | 23           | Arden St. Capacity Review                   |
|---------------------|-------------|---------------------------------------------------------|------------------------------------|------|--------------|---------------------------------------------|
|                     | Area Types: |                                                         | Design Flow Rates:                 |      |              | Design Calculations:                        |
| LD                  | 3.5         | low density domestic                                    | Domestic Sewage Flow Rate =        | 400  | L/c/d        | Peaking Factor (Harmon) - M = 1 + 14 / (4   |
| MD                  | 2           | medium density domestic                                 | MALL flow rate =                   | 5    | L/m²/d       | Peak Flow - $Q_p = P * q * M$               |
| HD                  |             | high density domestic (P - actual based on survey)      | IND flow rate =                    | 35   | m³/ha/d      | Peak Extraneous Flow - $Q_i = I^*A$ (L/s)   |
| IND                 |             | industrial                                              | COM flow rate =                    | 28   | m³/ha/d      | Foundation Drain Flow - $Q_f = H * a (L/s)$ |
| SCHOOL              |             | school (P - actual based on school population)          | SCHOOL flow rate =                 | 140  | L/student/d  | Peak Design Flow - $Q_d = Q_p + Q_i +$      |
| MALL                |             | shopping centres                                        | HOTEL flow rate =                  | 225  | L/bedspace/d |                                             |
| COM                 |             | commercial areas                                        | Unit of peak extraneous flow (I) = | 0.15 | L/ha/s       |                                             |
| HOTEL               |             | hotel/motel (P - actual based on 5 bed spaces per room) |                                    |      |              |                                             |
|                     |             |                                                         |                                    |      |              |                                             |

| LOCA       | ATION    |                           |            |              |       |      |             | D            | ESIGN FLO                           | ows     |                                  |                   |                   |                    |       |                   |        |              | PII                | PE DES | IGN                 |                       |                            |                                         |
|------------|----------|---------------------------|------------|--------------|-------|------|-------------|--------------|-------------------------------------|---------|----------------------------------|-------------------|-------------------|--------------------|-------|-------------------|--------|--------------|--------------------|--------|---------------------|-----------------------|----------------------------|-----------------------------------------|
|            |          |                           |            |              |       | Tri  | butary Area |              |                                     |         |                                  | Sev               | wage Flow         | /S                 |       |                   |        |              |                    |        |                     |                       |                            |                                         |
| from<br>MH | to<br>MH | Downstream<br>MH Location | Area<br>ID | Number<br>of | Size  | Туре | Description | Flow<br>Rate | Population,<br>Students,<br>or Area |         | Average<br>Flow<br>(P*q / 86400) | Peaking<br>Factor | Peak              | Peak<br>Extraneous | Flow  | Design<br>Flow    | Length | Pipe<br>I.D. | Type<br>of<br>Pipe | Grade  | Full<br>Capacity    | Full flow<br>Velocity | Design<br>Flow<br>Velocity | Pipe<br>Utilization<br>Q <sub>d</sub> / |
|            |          |                           |            | Lots         |       |      |             | "a"          | "D"                                 |         | (P <sup>*</sup> q / 86400)       | "M"               | "Q <sub>p</sub> " | "Q;"               |       | "Q <sub>d</sub> " |        |              | Pipe               |        | "Q <sub>cap</sub> " |                       |                            |                                         |
|            |          |                           |            |              | (ha)  |      |             | ч<br>(L/c/d) | F                                   |         | (L/s)                            | IVI               | (L/s)             | (L/s)              | (L/s) | (L/s)             | (m)    | (mm)         |                    | (%)    | (L/s)               | (m/s)                 | (m/s)                      | ⊂cap                                    |
|            |          |                           |            |              | (114) |      |             | (L/C/U)      |                                     |         | (L/S)                            |                   | (L/S)             | (L/S)              | (L/S) | (L/S)             | (11)   | (11111)      |                    | (70)   | (L/S)               | (11/5)                | (11/5)                     |                                         |
|            |          |                           |            |              |       |      |             |              |                                     |         |                                  |                   |                   |                    |       |                   |        |              |                    |        |                     |                       |                            | l                                       |
| PROP       | J        | 160 Arden                 | PROP       | 180          | 1.48  | MD   | Parcel C    | 400          | 360                                 | persons | 1.67                             | 4.043             | 6.75              | 0.22               | 6.97  |                   |        |              |                    |        |                     |                       |                            | <b></b>                                 |
| PROP       | J        | 160 Arden                 | PROP       | 112          | 5.52  | LD   | Parcel B    | 400          | 392                                 | persons | 1.81                             | 4.026             | 7.29              | 0.83               | 8.12  |                   |        |              |                    |        |                     |                       |                            |                                         |
| J          | I        | 144 Arden                 | 9          | 8            | 1.38  | LD   |             | 400          | 28                                  | persons | 0.13                             | 4.359             | 0.57              | 0.21               | 0.78  | 15.87             | 72.0   | 300          | AC                 | 0.33   | 55.55               | 0.79                  | 0.62                       | 29%                                     |
| Ι          | Н        | Alpine Street             | 8          | 9            | 0.69  | LD   |             | 400          | 32                                  | persons | 0.15                             | 4.351             | 0.65              | 0.10               | 0.75  | 16.62             | 68.0   | 300          | AC                 | 0.30   | 52.97               | 0.75                  | 0.62                       | 31%                                     |
| Н          | G        | Broadview                 | 7          | 16           | 1.38  | LD   |             | 400          | 56                                  | persons | 0.26                             | 4.305             | 1.12              | 0.21               | 1.33  | 17.95             | 75.0   | 300          | AC                 | 0.35   | 57.21               | 0.81                  | 0.67                       | 31%                                     |
| G          | F        | 84 Arden                  | Broadview  | 259          | 13.30 | LD   |             | 400          | 907                                 | persons | 4.20                             | 3.827             | 16.07             | 2.00               | 18.07 | 36.02             | 26.0   | 300          | AC                 | 0.70   | 80.91               | 1.15                  | 1.14                       | 45%                                     |
| F          | E        | 70 Arden                  | 6          | 8            | 0.73  | LD   |             | 400          | 28                                  | persons | 0.13                             | 4.359             | 0.57              | 0.11               | 0.68  | 36.70             | 53.0   | 300          | AC                 | 0.32   | 54.70               | 0.77                  | 0.86                       | 67%                                     |
| E          | D        | Ascot Ave                 | 5          | 9            | 0.74  | LD   |             | 400          | 32                                  | persons | 0.15                             | 4.351             | 0.65              | 0.11               | 0.76  | 37.46             | 107.0  | 300          | AC                 | 0.37   | 58.82               | 0.83                  | 0.92                       | 64%                                     |
| D          | С        | 36 Arden                  | 4          | 40           | 3.87  | LD   |             | 400          | 140                                 | persons | 0.65                             | 4.201             | 2.73              | 0.58               | 3.31  | 40.77             | 61.0   | 300          | PVC                | 0.15   | 37.45               | 0.53                  | 0.43                       | 109%                                    |
| С          | В        | Winfield Drive            | 3          | 7            | 0.67  | LD   |             | 400          | 25                                  | persons | 0.11                             | 4.368             | 0.48              | 0.10               | 0.58  | 41.35             | 61.0   | 300          | AC                 | 0.15   | 37.45               | 0.53                  | 0.41                       | 110%                                    |
| В          | A        | 2nd Line                  | 1+2        | 44           | 4.08  | LD   |             | 400          | 154                                 | persons | 0.71                             | 4.187             | 2.97              | 0.61               | 3.58  | 44.93             | 91.0   | 375          | AC                 | 0.18   | 74.39               | 0.67                  | 0.73                       | 60%                                     |
|            |          |                           |            |              |       |      |             |              |                                     |         |                                  |                   |                   |                    |       |                   |        |              |                    |        |                     |                       |                            | <b>I</b>                                |
|            |          |                           |            |              |       |      |             |              |                                     |         |                                  |                   |                   |                    |       |                   |        |              |                    |        |                     |                       |                            | I                                       |
|            |          |                           |            |              |       |      |             |              |                                     |         |                                  |                   |                   |                    |       |                   |        |              |                    |        |                     |                       |                            |                                         |
|            |          |                           |            |              | 33.84 |      |             |              | 2152                                |         |                                  |                   |                   |                    | 44.93 |                   |        |              |                    |        |                     |                       |                            | t                                       |
|            |          |                           |            |              | 55.04 |      |             |              | 2102                                |         |                                  |                   |                   |                    | 44.93 |                   |        |              |                    | 1      |                     |                       |                            | L                                       |

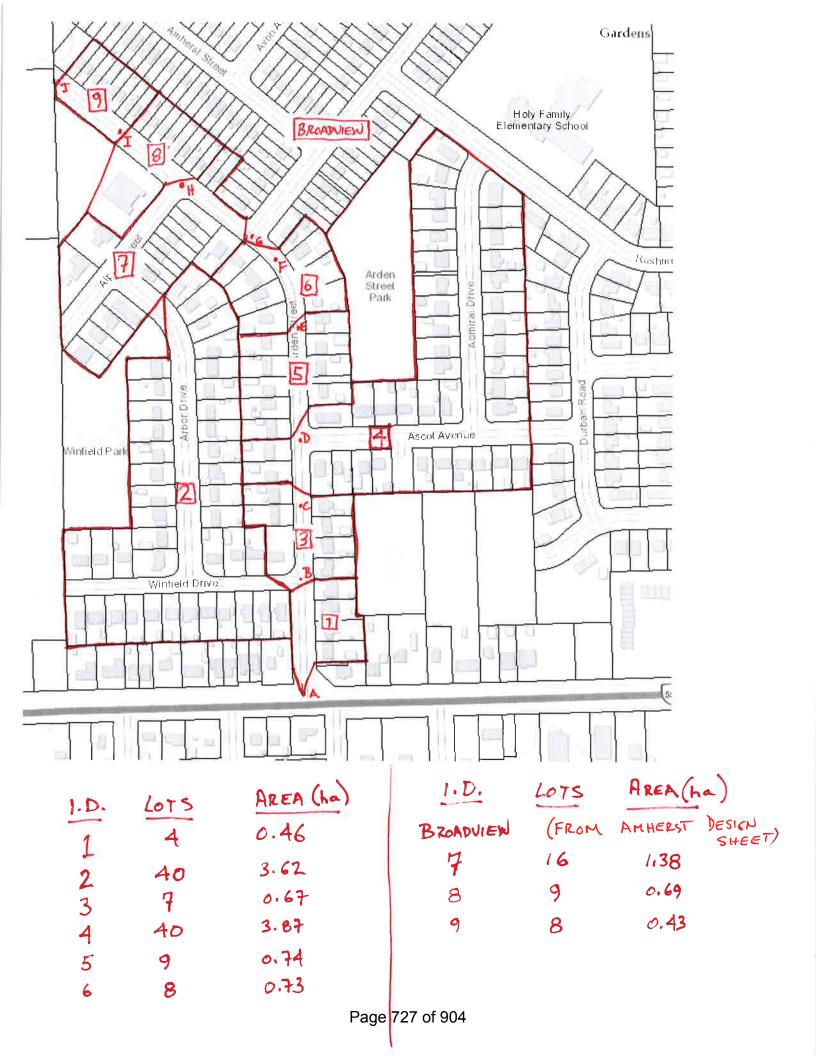
| Peaking Factor (Harmon) | $M = 1 \pm 14 / (4 \pm 1)$                      |
|-------------------------|-------------------------------------------------|
|                         |                                                 |
| Peak Flow               | - Q <sub>p</sub> = P * q * M /                  |
| Peak Extraneous Flow    | - $Q_i = I^*A$ (L/s)                            |
| Foundation Drain Flow   | <ul> <li>Q<sub>f</sub> = H * a (L/s)</li> </ul> |
| Peak Design Flow        | $- Q_d = Q_p + Q_i + Q_i$                       |



+ SQRT (0.001p)) / 86400 (L/s)

Mannings Equation -  $Q = 1/n * A * R^{2/3} * S^{1/2}$ Roughness Coefficient (n) - 0.013 Hydraulic Radius (R) - 0.25 \* pipe diameter Design Flow Velocity - Hydraulic elements

Q<sub>f</sub> (L/s)



| Project:<br>Client: | Chippewa Avenue Subdivision<br>Mamta Homes                                             | KEC Project: <b>227</b><br>Date Updated: <b>Mar</b> |      |                              |
|---------------------|----------------------------------------------------------------------------------------|-----------------------------------------------------|------|------------------------------|
| <u>Area Types:</u>  |                                                                                        | Design Flow Rates:                                  |      |                              |
| LD                  | low density domestic LD persons per lot = 4                                            | Domestic Sewage Flow Rate =                         | 450  | L/c/d                        |
| MD                  | medium density domestic (P - actual based on survey) = 3                               | MALL flow rate =                                    | 5    | L/m²/d                       |
| HD                  | high density domestic (P - actual based on survey)                                     | Amenity Building flow rate=                         | 36   | L/c/d                        |
| IND                 | industrial                                                                             | COM flow rate =                                     | 650  | L/station/d                  |
| SCHOOL              | school (P - actual based on school population)                                         | SCHOOL flow rate =                                  | 140  | L/student/d                  |
| MALL                | shopping centres                                                                       | HOTEL flow rate =                                   | 225  | L/bedspace/d                 |
| COM                 | commercial areas = 2                                                                   | Unit of peak extraneous flow (I) =                  | 0.15 | L/ha/s                       |
| HOTEL               | hotel/motel (P - actual based on 5 bed spaces per room)<br>Amenity Space Capacity= 200 | Foundation Drain Allowance (a) =                    | 0    | L/s/house (from MEA - 0.071) |

#### Design Calculations:

 $\begin{array}{l} \mbox{Peaking Factor (Harmon)} & - M = 1 + 14 / (4 + SQRT (0.001p)) \\ \mbox{Peak Flow} & - Q_p = P * q * M / 86400 (L/s) \\ \mbox{Peak Extraneous Flow} & - Q_i = I^*A (L/s) \\ \mbox{Foundation Drain Flow} & - Q_r = H * a (L/s) \\ \mbox{Peak Design Flow} & - Q_d = Q_p + Q_i + Q_r (L/s) \end{array}$ 



Roughness Coefficient (n) - 0.013 Hydraulic Radius (R) - 0.25 \* pipe diameter Design Flow Velocity - Hydraulic elements

| LOC        | CATION   |                    |            |                      |      |          |                            |              | DES                                 | IGN F              | LOWS                             |                   |                   |                    |                     |       |                   |        |              | PIF                | E DES | IGN                 |                       |                            |                                         |
|------------|----------|--------------------|------------|----------------------|------|----------|----------------------------|--------------|-------------------------------------|--------------------|----------------------------------|-------------------|-------------------|--------------------|---------------------|-------|-------------------|--------|--------------|--------------------|-------|---------------------|-----------------------|----------------------------|-----------------------------------------|
|            |          |                    |            |                      |      | Tı       | ributary Area              |              |                                     |                    |                                  |                   | Sewa              | ge Flows           |                     |       |                   |        |              |                    |       |                     |                       |                            |                                         |
| from<br>MH | to<br>MH | Street             | Area<br>ID | Number<br>of<br>Lots | Size | Туре     | Description                | Flow<br>Rate | Population,<br>Students,<br>or Area |                    | Average<br>Flow<br>(P*q / 86400) | Peaking<br>Factor | Peak              | Peak<br>Extraneous | Foundation<br>Drain | Flow  | Design<br>Flow    | Length | Pipe<br>I.D. | Type<br>of<br>Pipe | Grade | Full<br>Capacity    | Full flow<br>Velocity | Design<br>Flow<br>Velocity | Pipe<br>Utilization<br>Q <sub>d</sub> / |
|            |          |                    |            |                      |      |          |                            | "q"          | "P"                                 |                    |                                  | "M"               | "Q <sub>p</sub> " | "Q <sub>i</sub> "  | "Q <sub>f</sub> "   |       | "Q <sub>d</sub> " |        |              |                    |       | "Q <sub>cap</sub> " |                       |                            | Q <sub>cap</sub>                        |
|            |          |                    |            |                      | (ha) |          |                            | (L/d)        |                                     |                    | (L/s)                            |                   | (L/s)             | (L/s)              | (L/s)               | (L/s) | (L/s)             | (m)    | (mm)         |                    | (%)   | (L/s)               | (m/s)                 | (m/s)                      | 1                                       |
| D          | С        | Parcel A           |            | 7                    | 0.39 | LD       | Residential                | 450          | 28                                  | persons            | 0.15                             | 4.359             | 0.65              | 0.06               | 0.00                | 0.71  | 0.71              | 91.2   | 300          | Sanitite HP        | 0.22  | 45.36               | 0.64                  | 0.08                       | 2%                                      |
| С          | В        | Parcel A           |            | 11                   | 0.74 | LD       | Residential                | 450          | 44                                  | persons            | 0.23                             | 4.326             | 0.99              | 0.11               | 0.00                | 1.10  | 1.81              | 111.6  | 300          | Sanitite HP        | 0.22  | 45.36               | 0.64                  | 0.13                       | 4%                                      |
| В          | А        | Parcel A           |            | 5                    | 0.44 | LD       | Residential                | 450          | 20                                  | persons            | 0.10                             | 4.380             | 0.44              | 0.07               | 0.00                | 0.51  | 2.32              | 83.3   | 300          | Sanitite HP        | 0.22  | 45.36               | 0.64                  | 0.15                       | 5%                                      |
| F          | F        | Parcel A Street 2  |            | 6                    | 0.36 | LD       | Residential                | 450          | 24                                  | persons            | 0.13                             | 4.369             | 0.57              | 0.05               | 0.00                | 0.62  | 0.62              | 46.9   | 300          | Sanitite HP        | 0.22  | 45.36               | 0.64                  | 0.08                       | 1%                                      |
| F          | G        | Parcel A Street 2  |            | 6                    | 0.32 | LD       | Residential                | 450          | 24                                  | persons            | 0.13                             | 4.369             | 0.57              | 0.05               | 0.00                | 0.62  | 1.24              | 77.3   | 300          | Sanitite HP        | 0.22  | 45.36               | 0.64                  | 0.10                       | 3%                                      |
|            |          |                    |            |                      |      |          |                            |              |                                     |                    |                                  |                   |                   |                    |                     |       |                   |        |              |                    |       |                     |                       |                            |                                         |
| К          | - · · ·  | Atwater<br>Atwater |            | 9<br>10              | 0.76 | LD<br>MD | Residential<br>Residential | 450<br>450   | 36<br>30                            | persons            | 0.19                             | 4.341<br>4.355    | 0.82              | 0.11               | 0.00                | 0.93  | 1.69              | 114.2  | 300          | Sanitite HP        | 0.22  | 45.36               | 0.64                  | 0.12                       | 4%                                      |
| 1          | L .      | Atwater            |            | 10                   | 0.39 | LD       | Residential                | 450          | 16                                  | persons<br>persons | 0.08                             | 4.393             | 0.70              | 0.08               | 0.00                | 0.78  |                   |        |              |                    |       |                     |                       |                            |                                         |
| L          | G        | Atwater            |            | 6                    | 1.15 | MD       | Residential                | 450          | 18                                  | persons            | 0.08                             | 4.395             | 0.35              | 0.08               | 0.00                | 0.43  | 2.68              | 81.0   | 300          | Sanitite HP        | 0.22  | 45.36               | 0.64                  | 0.17                       | 6%                                      |
| G          | Н        | Atwater            |            | 4                    | 0.26 | COM      | Residential                | 650          | 8                                   | persons            | 0.06                             | 4.423             | 0.27              | 0.04               | 0.00                | 0.31  | 2.99              | 85.5   | 300          | Sanitite HP        | 0.22  | 45.36               | 0.64                  | 0.18                       | 7%                                      |
|            |          |                    |            |                      |      |          |                            |              |                                     |                    |                                  |                   |                   |                    |                     |       |                   |        |              |                    |       |                     |                       |                            |                                         |
| Н          | J        | Parcel A Street 1  |            | 8                    | 0.44 | LD       | Residential                | 450          | 32                                  | persons            | 0.17                             | 4.350             | 0.74              | 0.07               | 0.00                | 0.81  | 3.80              | 75.4   | 300          | Sanitite HP        | 0.22  | 45.36               | 0.64                  | 0.21                       | 8%                                      |
| J          | Α        | Parcel A Street 1  |            | 8                    | 0.44 | LD       | Residential                | 450          | 32                                  | persons            | 0.17                             | 4.350             | 0.74              | 0.07               | 0.00                | 0.81  | 4.61              | 72.3   | 300          | Sanitite HP        | 0.22  | 45.36               | 0.64                  | 0.24                       | 10%                                     |
| Α          | Existing | Chippewa           |            | 2                    | 0.27 | LD       | Residential                | 450          | 8                                   | persons            | 0.04                             | 4.423             | 0.18              | 0.04               | 0.00                | 0.22  | 7.15              | 53.5   | 300          | Sanitite HP        | 0.22  | 45.36               | 0.64                  | 0.33                       | 16%                                     |
|            | Littoung | Simppond           | ļ          | 51.00                | 4.21 |          |                            | .50          | Ŭ                                   | 190.0010           | 0.04                             | 420               | 0.10              | 5.04               | 0.00                | 4.83  |                   | 00.0   | 000          | Canalo I II        | U.22  | .0.00               | 0.04                  | 0.00                       |                                         |

| Project:<br>Client: | Chippewa Avenue Subdivision<br>Mamta Homes                                             | KEC Project: 22<br>Date Updated: Ma |      | 1                            |
|---------------------|----------------------------------------------------------------------------------------|-------------------------------------|------|------------------------------|
| Area Types:         |                                                                                        | Design Flow Rates:                  |      |                              |
| LD                  | low density domestic LD persons per lot = 4                                            | Domestic Sewage Flow Rate =         | 400  | L/c/d                        |
| MD                  | medium density domestic (P - actual based on survey) = 3                               | MALL flow rate =                    | 5    | L/m²/d                       |
| HD                  | high density domestic (P - actual based on survey)                                     | Amenity Building flow rate=         | 36   | L/c/d                        |
| IND                 | industrial                                                                             | COM flow rate =                     | 650  | L/station/d                  |
| SCHOOL              | school (P - actual based on school population)                                         | SCHOOL flow rate =                  | 140  | L/student/d                  |
| MALL                | shopping centres                                                                       | HOTEL flow rate =                   | 225  | L/bedspace/d                 |
| COM                 | commercial areas = 2                                                                   | Unit of peak extraneous flow (I) =  | 0.15 | L/ha/s                       |
| HOTEL               | hotel/motel (P - actual based on 5 bed spaces per room)<br>Amenity Space Capacity= 200 | Foundation Drain Allowance (a) =    | 0    | L/s/house (from MEA - 0.071) |

#### Design Calculations: Peaking Factor (Harmon) - M = 1 + 14 / (4 + SORT (0.001p))

| Peaking Factor (Harmon) | - M = 1 + 14 / (4 + SQRT (0.001p))         |
|-------------------------|--------------------------------------------|
| Peak Flow               | - Q <sub>p</sub> = P * q * M / 86400 (L/s) |
| Peak Extraneous Flow    | - Q <sub>i</sub> = I*A (L/s)               |
| Foundation Drain Flow   | - Q <sub>f</sub> = H * a (L/s)             |
| Peak Design Flow        | $- Q_d = Q_p + Q_i + Q_f (L/s)$            |

Mannings Equation - Q = 1/n \* A \* R<sup>2/3</sup> \* S<sup>1/2</sup> Roughness Coefficient (n) - 0.013 Hydraulic Radius (R) - 0.25 \* pipe diameter Design Flow Velocity - Hydraulic elements

**Engineering Corporation** 

| LOC        | ATION    |          |            |                      | DESIGN FLOWS |         |                |              |                                     |         |                                  |                   |                            |                            |                            | PIF   | PE DES                     | IGN    |              |                    |       |                              |                       |                            |                                         |
|------------|----------|----------|------------|----------------------|--------------|---------|----------------|--------------|-------------------------------------|---------|----------------------------------|-------------------|----------------------------|----------------------------|----------------------------|-------|----------------------------|--------|--------------|--------------------|-------|------------------------------|-----------------------|----------------------------|-----------------------------------------|
|            |          |          |            |                      | 1            | -       | Tributary Area |              | 1                                   | 1       |                                  |                   | Sewa                       | ge Flows                   | 1                          | 1     |                            |        |              |                    |       |                              |                       |                            |                                         |
| from<br>MH | to<br>MH | Street   | Area<br>ID | Number<br>of<br>Lots | Size         | Туре    | Description    | Flow<br>Rate | Population,<br>Students,<br>or Area |         | Average<br>Flow<br>(P*q / 86400) | Peaking<br>Factor | Peak                       | Peak<br>Extraneous         | Foundation<br>Drain        | Flow  | Design<br>Flow             | Length | Pipe<br>I.D. | Type<br>of<br>Pipe | Grade | Full<br>Capacity             | Full flow<br>Velocity | Design<br>Flow<br>Velocity | Pipe<br>Utilization<br>Q <sub>d</sub> / |
|            |          |          |            |                      | (ha)         |         |                | "q"<br>(L/d) | "P"                                 |         | (L/s)                            | "M"               | "Q <sub>p</sub> "<br>(L/s) | "Q <sub>i</sub> "<br>(L/s) | "Q <sub>f</sub> "<br>(L/s) | (L/s) | "Q <sub>d</sub> "<br>(L/s) | (m)    | (mm)         |                    | (%)   | "Q <sub>cap</sub> "<br>(L/s) | (m/s)                 | (m/s)                      | Q <sub>cap</sub>                        |
| U          | V        | Parcel B | m          | 13                   | 0.67         | MD      | Residential    | 400          | 39                                  | persons | 0.18                             | 4.335             | 0.78                       | 0.10                       | 0.00                       | 0.88  | 0.88                       | 72.0   | 300          | Sanitite HP        | 0.22  | 45.36                        | 0.64                  | 0.09                       | 2%                                      |
| V          | W        | Parcel B | m          | 25                   | 0.60         | MD      | Residential    | 400          | 75                                  | persons | 0.35                             | 4.276             | 1.50                       | 0.09                       | 0.00                       | 1.59  | 2.47                       | 118.0  | 300          | Sanitite HP        | 0.22  | 45.36                        | 0.64                  | 0.16                       | 5%                                      |
| W          |          | Parcel B | m          | 8                    | 0.277        | MD      | Residential    | 400          | 24                                  | persons | 0.11                             | 4.369             | 0.48                       | 0.04                       | 0.00                       | 0.52  | 0.87                       | 81.0   | 300          | Sanitite HP        | 0.22  | 45.36                        | 0.64                  | 0.09                       | 2%                                      |
|            | Y        | Parcel B | m          | 1                    | 0.151        | Amenity | Residential    | 36           | 200                                 | persons | 0.08                             | 4.148             | 0.33                       | 0.02                       | 0.00                       | 0.35  | 0.87                       | 01.0   | 300          | Samule TIF         | 0.22  | 43.30                        | 0.04                  | 0.09                       | 2 /0                                    |
| Y          | Z        | Parcel B | m          | 19                   | 0.75         | MD      | Residential    | 400          | 57                                  | persons | 0.26                             | 4.303             | 1.12                       | 0.11                       | 0.00                       | 1.23  | 2.10                       | 99.0   | 300          | Sanitite HP        | 0.22  | 45.36                        | 0.64                  | 0.14                       | 5%                                      |
| Z          | Т        | Parcel B | m          | 19                   | 0.70         | MD      | Residential    | 400          | 57                                  | persons | 0.26                             | 4.303             | 1.12                       | 0.11                       | 0.00                       | 1.23  | 3.33                       | 87.0   | 300          | Sanitite HP        | 0.22  | 45.36                        | 0.64                  | 0.19                       | 7%                                      |
| М          | N        | Parcel C | f          | 90                   | 0.41         | MD      | Residential    | 400          | 270                                 | persons | 1.25                             | 4.098             | 5.12                       | 0.06                       | 0.00                       | 5.18  | 5.18                       | 92.0   | 300          | Sanitite HP        | 0.22  | 45.36                        | 0.64                  | 0.26                       | 11%                                     |
| Ν          | Р        | Parcel C | е          | 90                   | 0.40         | MD      | Residential    | 450          | 270                                 | persons | 1.41                             | 4.098             | 5.78                       | 0.06                       | 0.00                       | 5.84  | 11.02                      | 41.0   | 300          | Sanitite HP        | 0.22  | 45.36                        | 0.64                  | 0.45                       | 24%                                     |
| Р          | Q        | Parcel B | d          | 6                    | 0.21         | MD      | Residential    | 400          | 18                                  | persons | 0.08                             | 4.386             | 0.35                       | 0.03                       | 0.00                       | 0.38  | 11.40                      | 117.0  | 300          | Sanitite HP        | 0.22  | 45.36                        | 0.64                  | 0.46                       | 25%                                     |
| Q          | R        | Parcel B | С          | 17                   | 0.56         | MD      | Residential    | 450          | 51                                  | persons | 0.27                             | 4.313             | 1.16                       | 0.08                       | 0.00                       | 1.24  | 12.64                      | 99.0   | 300          | Sanitite HP        | 0.22  | 45.36                        | 0.64                  | 0.50                       | 28%                                     |
| R          | S        | Parcel B | с          | 18                   | 0.60         | MD      | Residential    | 450          | 54                                  | persons | 0.28                             | 4.308             | 1.21                       | 0.09                       | 0.00                       | 1.30  | 13.94                      | 73.0   | 300          | Sanitite HP        | 0.22  | 45.36                        | 0.64                  | 0.53                       | 31%                                     |
| S          | Т        | Parcel B | с          | 14                   | 0.47         | MD      | Residential    | 450          | 42                                  | persons | 0.22                             | 4.329             | 0.95                       | 0.07                       | 0.00                       | 1.02  | 14.96                      | 66.0   | 300          | Sanitite HP        | 0.22  | 45.36                        | 0.64                  | 0.55                       | 33%                                     |
| Т          | Existing | Arden    | m          | 3                    | 0.28         | MD      | Residential    | 400          | 9                                   | persons | 0.04                             | 4.419             | 0.18                       | 0.04                       | 0.00                       | 0.22  | 18.51                      | 62.0   | 300          | PVC DR 35          | 0.22  | 45.36                        | 0.64                  | 0.62                       | 41%                                     |
|            |          |          |            | 238.00               | 2.93         |         |                |              |                                     |         |                                  |                   |                            |                            |                            | 15.18 |                            |        |              |                    |       |                              |                       |                            |                                         |

Appendix 8 Fire Flow Design Domestic

| S.F lots<br>S.D. lots<br>Townhouse lots           | 66<br>16<br>104    | 3.5<br>3.5<br>2                | 231<br>56<br>208 |
|---------------------------------------------------|--------------------|--------------------------------|------------------|
| Apartment units                                   | 180                | 2_                             | 360<br>855       |
| Population<br>Design Demand<br>Development Demand | 855<br>400<br>3.96 | persons<br>L/capita/dav<br>L/s | y                |
| Maximum Day Factor<br>Maximum daily demand        | 2.75<br>10.89      | L/s                            |                  |
| Peak Rate Factor (hour)<br>Maximum hourly demand  | 4.13<br>16.35      | L/s                            |                  |

| Design fire<br>Fire (UL) |            |              |                                      |
|--------------------------|------------|--------------|--------------------------------------|
| RFF = 220                | )C√A       |              |                                      |
|                          | C 1        | Commo        | on Construction                      |
|                          | A 3000     | Based o      | on Fire Area of one townhouse block  |
|                          |            | 1            | 500 sq. m per floor                  |
|                          |            |              | 2 floors                             |
| RF                       | F 12049.9  | L/m          |                                      |
|                          | 120105     | L/m          | rounded to nearest 1000              |
|                          | 12000      | L/ 111       | Tounded to hearest 1000              |
| Content /                | Adjustment |              |                                      |
| facto                    | or -15%    | Group        | C - Limited combustible contents     |
| adjusdmer                | nt -1800   | L/m          |                                      |
| Exposure                 | Adjustmen  | t            |                                      |
|                          | 20%        | side ya      | rd 1                                 |
|                          | 20%        | side ya      |                                      |
|                          | 10%        | ,<br>rear ya |                                      |
|                          | 50%        | / _          |                                      |
| adjusdmei                |            | L/m          |                                      |
| -                        |            | -            |                                      |
| Adjusted                 | REE        |              |                                      |
| R                        |            | L/m          | (Note OBC max rate is 9,000 L/m)     |
| KI                       | L T0000    | L/III        | (NOLE OBC IIIdx Tale is 9,000 L/III) |

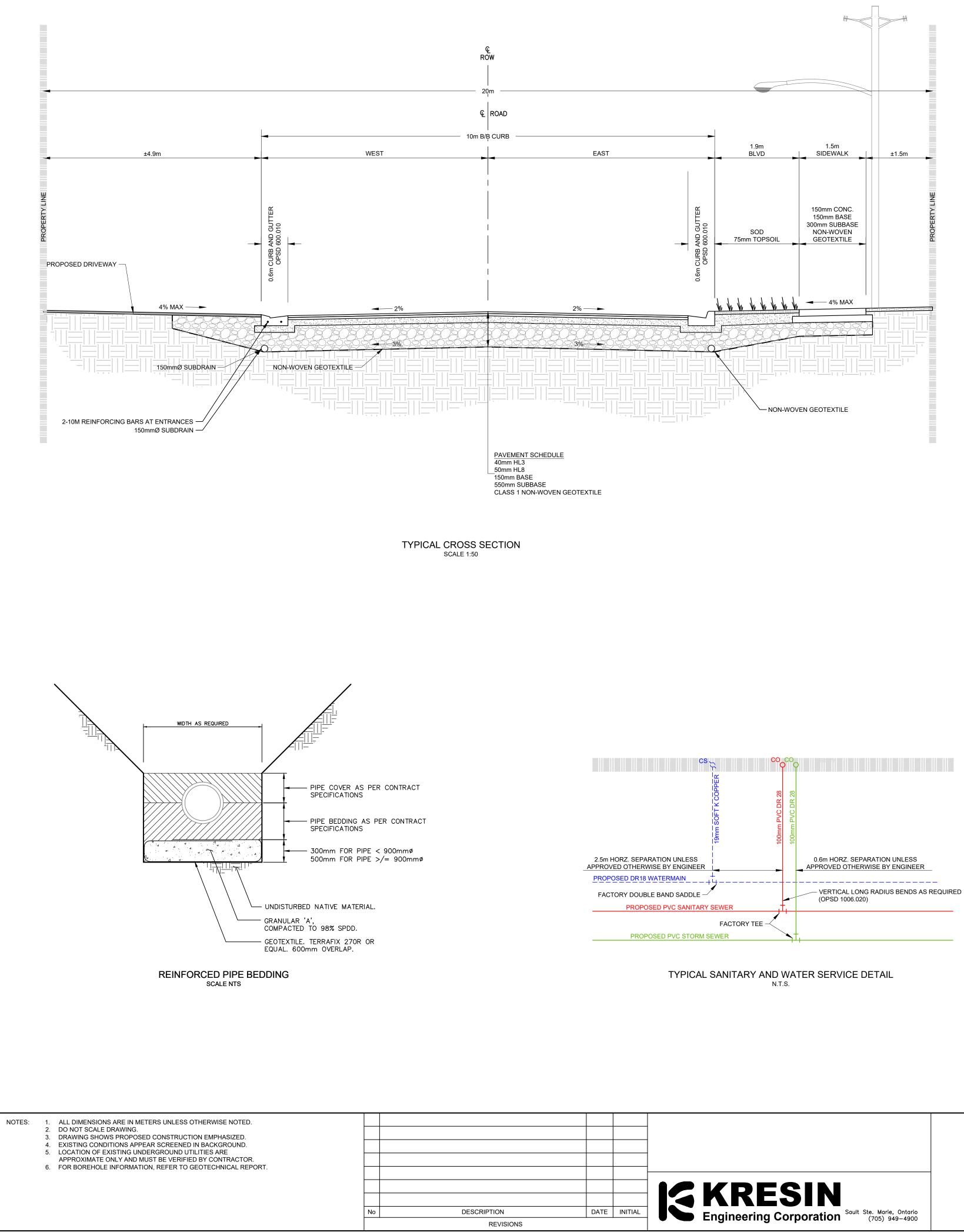
265

L/s

rounded

Appendix 9 Engineering Drawings

Page 733 of 904

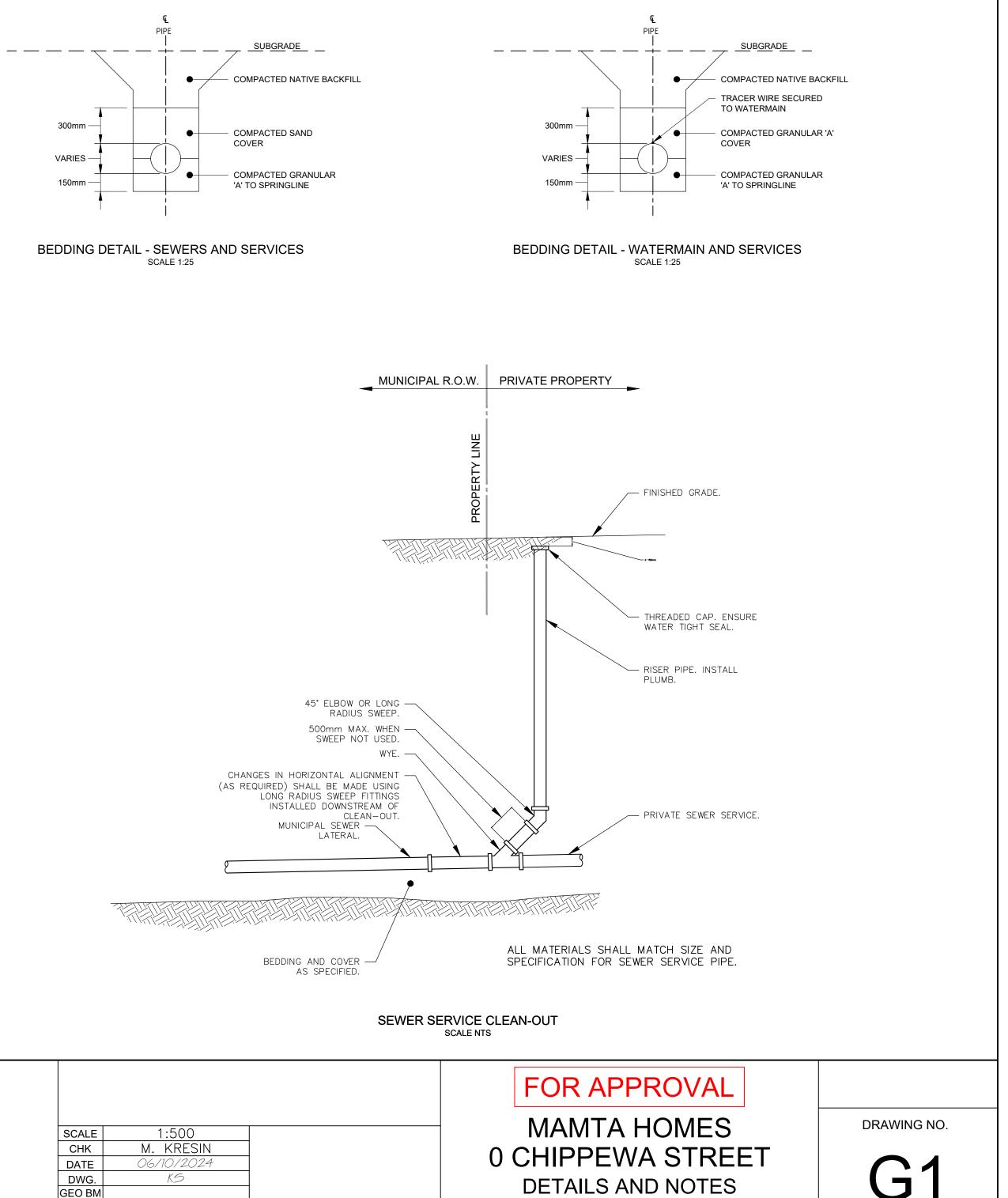


# GENERAL:

- 1. ALL SERVICES ARE TO REMAIN UNINTERRUPTED FOR THE DURATION OF THE CONTRACT.
- 2. THE CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS TO PRE-CONSTRUCTION CONDITION, OR BETTER

AND TO THE SATISFACTION OF THE ENGINEER.

- 3. CONCRETE SIDEWALK CONSTRUCTION SHALL BE AS PER OPSD 310.010 WITH RAMPS AT INTERSECTIONS CONFORMING TO CITY OF SAULT STE. MARIE STANDARDS.
- 4. ALL ENTRANCE RESTORATION SHALL ENSURE WIDTHS, SURFACE, CURB AND FINISHED GRADE MATCH EXISTING AT LIMITS AS DIRECTED BY THE ENGINEER ON-SITE. ENSURE POSITIVE SURFACE DRAINAGE TO STORM WATER COLLECTION SYSTEM.
- 5. GRADE TO MATCH EXISTING ASPHALT AND CURB AT INTERSECTIONS. ENSURE POSITIVE SURFACE DRAINAGE TO STORM WATER COLLECTION SYSTEM.
- 6. THE POSITION AND SIZE OF POLE LINES, CONDUITS, DUCTS, WATER MAINS, SEWERS AND OTHER UNDER GROUND AND ABOVE GROUND UTILITIES AND STRUCTURES ARE NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. THE CONTRACTOR SHALL BE RESPONSIBLE TO DETERMINE THE EXACT LOCATION AND SIZE OF ALL SUCH UTILITIES AND STRUCTURES AND SHALL ASSUME LIABILITY FOR DAMAGE TO THEM.

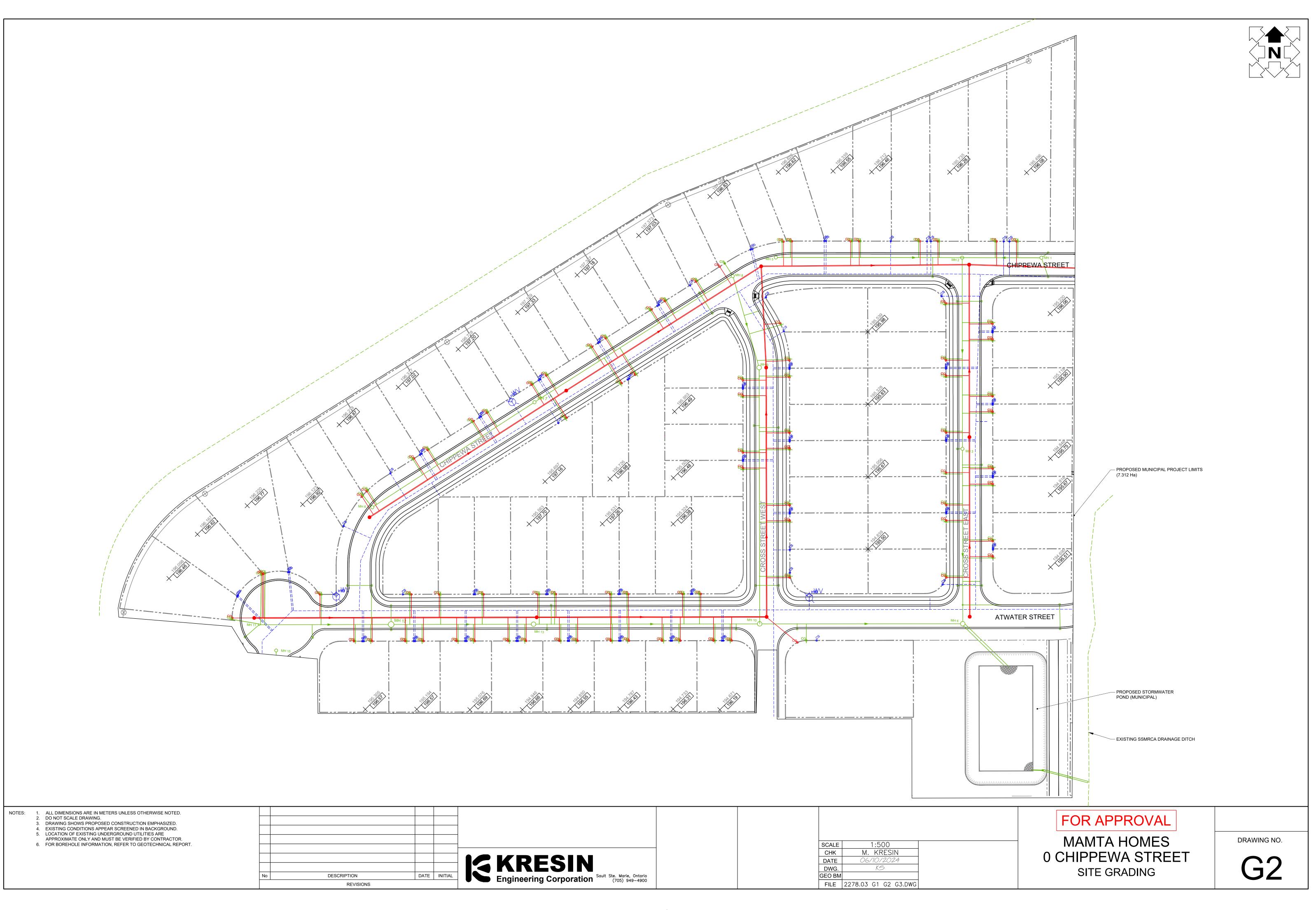


| SCALE  | 1:500                |  |
|--------|----------------------|--|
| CHK    | M. KRESIN            |  |
| DATE   | 06/10/2024           |  |
| DWG.   | KS                   |  |
| GEO BM |                      |  |
| FILE   | 2278.03 G1 G2 G3.DWG |  |
|        |                      |  |

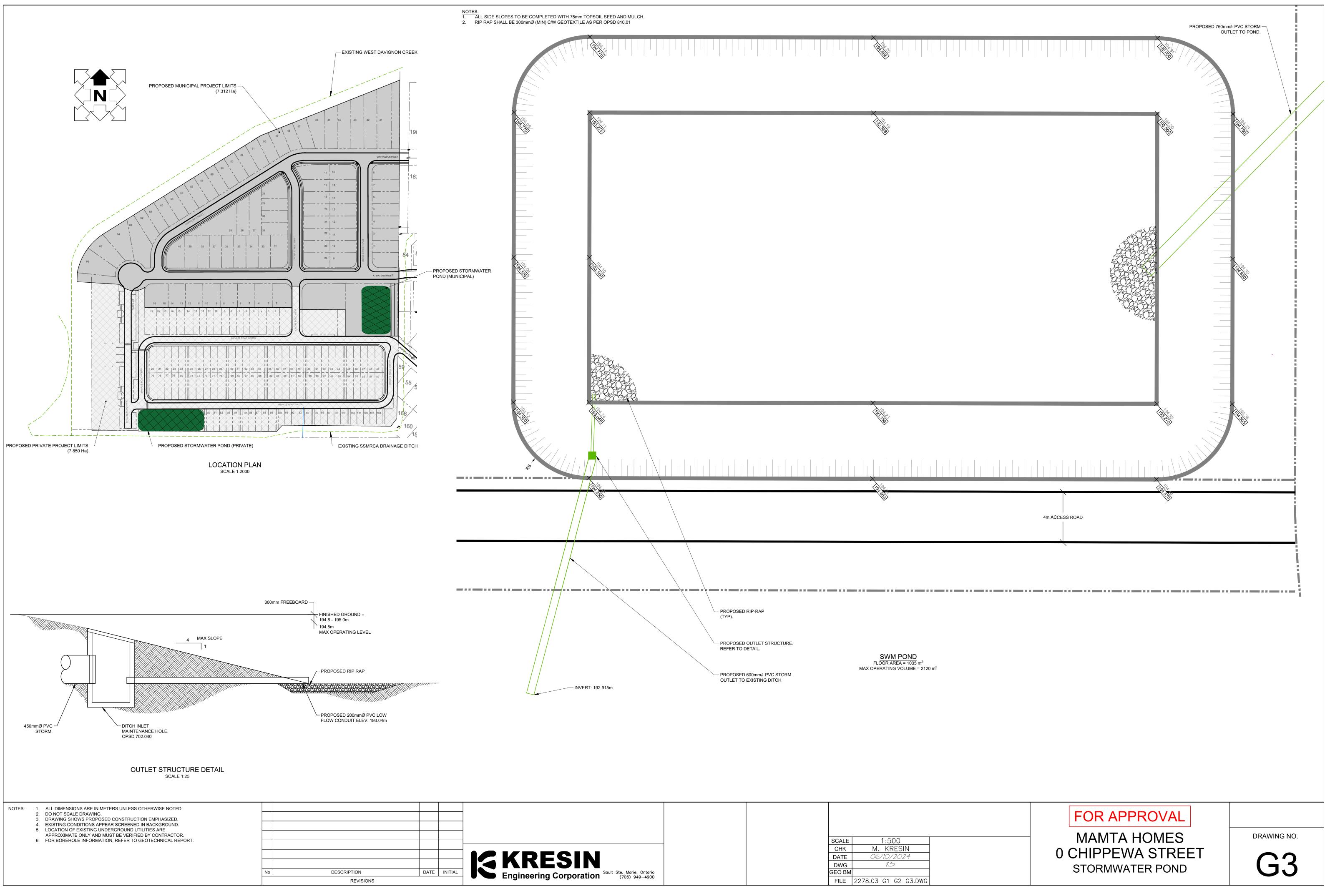


# SANITARY AND STORM SEWERS:

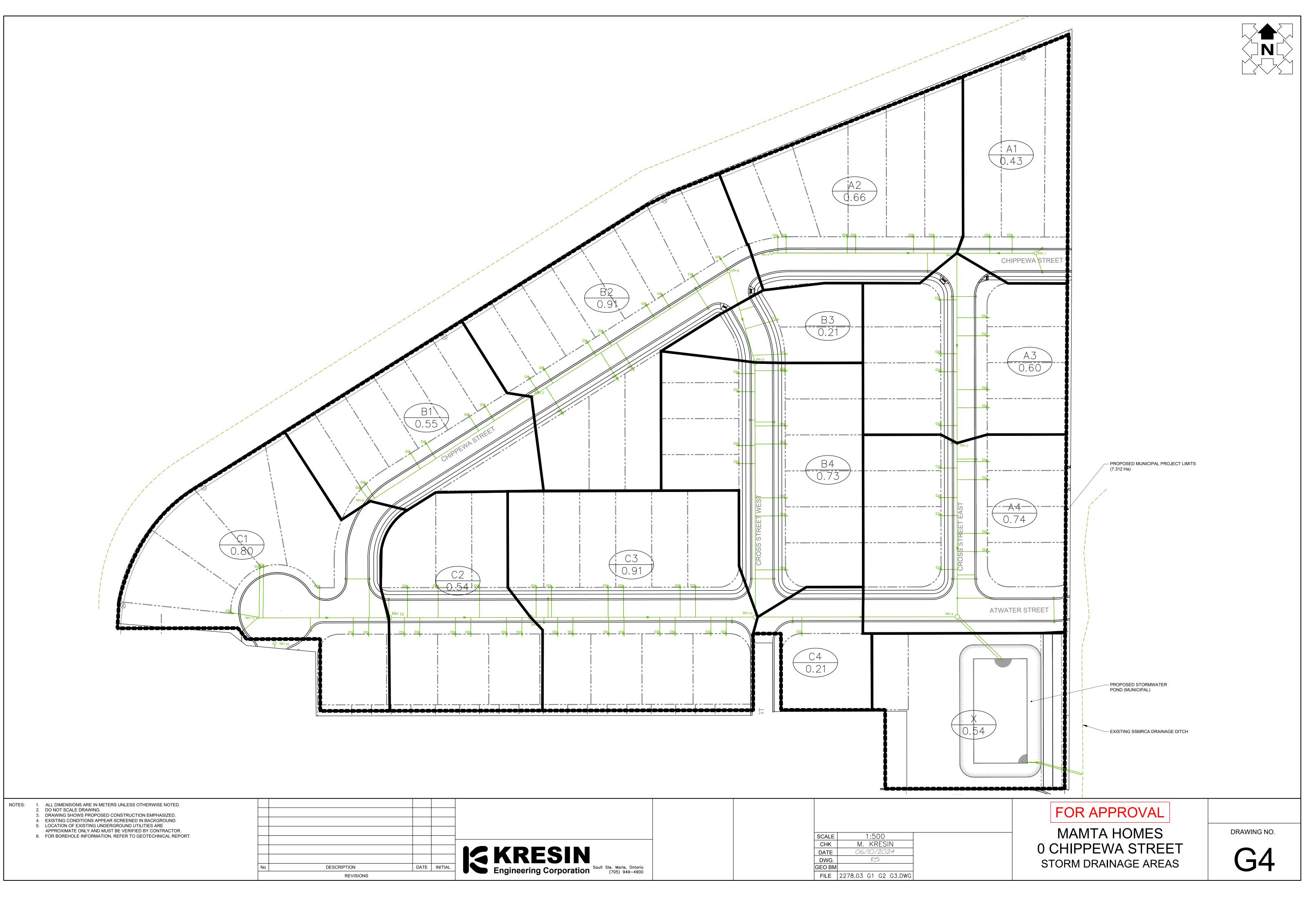
- 1. ALL SANITARY SEWER PIPE TO BE CSA 182.2 PVC SDR 35, SIZED AS NOTED ON DRAWINGS. ALL FITTINGS AND APPURTENANCES TO BE 100% COMPATIBLE.
- 2. ALL STORM SEWER PIPE TO BE CSA 182.2 PVC SDR35, OR CSA A257.2 REINFORCED CONCRETE PIPE, SIZED AS NOTED ON DRAWINGS. ALL FITTINGS & APPURTENANCES TO BE 100% COMPATIBLE.
- 3. ALL SANITARY AND STORM MAINTENANCE HOLES TO BE SIZED AS NOTED ON THE PROFILE DRAWING(S) AND SHALL CONFORM TO THE RELEVANT OPSD UNLESS OTHERWISE NOTED.
- 4. ALL CATCH BASIN LEADS SHALL BE CSA 182.2 PVC SDR 35 250mmØ UNLESS NOTED.
- 5. ALL SUBDRAINS TO BE CSA 182.8 PERFORATED HIGH DENSITY POLYETHYLENE PIPE OR APPROVED ALTERNATIVE; WRAPPED IN FILTER FABRIC CONFORMING TO OPSS 1840; 150mmØ.



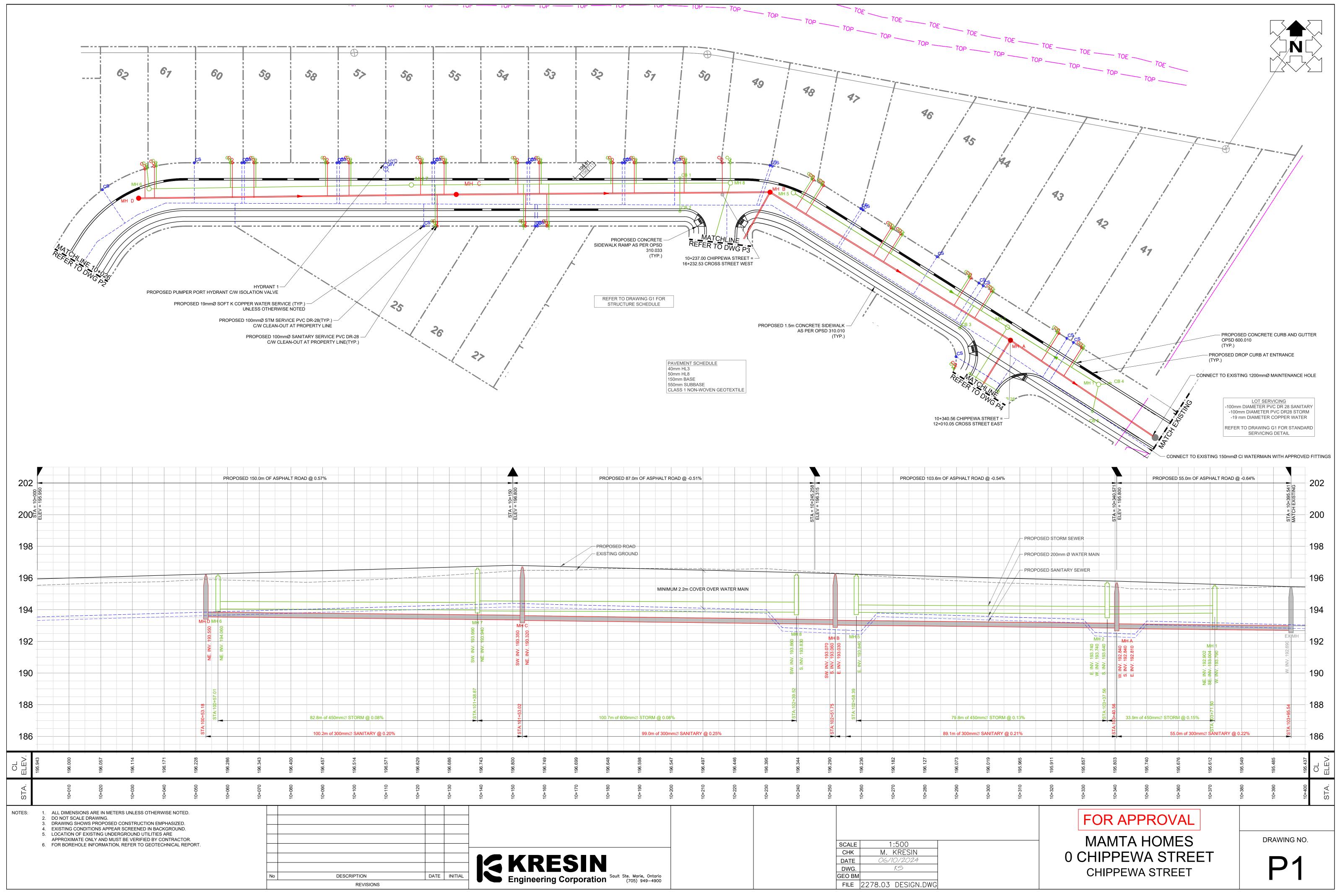
| SCALE  | 1:500                |  |
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| СНК    | M. KRESIN            |  |
| DATE   | 06/10/2024           |  |
| DWG.   | KS                   |  |
| GEO BM |                      |  |
| FILE   | 2278.03 G1 G2 G3.DWG |  |
|        |                      |  |

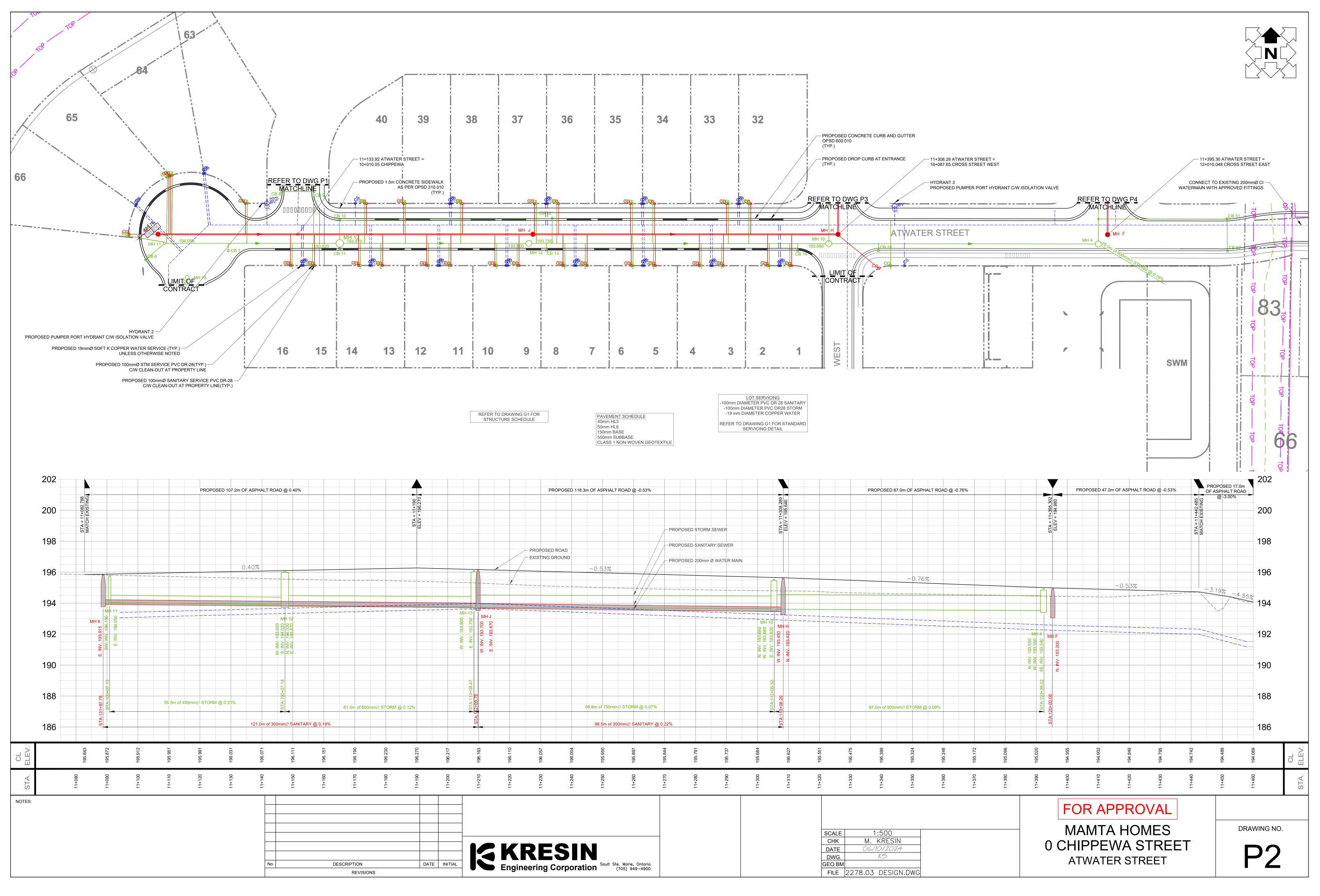


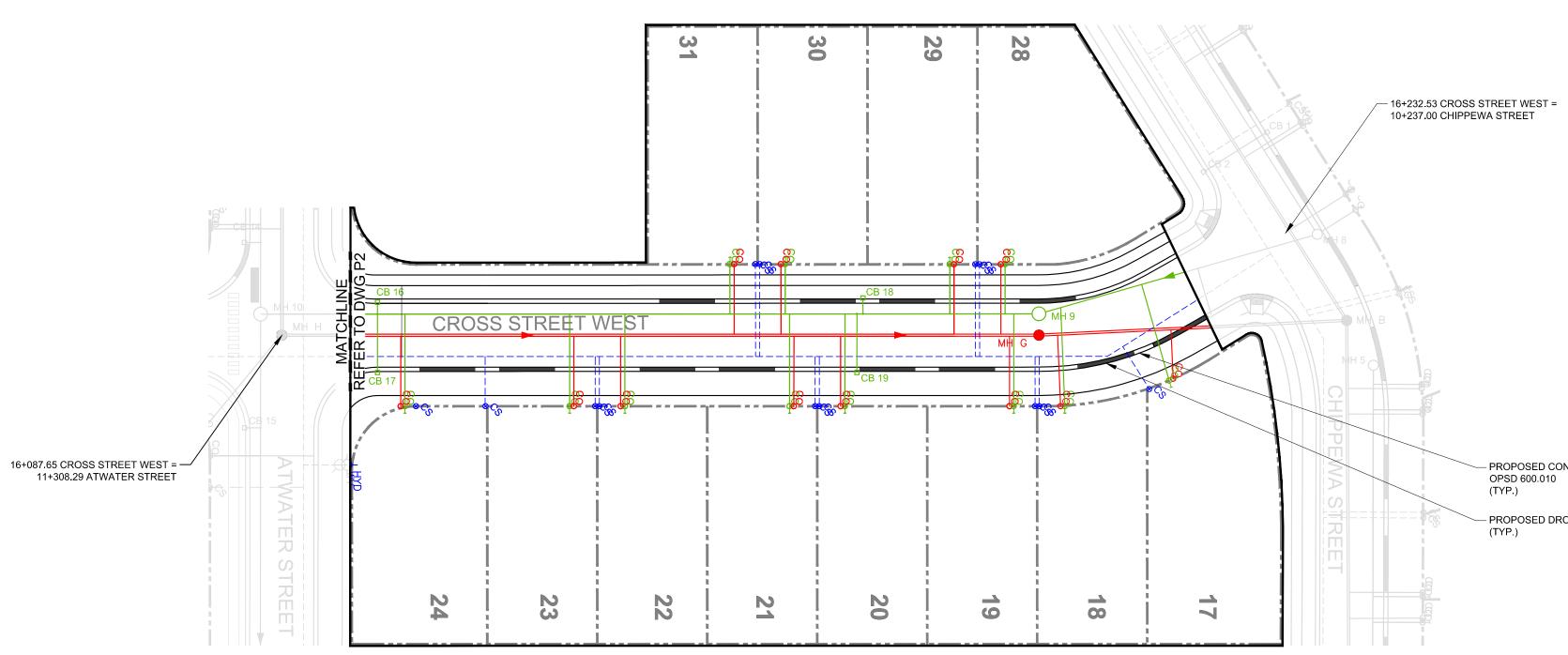
| SCALE  | 1:500                         |                                                                                                    |
|--------|-------------------------------|----------------------------------------------------------------------------------------------------|
| CHK    | M. KRESIN                     |                                                                                                    |
| DATE   | 06/10/2024                    |                                                                                                    |
| DWG.   | KS                            |                                                                                                    |
| GEO BM |                               |                                                                                                    |
| FILE   | 2278.03 G1 G2 G3.DWG          |                                                                                                    |
|        | CHK<br>DATE<br>DWG.<br>GEO BM | СНК         М. KRESIN           DATE         06/10/2024           DWG.         КБ           GEO BM |

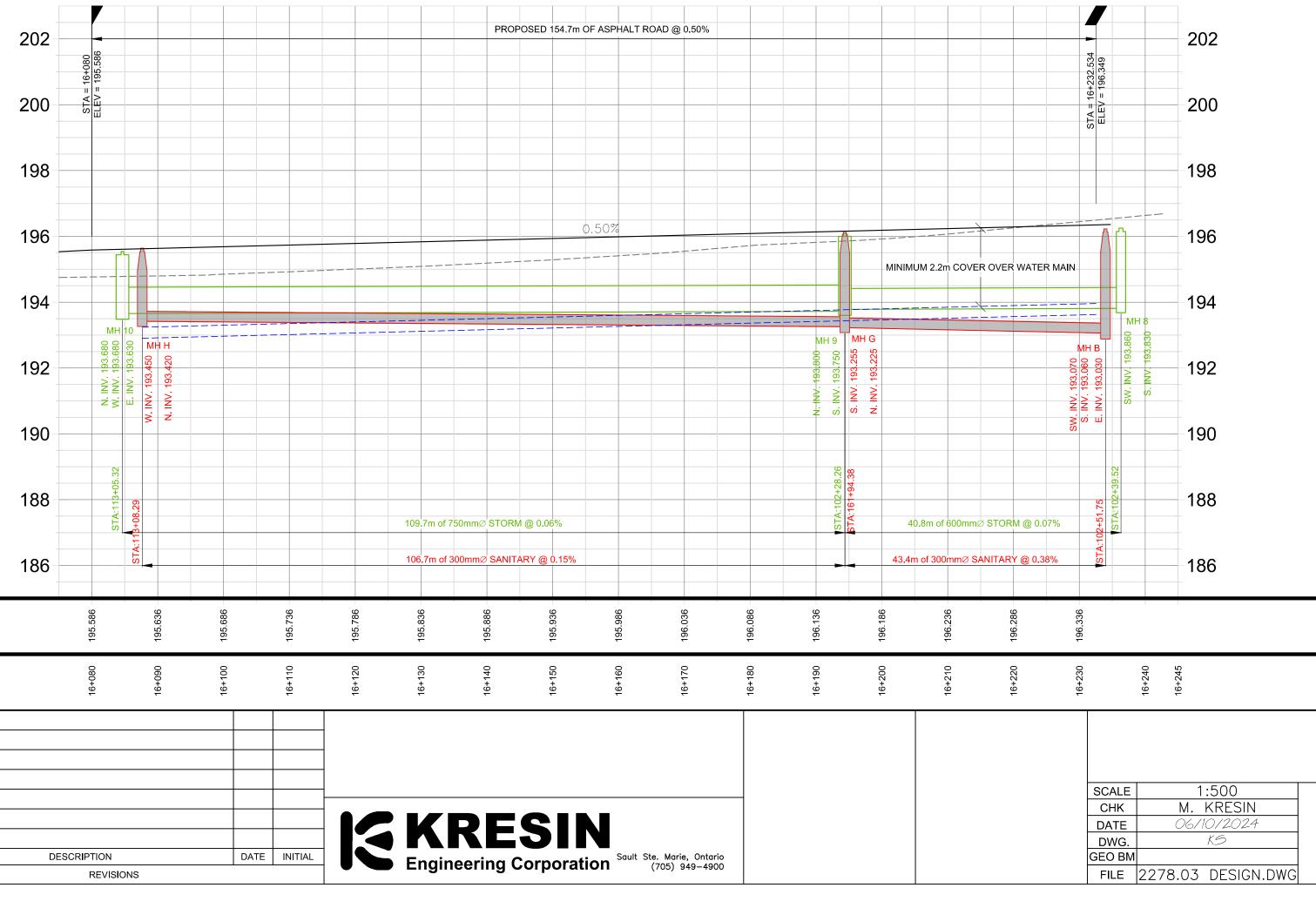


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|--------|----------------------|--|
| CHK    | M. KRESIN            |  |
| DATE   | 06/10/2024           |  |
| DWG.   | KS                   |  |
| GEO BM |                      |  |
| FILE   | 2278.03 G1 G2 G3.DWG |  |
|        |                      |  |



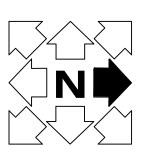






|    |             | <del>,</del> |  |
|----|-------------|--------------|--|
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|    |             |              |  |
|    |             |              |  |
| No | DESCRIPTION | DATE         |  |
|    | REVISIONS   |              |  |

NOTES:



- PROPOSED CONCRETE CURB AND GUTTER OPSD 600.010 (TYP.)

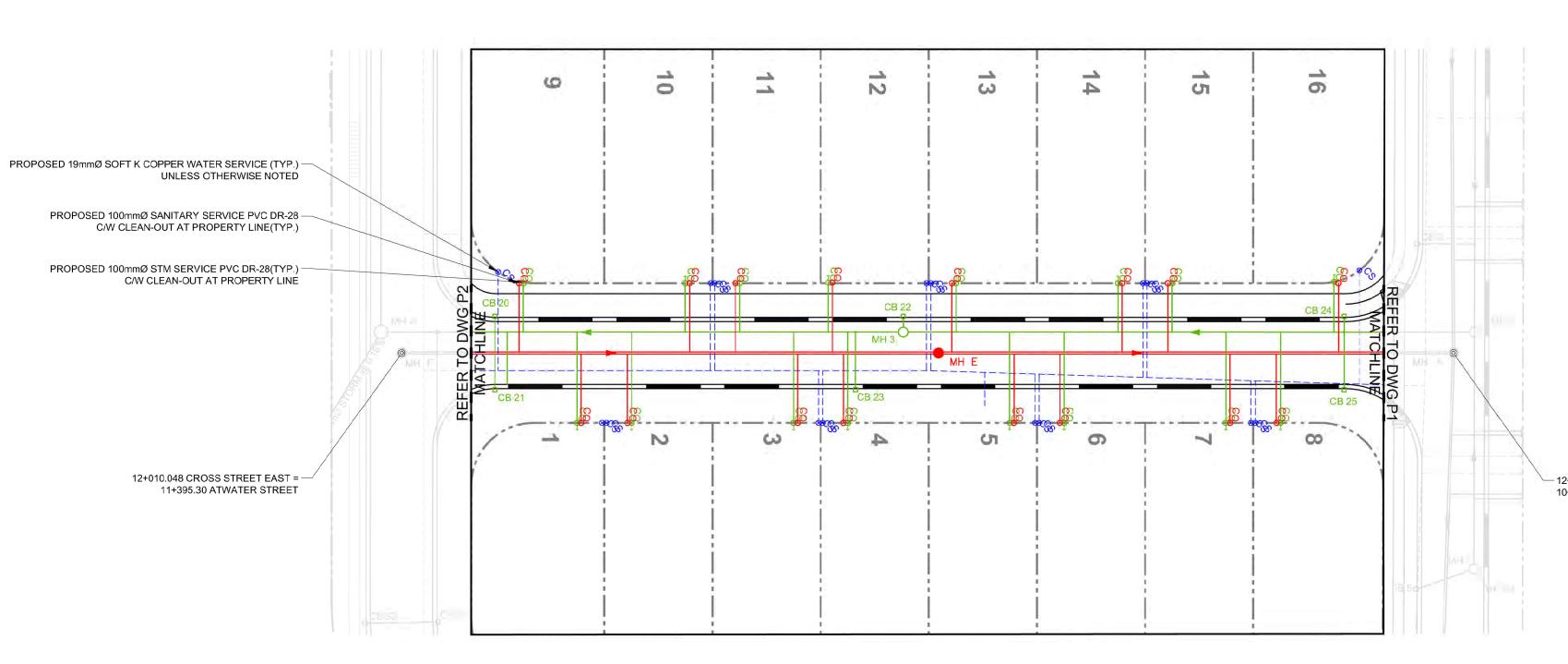
PROPOSED DROP CURB AT ENTRANCE (TYP.)

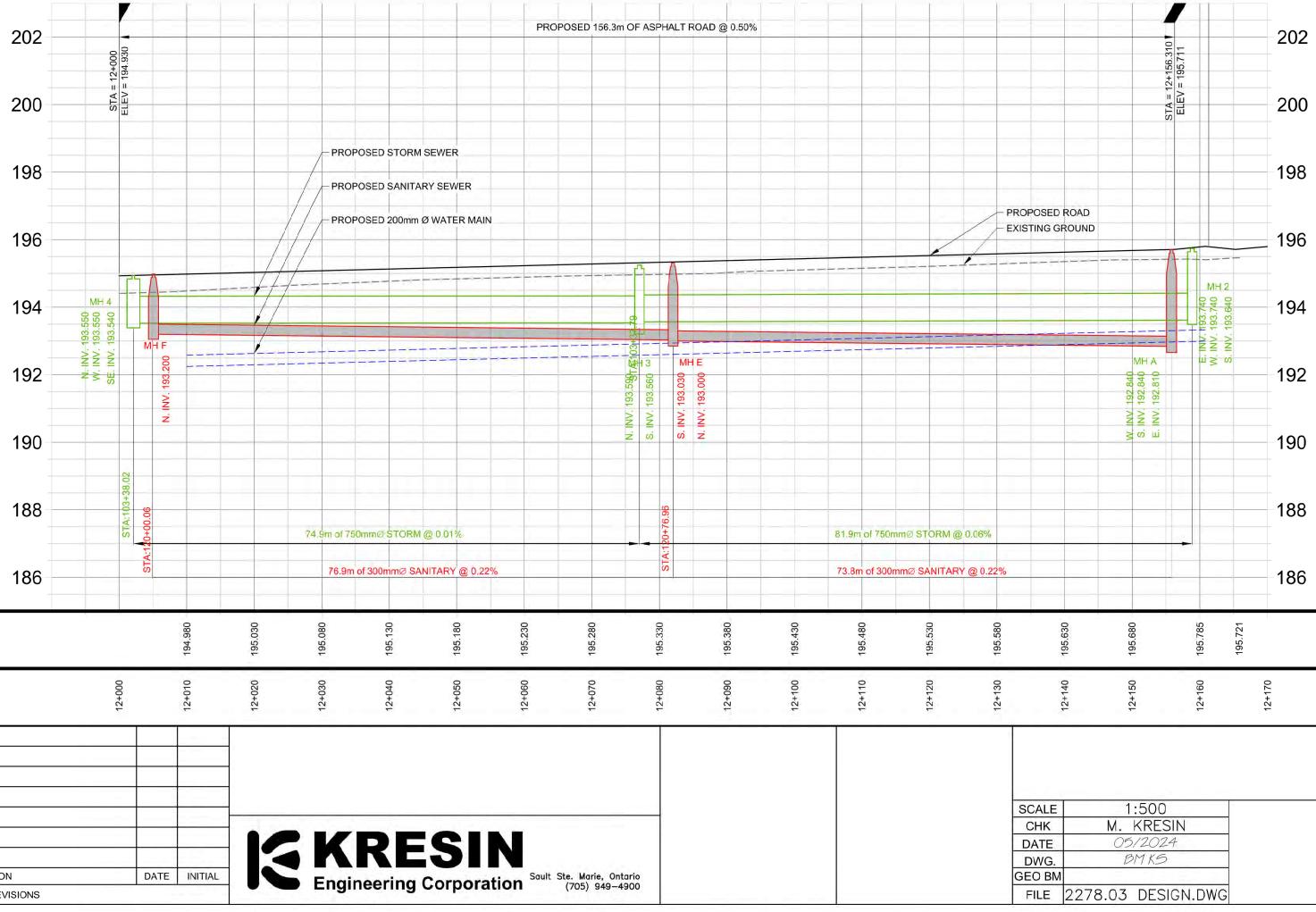


**P**3

**0 CHIPPEWA STREET** 

CROSS ROAD WEST

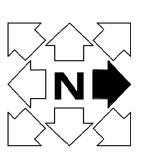




| CL<br>ELEV. |    |           | 194.980 |
|-------------|----|-----------|---------|
| STA.        |    | 12+000    | 12+010  |
| NOTES:      |    |           |         |
|             |    |           |         |
|             |    |           |         |
|             |    |           |         |
|             |    |           |         |
|             |    |           |         |
|             |    |           |         |
|             | No |           | ATE IN  |
|             |    | REVISIONS |         |

REFER TO DRAWING G1 FOR STRUCTURE SCHEDULE

PAVEMENT SCHEDULE 40mm HL3 50mm HL8 150mm BASE 550mm SUBBASE CLASS 1 NON-WOVEN GEOTEXTILE LOT SERVICING -100mm DIAMETER PVC DR 28 SANITARY -100mm DIAMETER PVC DR28 STORM -19 mm DIAMETER COPPER WATER REFER TO DRAWING G1 FOR STANDARD SERVICING DETAIL



# - 12+010.05 CROSS STREET EAST = 10+340.56 CHIPPEWA STREET

202 200 198 196 194 192

190 188 186

FOR APPROVAL MAMTA HOMES 0 CHIPPEWA STREET CROSS STREET EAST P4

## AMENDMENT NO. 258 (T-170) TO THE SAULT STE. MARIE OFFICIAL PLAN

## PURPOSE

This Amendment is an amendment to the Text of the Official Plan as it relates to the Residential Policies of the Plan.

# LOCATION

PCL 1073 SEC ALG; PT SEC 27 KORAH PT 5 & 6 1R6007; S/T LT143331, LT59513; SAULT STE. MARIE; located on the west side of the western stub end of Chippewa Street, Atwater Street, and Amherst Street.

# BASIS

This Amendment is necessary in view of a request to expand the permitted size of a commercial use from 200 square metres to 400 square metres for where 'Block 75 Commercial' is identified on the draft plan that was submitted as part of application A-2-25-Z 57T.

Council now considers it desirable to amend the Official Plan.

# DETAILS OF THE ACTUAL AMENDMENT & POLICIES RELATED THERETO

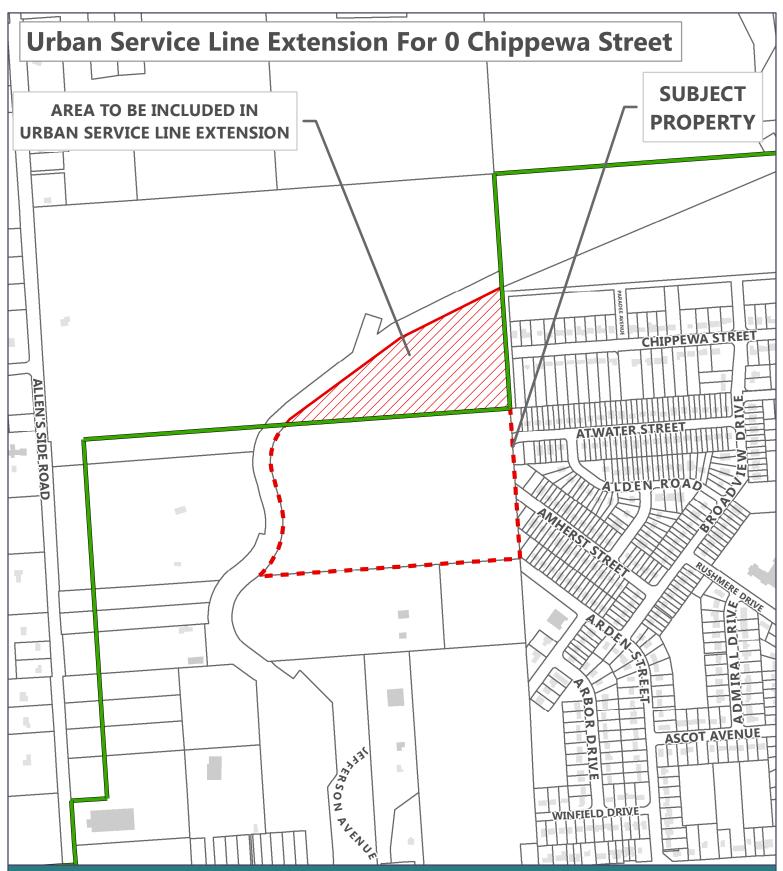
The Official Plan for the City of Sault Ste. Marie is hereby amended by adding the following paragraph to the Special Exceptions Section:

"Special Exceptions"

160. Notwithstanding Residential Policy R.7, the property described as PCL 1073 SEC ALG; PT SEC 27 KORAH PT 5 & 6 1R6007; S/T LT143331, LT59513; SAULT STE. MARIE; located on the west side of the western stub end of Chippewa Street, Atwater Street, and Amherst Street, may have commercial uses beyond 200 square metres in gross floor area up to a maximum of 400 square metres on the lands identified as 'Block 75 Commercial' on the draft plan submitted as part of application A-2-25-Z 57T.

# INTERPRETATION

The provisions of the Official Plan as amended from time to time will be applied to this Amendment.



# Application A-2-25-Z 57T: Subject Property



Planning and Enterprise Services Community Development and Enterprise

Services Department 99 Foster Drive, Sault Ste Marie, ON P6A 5X6 saultstemarie.ca | 705-759-5368 | planning@cityssm.on.ca URBAN SERVICE LINE
Parcel Fabric
No
Yes
Page 743 of 904

### **Property Information**

Civic Address: 0 Chippewa Street Roll No.: 060040259000000 Map No.: 77/91 Date Created: March 11, 2025

0 60 120 m 1:6,495 This map is for general reference only.

N

The Engineering Division has reviewed the above noted Draft Subdivision and Condominium submission and provides the following comment:

# Plan of Subdivision Comments (Lots 1 – 74, Block 75 – 77, 80):

- A sediment control plan and storm water management plan must be submitted to the satisfaction of the Director of Engineering or their designate, and the Sault Ste. Marie Conservation Authority;
- Adequate facilities for the drainage of surface water from the rear portion of every lot shall be incorporated by installing swales and if required, one or more catch basins connected to the municipal storm drainage system or to convey such water to an adequate watercourse, to the satisfaction of the Director of Engineering or their designate;
- Quantity and quality stormwater management are to be designed to MECP guidelines, slopes, and setbacks. Access to sewers and manholes in the sewer easement/block and stormwater management pond must be provided to the satisfaction of Public Works;
- Design of the cul-de-sac at the end of Street 'B' must meet city standards. Alterations to the design may require reorientating the intersection of Steet 'B' and Street 'A'. This can be further reviewed during the detailed design process;
- Part of the property is outside the urban service line;
- If there are concerns about encroachments or dumping along Block 80, the Developer should be required to place a fence along the rear property line of residential property;
- It should be noted that a geotechnical report titled "Geotechnical Investigation Report", completed by "Down To Earth Geotechnical Engineering", dated February 21, 2023, was submitted and has been reviewed. Soil tests are required in the road allowances, including a report on the road base design, considering the use of geotextile fabric and weeping tile and which determines the depth of the road base. A brief, outlining the pavement design, is also required;
- The Owner shall submit soil tests by an independent testing laboratory on the stability of the soil and its ability to sustain superimposed loads from building and filling operations and to furnish at no cost to the City certified copies of the results thereof for examination by the director of engineering or their designate;
- It should be noted that the applicants consulting engineer submitted a servicing report titled "Municipal Servicing Report" that contains a sanitary analysis titled "Sanitary Sewer Design", dated March 1, 2023 concluding the existing sanitary system has sufficient capacity;

- Plans and specifications showing final site grading and servicing should be reviewed and approved by the Director of Engineering or their designate. Lot grading plans should show existing contours and the proposed grades for each lot. As constructed drawings should be modified to show only final grades;
- No work shall be commenced without the approval of the Director of Engineering or their designate. Any work which requires approval from the City and the Ministry of the Environment shall not commence until such approvals and agreements are endorsed;

# - Plan of Condominium Comments (Block 78, 79):

- Stormwater management may be required. If SWM facilities are shared between two adjacent properties, MECP environmental compliance approval may be required;
- It should be noted that a geotechnical report titled "Geotechnical Investigation Report", completed by "Down To Earth Geotechnical Engineering", dated February 21, 2023 was submitted and has been reviewed. The report does not consider the construction of apartment buildings. This should be addressed during the Detailed Design Approval processes;
- Winter operations will continue to use the current laneway at the end of Amherst Street and Atwater Street. The connection of Block 78 to Amherst Street shall be through private driveway;
- There is an existing municipal storm easement along the eastern and southern property line. It appears that this easement impacts the proposed lots south of Street 'J'. Proper setbacks will be required to allow access to the large ditch. This may impact the developability of these lots.
- It should be noted that the Applicant's Consulting Engineer submitted a servicing report titled "Municipal Servicing Report" that contains a sanitary analysis titled "Sanitary Sewer Design", dated March 1, 2023, concluding the existing sanitary system between Ascot Avenue and Winfield Drive is over capacity. The number of units may need to be reduced to meet capacity requirements to the satisfaction of the Director of Engineering or their designate;
- It is recommended that Block 78 and 79 be subject to Site Plan Control and a Development Control Agreement to ensure servicing, grading and drainage is address to the satisfaction of the Director of Engineering or their designate;

# - General Development Comments (Lots 1 – 74, Block 75 – 80):

- It should be noted that the Applicant's Consulting Engineer submitted a stormwater report titled "Stormwater Management Report", dated March 8, 2023, that concludes post-development flow from the site will not exceed pre-development flow for storms up to and including the regional event;

- There should be further consultation regarding the consideration of piping the majority of stormwater as opposed to using open ditches. This may help address the impact of the easement on Block 78;
- It should be noted that a traffic study titled "Traffic Impact Study", completed by "CIMA+", dated January 1, 2024 was submitted and has been reviewed. The study identifies notable delays and/or congestion within the Second Line and Goulais Avenue intersection. It was recommended that City Traffic Engineering and Operations staff could further optimize signal timing to ensure the intersection Level of Service during peak hours is sufficient;

If you have any questions, please do not hesitate to contact the undersigned.

Thanks,

Jerry Tulloch Engineering Intern Engineering Division Public Works and Engineering Services 705.759.5329 j.tulloch@cityssm.on.ca

CITY OF SAULT STE. MARIE 99 Foster Drive, Sault Ste. Marie, ON P6A 5X6 saultstemarie.ca

# Good Afternoon,

Please see my below comments.

# **General Comments**

- 1 parking space per dwelling unit is required.
  - Parking cannot be located within required yards as per subsection 5.3.3. of the zoning by-law.
- For Part 3 buildings, firefighting provisions as outlined in Subsection 3.2.5. of the Ontario Building Code must be adhered to. Details relating to driveway location, hydrants, fire access routes, and fire department connections must be indicated on plans.

# Lots 1 to 74 – Single Detached & Semi's

- All structures built upon these lots must adhere to the setbacks as set under section 9.7 R3 low density residential zone, of zoning by-law 2005-150
  - $\circ$   $\;$  Except as permitted within the special exception by-law to be completed with this application
  - For clarity my understanding is, the intention is that the "other interior side yard" requirements will not be applicable to these lots.
    - Any interior side yard shall meet the following requirements
      - 1.2m for 1 storey
      - 1.8m for 2 stories
      - 5 m for 3 stories

# Block 78 - Condominium

- Property line classification has been depicted in the below graphic title Schedule "A" .
- All structures built upon these lots must adhere to the setbacks as set under section 9.7 –R3 low density residential zone, of zoning by-law 2005-150
  - Except as permitted within the special exception by-law to be completed with this application

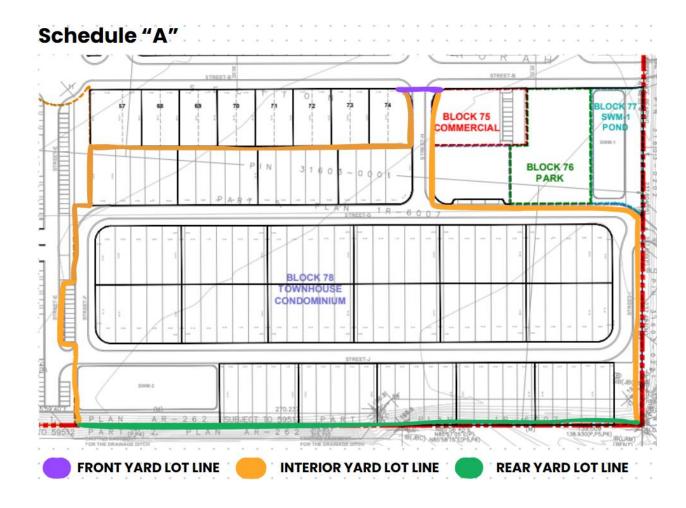
### Block 79 – Apartments

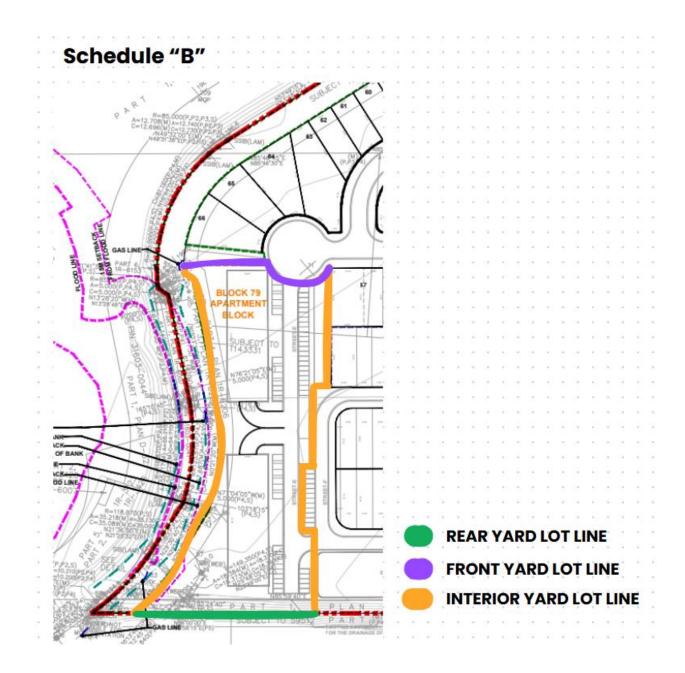
- Property line classification has been depicted in the below graphic title Schedule "B" .
- All structures built upon these lots must adhere to the setbacks as set under section 9.8 R4 medium density residential zone, of zoning by-law 2005-150
  - Except as permitted within the special exception by-law to be completed with this application
- Parking for residential units is calculated at 1 space per unit
  - At 180 units, this block must accommodate 180 parking spaces, or seek zoning relief

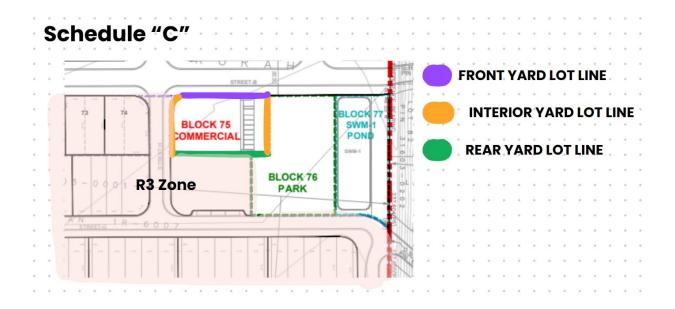
# Block 75 - Commercial Lot

- Buffer is required, as per section 4.9 of zoning by-law 2005-150, in between commercial lot and residentially zoned lot.
- Required parking to be calculated as per 3.5 spaces per 100 m<sup>2</sup> if approved.
  - Proposed building is noted at 390 m<sup>2</sup> which would require 14 parking spaces

- Parking cannot be located within required yards as per subsection 5.3.3. of the zoning by-law.
- Structures built upon this lot must adhere to the setbacks as set under section 13.3.2 –CT2 commercial transitional zone, of zoning by-law 2005-150
  - Note: as the adjacent properties around the commercial space are zoned residential the following setbacks must be adhered to,
    - Front yard = 5m
    - Interior side yard abutting residential = 1.2m for 1 storey or 1.8m for 2 or more stories
    - Rear yard abutting residential = 10 m
    - Property line classification has been depicted in the below graphic title Schedule "C"







# **Toni-Marie Streicher**

Senior Plans Examiner Building Division Public Works & Engineering Services 705.759.5376 <u>t.streicher@cityssm.on.ca</u>



Susan Hamilton Beach, P. Eng. Deputy CAO

Dan Perri, P. Eng. Director of Public Works



Public Works & Engineering Services

March 10, 2025

Samir Thapa Administrative Clerk Planning

# Subject: Subdivision/Condominium Application- 0 Chippewa St. Rezoning Application- 0 Chippewa St.

# Applicant: Nilamraj Patel

Please accept this correspondence in response to your request February 24, 2025.

Staff from Public Works have reviewed the application noted above and provide the following comments:

- The proposed cul-de-sac must meet City standards
- Blocks 78 & 79 are proposed to be private developments. All services will be the responsibility of the applicant
- The access to Block 78 from the dead-end of Amherst Street will be constructed and function as a private driveway

If you have any further questions, please contact the undersigned.

Regards,

). Per

Daniel Perri, P. Eng. Director of Public Works 705-759-5206 <u>d.perri@cityssm.on.ca</u>

C: Maggie McAuley, P.Eng. Peter Tonazzo, MCIP, RPP

\\citydata\PWT\Administration\DivHead\Planning Application and Legal Property Matters\Rezoning & OP Amend\Chippewa St\0 Chippewa St.-Response.docx



March 11, 2025

Peter Tonazzo Director of Planning The Corporation of the City of Sault Ste. Marie 99 Foster Drive Sault Ste. Marie, ON P6A 5X6

Email: s.thapa@cityssm.on.ca

Dear Peter:

Re: 0 Chippewa St – Rezoning, Plan of Subdivision, Plan of Condominium

With regards to the above referenced rezoning application, please refer to the below comments:

PUC Distribution Inc. (Electric Utility)

- PUC Distribution Inc. has no concerns with the proposed rezoning. A subdivision agreement is required for the proposed development for electrical servicing.
- Three-phase power is required to service the proposed development. Extension of the nearest three phase power is required.
- Looping of the primary underground power is required. Looping and its associated costs will be required after every phase of development.
- The power line that is located in south east may need to be altered depending on further details to be confirmed by the developer.
- The location of the new transmission line is in proximity of the development. There must be a horizontal and vertical clearance of a certain distance to the development.
- Consultant to contact PUC Engineering (Daniel Maione) to discuss specific comments regarding the proposed development and electrical servicing.

The Public Utilities Commission of the City of Sault Ste. Marie (Water Utility)

- The developer is advised that there may be frontage fees owing on the subject property, which will be due prior to connection to the municipal water system.
- For the Fire Underwriters Survey (FUS) calculations presented in the Municipal Servicing Report,

#### PUC SERVICES INC.

1



please include details of the assumptions made in determining the values use in the calculations. The FUS 2020 method must be used.

- The required design flow for the development of 276 L/s noted in the Municipal Servicing Report is considered high and may not be available from the existing municipal water distribution system. To determine the available flow within the development, it will be necessary to utilize the water distribution system hydraulic model. The developer will be responsible for these costs. The available flow will dictate the details of construction of the buildings within the development.
- The developer must clarify their intentions for water servicing of the two condominium corporations on Parcel B and Parcel C. If the waterworks servicing for the lots within these parcels is privately owned, the waterworks within each parcel would be considered a private waterworks system and would be subject to the requirements under applicable legislation. Under these conditions, for each parcel, PUC would permit a single metered connection to the municipal water distribution system, with backflow prevention. The water meter and backflow preventor for each point of connection is required to be located within a year-round accessible, above ground heated enclosure. The proposed interconnection between Parcels B and C may complicate legislative requirements for the private waterworks systems.
- All waterworks shall be designed in accordance with PUC's Watermain Design Summary Pre-Authorized Alterations Under Drinking Water Works Permit, which is available from the PUC Engineering Department (<u>eng-dept@ssmpuc.com</u>). A completed copy of the document will be required for site plan control approval.
- The developer will be required to enter into a Waterworks Agreement with PUC for the development.
- Consultant to contact PUC Water Engineering (Orlan Euale <u>orlan.euale@ssmpuc.com</u>) prior to finalizing their design, to discuss specific comments regarding the water servicing for the proposed development.

We would also like to take the opportunity to request that the developer reach out to us early in the planning stages with respect to electrical servicing for the development.

Yours truly, PUC Services Inc.

Mitchell Paradis, P.Eng. Manager, Electrical Engineering

MP\*km

#### PUC SERVICES INC.

2

Page 753 of 904

Hello,

SSMRCA Comments: 0 Chippewa Street – Rezoning, Plan of Subdivision, Plan of Condominium

The subject property is located within of SSMRCA jurisdiction and regulated regarding O. Reg. 41/24: Prohibited Activities, Exemptions and Permits under the Conservation Authorities Act, R.S.O. 1990, c.27.

SSMRCA does not have any objections with the proposed rezoning, plan of subdivision, or plan of condominium applications. Development on this property will require reviews by our team and development permit(s).

Kind regards,

# Gerard Lavoie (he/him)

GIS Applications Specialist / DWSP Program Manager Sault Ste. Marie Region Conservation Authority 1100 Fifth Line East, Sault Ste. Marie ON P6A 6J8 705-946-8530 ext. 1004 <u>GLavoie@ssmrca.ca</u>



Good morning Jonathan – please be advised that Enbridge Gas is further reviewing all of our requirements before proceeding any further with this development.

Ensure that NO construction activity takes place within the easement parameters of our highpressure 12" lateral 6895 kPa gas main until advised by Enbridge Gas directly.

This development to proceed must be submitted through GetConnected. Typically, this is submitted by the consulting firm assigned to this project. If any assistance is required for the submission, please let me know and I will provide added documentation support.

Regards,

# Karen Trudel

Senior Analyst - New Business Projects Construction Northern Region | Sudbury | Sault Ste. Marie | Huron Northshore Districts | North Bay | Muskokas |



<u>TEL:705-525-4890</u> | ext. 5304890 | CELL:705-662-1610 | <u>karen.trudel@enbridge.com</u> PO Box 4000, Station A | 828 Falconbridge Road | Sudbury, ON | P3A 4S3

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# Application A-2-25-Z 57T: Aerial Image



**Planning and Enterprise Services** 

Community Development and Enterprise Services Department 99 Foster Drive, Sault Ste Marie, ON P6A 5X6 saultstemarie.ca | 705-759-5368 | planning@cityssm.on.ca Subject Property

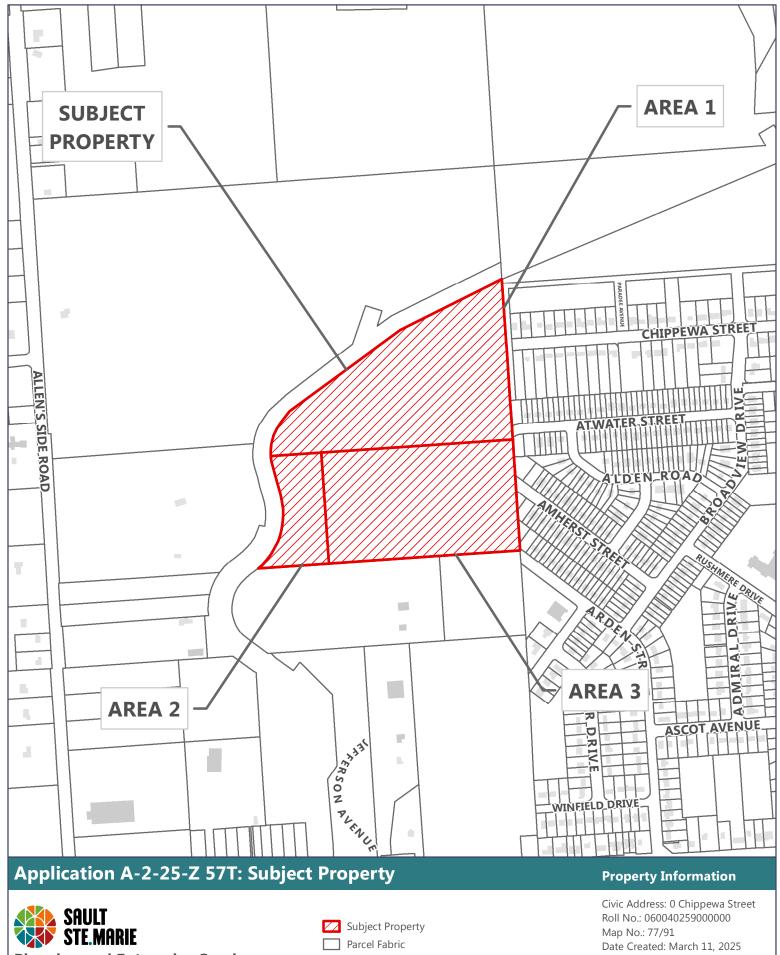
Page 756 of 904

**Property Information** 

Civic Address: 0 Chippewa Street Roll No.: 060040259000000 Map No.: 77/91 Date Created: March 11, 2025

0 50 100 m 1:5,000 This map is for general reference only Orthophoto: 2022

N



**Planning and Enterprise Services** 

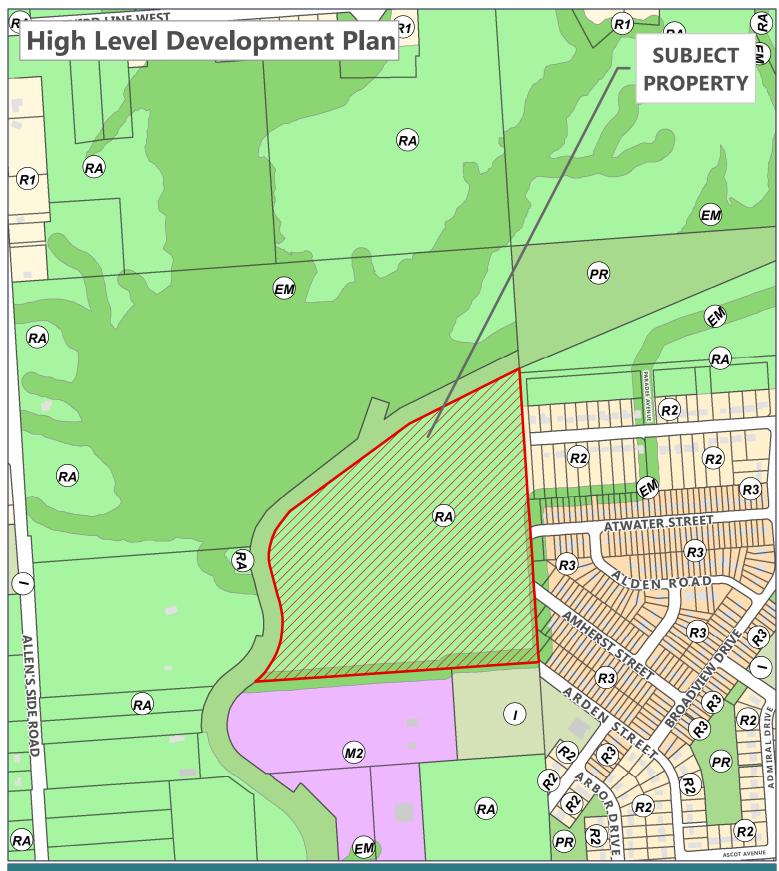
Community Development and Enterprise

Services Department 99 Foster Drive, Sault Ste Marie, ON P6A 5X6 saultstemarie.ca | 705-759-5368 | planning@cityssm.on.ca

Page 757 of 904

0 60 120 m L I I:6,495 This map is for general reference only.





## Application A-2-25-Z 57T: Existing Zoning



**Planning and Enterprise Services** 

**Community Development and Enterprise** Services Department 99 Foster Drive, Sault Ste Marie, ON P6A 5X6 saultstemarie.ca | 705-759-5368 | planning@cityssm.on.ca

C1 - Traditional Commercial Zone C2 - Central Commercial Zone CT2 - Commercial Transitional Zone

- C3 Riverfront Zone; C3hp C4 General Commercial Zone; C4hp
- C5 Shopping Centre Zone HZ Highway Zone
- HZ Highway Zone M1 Light Industrial Zone
- M2 Medium Industrial Zone; M2hp
- RP ALC Industrial Zone RP ALC Industrial Zone R2 - Single Detached Residential Zone; R2hp Named Use - Commercial Dock

R3 - Low Density Residential Zone R4 - Medium Density Residential Zone R5 - High Density Residential Zone

- R6 Mobile Home Residential Zone I Institutional Zone
- EM Environmental Management Zone
- PR Parks and Recreation Zone RA - Rural Area Zone
- RP Rural Precambrian Uplands Zone
- REX Rural Aggregate Extraction Zone

#### **Property Information**

Civic Address: 0 Chippewa Street Roll No.: 060040259000000 Map No.: 77/91 Date Created: March 11, 2025

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The Corporation of the City of Sault Ste. Marie 99 Foster Drive, Sault Ste. Marie, Ontario P6A 5X6 saultstemarie.ca | 705.759.2500 | info@cityssm.on.ca

# NOTICE OF APPLICATION & PUBLIC MEETING

## 0 Chippewa Street Application No.: A-2-25-Z 57T Applicant: Nilamraj (Raj) Patel

Date: April 7, 2025 Time: 5:00 PM

## PURPOSE

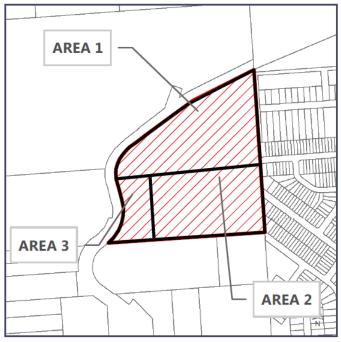
The applicant is seeking approval for a plan of subdivision, two plans of condominium, a sitespecific official plan amendment, and a rezoning to facilitate the development of a mixed-use community located at 0 Chippewa Street. The proposal includes single-detached homes, semidetached homes, townhouses, and apartments, along with neighborhood retail and park space. Expanding the Urban Service Area as per the Municipal Act will also be required.

## **PROPOSED CHANGE**

A complete list of proposed changes can be found on the city website: saultstemarie.ca/0Chippewa

A printed copy may also be obtained at City Hall by contacting Jonathan Kircal, at 705.759.6227 or j.kircal@cityssm.on.ca

## Location: City of Sault Ste. Marie Civic Centre, Council Chambers 99 Foster Drive



In summary, the Draft Plan of Subdivision proposes the creation of 74 lots designated for singledetached and semi-detached homes for a total of 82 dwelling units. Additionally, the subdivision includes a neighborhood commercial lot, a public park square, and an open space strip along Bennett Creek, both of which would be deeded to the City to satisfy parkland dedication requirements.

The Draft Plans of Condominium propose the development of two apartment buildings containing a combined 180 dwelling units and 104 townhouse units.

To facilitate this development, the official plan application seeks to permit a neighbourhood commercial building, and the zoning application seeks to rezone the subject property from Rural Area Zone (RA) to:

**Area 1**: Low Density Residential Zone (R3) to permit single and semi-detached homes, Parks and Recreational Zone (PR) for public park space, and Transitional Commercial Zone (CT2) to permit a neighbourhood commercial building.

Area 2: Low Density Residential Zone (R3) to permit townhouses and a private amenity building.

Area 3: Medium Density Residential Zone (R4) to permit two, 5-storey apartment buildings.

Additionally, a number of site-specific zoning exceptions are requested to accommodate the overall development.

#### HAVE YOUR SAY

Input on the proposed Zoning By-Law amendment is welcomed and encouraged. You can provide input by making a written submission or by making a public presentation.

**TAKE NOTICE THAT** the Council of The Corporation of the City of Sault Ste. Marie will hold a Public Meeting on Monday, April 7, 2025 at 5:00 p.m. to consider a Draft Plan of Subdivision, Draft Plan of Condominium, Zoning By-law Amendment and Official Plan Amendment (under sections 51, 34, 17 & 22 of the Planning Act, R.S.O 1990, c. P13, as amended). This meeting will be broadcast by Shaw Cable and may be viewed on Shaw Cable's Community Channel, Sootoday.com and on the City's YouTube Channel https://www.youtube.com/saultstemarieca

Any person wishing to present at the public meeting may do so electronically or in person. Electronic participants must contact the City Clerk at <u>cityclerk@cityssm.on.ca</u> or 705-759-5388 to register as a presenter. Registered presenters will be provided with instructions as to how to join the meeting in advance Any written submissions received in advance of the meeting will be included with Council's Agenda.

## MORE INFORMATION

The application may be reviewed in the Planning Division, Level 5, Civic Centre, 99 Foster Drive. The Report of the Planning Division will be available as part of the Council Agenda on the City's website at 4:30 p.m. on Thursday, April 3, 2025 and in person on Friday, April 4, 2025, during regular office hours in the Planning Division. Digital and physical copies of the report are available upon request. Inquiries should be directed to Jonathan Kircal, Planning Division, at 705.759.6227 or j.kircal@cityssm.on.ca please refer to the application file number.

#### WRITTEN SUBMISSION

To provide input in writing, or request notice if the proposed application is approved, please submit a letter to Jonathan Kircal, Planning Division, 99 Foster Drive, Sault Ste. Marie, ON P6A 5X6, or e-mail to <u>j.kircal@cityssm.on.ca</u> with your name, address and application file number on or before **Monday**, **April 7, 2025**.

If you wish to be notified of the Council of the City of Sault Ste. Marie decision to adopt or refuse the approval of an application, you must make a written request to the Planning Division at the address noted above.

## LEGAL NOTICE CONCERNING YOUR RIGHT TO APPEAL

As per the Planning Act, appeal rights are only provided to specified persons, public bodies, applicants, registered owners of any land to which the by-law and/or plan would apply to, the Minister, and the appropriate approval authority.

If a specific person, public body, registered owner of a subject property does not make oral submission at a public meeting or make written submission to the City of Sault Ste. Marie before the By-law is passed, the specified person, public body or registered owner of a subject property may not be entitled to appeal the decision of the Council of the City of Sault Ste. Marie to the Ontario Land Tribunal.

If a person or public body does not make oral submissions at a public meeting, or make written submissions to the City of Sault Ste. Marie before the By-law is passed, the person or public body may not be added as a party to the hearing of an appeal before the Ontario Land Tribunal unless, in the opinion of the Tribunal, there are reasonable grounds to add the person or public body as a party.

# Schedule A – Proposed Zoning Amendments

## PROPOSED CHANGE

**Blocks A and E** (public square park and public linear park)

Rezone the northern half of Block A, extending 500 metres west from the east lot line, from Rural Area Zone (RA) to Low Density Residential Zone (R3), and rezone the southern half, extending approximately 220 metres north from the southern lot line, to Medium Density Residential Zone (R4).

Rezone Block E from Rural Area Zone (RA) to Low Density Residential Zone (R3).

## **Block B** (apartment buildings)

Rezone from Rural Area Zone (RA) to Medium Density Residential Zone (R4.S) with a special exception to include the following provisions:

- Reduce the front yard setback (north facing) from 7.5 metres to 3.5 metres.
- Reduce the interior side yard setback (west facing) from 7.5 metres to 5 metres.
- Permit parking in a required front yard.
- Permit loading spaces to be located in a parking aisle.
- Waive the requirement that loading spaces be visually screened.

## Blocks C and G (single, semis, and townhouses)

Rezone from Rural Area Zone (RA) to Low Density Residential Zone (R3.S) with a special exception to include the following provisions:

- Reduce the 'other side yard setback' from 3 metres to 1.8 metres for a two-storey building, and 1.2 metres for a one-storey building.
- Reduce the rear yard setback from 10 metres to 1.2 metres for one-storey residential structures.
- Increase the maximum lot coverage from 40% to 47% for one-storey residential structures.

## Block D (neighbourhood commercial building)

Amend the Official Plan by way of a site-specific textual amendment to Residential Policy R.7 to increase the gross floor area of commercial space from 200 square meters to 400 square meters.

Rezone from Rural Area Zone (RA) to Commercial Transitional Zone (CT2.S) with a special exception to:

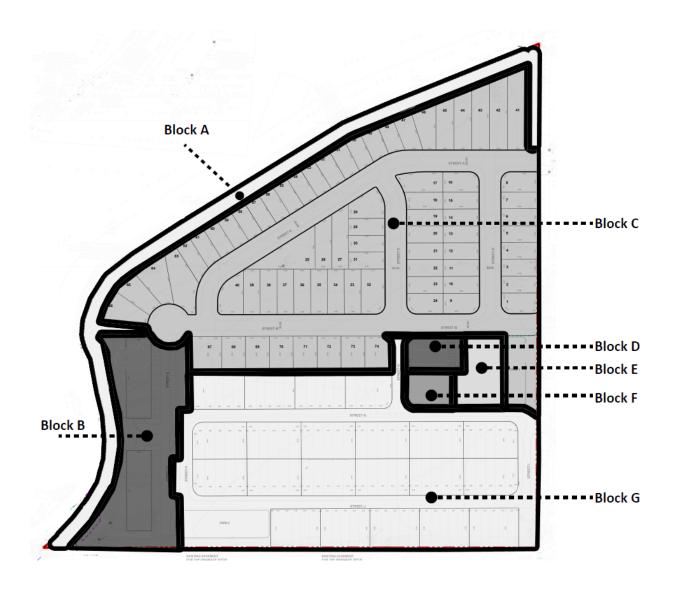
- Prohibit the following uses: residential structures, bed and breakfasts, group homes and residences, nursing and residential care facilities, rooming houses, bars and taverns, parking lots, and short-term rentals.
- Increase the gross floor area of retail trade from 300 square metres to 400 square metres.
- Reduce the required number of parking spaces to the downtown equivalent where applicable.

# Schedule A – Proposed Zoning Amendments

## **Block F** (private amenity building)

Rezone from Rural Area Zone (RA) to Low Density Residential Zone (R3.S) with a special exception to include the following provisions:

- Amusement and fitness facilities, arts and cultural heritage uses, day care facilities, recreational facilities, in addition to the uses permitted in an R3 zone.
- Reduce the required number of parking spaces to the downtown equivalent where applicable.



## Schedule B - Conditions of Draft Approval (Plan of Subdivision 57T-501):

#### **Subdivision Agreement**

Prior to final approval and registration, the Owner shall enter into a Subdivision Agreement with the City, including but not limited to: road construction, corner roundings, underground services, sidewalks, drainage, and snowplow turnarounds. All infrastructure shall be designed and constructed to the satisfaction of the Director of Engineering or their designate.

#### Sidewalks

Continuous sidewalks shall be provided along one side of all public streets within the subdivision (Streets A, B, C, and D), to the satisfaction of the Director of Engineering or their designate.

#### **Conservation Authority Regulation**

The Subdivision Agreement shall require that the Owner inform potential purchasers of lots affected by the Sault Ste. Marie Region Conservation Authority (SSMRCA) regulated areas, advising them that permits from the SSMRCA are required prior to any development or site alteration.

#### **Stormwater Management Block**

The Owner shall dedicate Block 77 (SWM-1 Pond), located along the eastern lot line between Street B and Street G, to the City for stormwater management purposes, as part of the Subdivision Agreement.

#### **Tree Planting Fee**

Prior to finalizing the Subdivision Agreement, the Owner shall pay a per-lot tree planting fee, the amount to be determined by the Director of Engineering or their designate.

#### **Phasing Plan**

A phasing plan outlining the timing of lot creation and servicing shall be completed to the satisfaction of the Deputy CAO of Public Works and Engineering or their designate prior to finalizing the Subdivision Agreement.

#### **Servicing Standards**

All future servicing infrastructure within the subdivision shall be designed and constructed to current City standards.

#### **PUC Servicing Agreement**

The Owner shall enter into a servicing agreement with PUC Distribution Inc. for electric utilities and service and the Public Utilities Commission of the City of Sault Ste. Marie for water utilities and service.

#### Water Capacity & Hydraulic Analysis

Prior to final approval and registration, the Owner shall submit a Water Distribution System Hydraulic Analysis to the satisfaction of the Public Utilities Commission of the City of Sault Ste. Marie (PUC). If the analysis determines that the existing municipal system cannot support the required 276 L/s design flow, the Owner shall either, at the discretion of the City and PUC:

a) Enter into an agreement with the City/PUC to upgrade or modify the municipal water system at the Owner's expense; or

b) Submit a revised plan reducing the number of dwelling units and/or lots to align with available water capacity, to the satisfaction of the City and PUC.

## Schedule B - Conditions of Draft Approval (Plan of Subdivision 57T-501):

#### **Utility & Infrastructure Compliance**

The Owner shall address all comments and requirements from PUC Distribution Inc. and the Public Utilities Commission as per their comments contained in Application: A-2-25-Z.OP 57T, to the satisfaction of the respective agencies.

#### Rear Lot Fencing (Open Space Block)

A fence shall be installed along the rear lot lines of lots that abut Block 80 (Open Space).

#### **Engineering Compliance**

The Owner shall address all Engineering Department comments as per their comments packaged in Application: A-2-25-Z.OP 57T, to the satisfaction of the City.

#### Well Decommissioning

Prior to finalizing the Subdivision Agreement, the Owner shall confirm any existing wells to be decommissioned and ensure their decommissioning is completed in accordance with Provincial Guidelines.

#### **Bell Canada Easements**

As part of the Subdivision Agreement, the Owner shall acknowledge that any conflicts with existing Bell Canada facilities or easements within the subject lands must be resolved at the Owner's expense, including any required relocation of infrastructure.

#### **Enbridge Gas Compliance**

The Owner shall ensure that no construction activity occurs within the easement limits of the Enbridge Gas high-pressure main unless reviewed and approved by Enbridge Gas.

Prior to final approval of the draft plan, the Owner shall provide confirmation from Enbridge Gas that all necessary requirements related to the easement have been satisfied. Final approval of the draft plan shall be conditional upon Enbridge Gas confirming, to the satisfaction of the City, that all easement and utility-related concerns have been addressed.

#### **Urban Service Area Extension**

The Urban Service Area must be officially extended prior to final approval and registration of the subdivision.

#### **Parkland Dedication**

Prior to final approval and registration, the Owner shall satisfy the City's parkland dedication requirements in accordance with Section 51.1 of the Planning Act, to the satisfaction of the City.

At the City's discretion, parkland dedication may be provided through:

a) The dedication of Block 80 (Linear Park) and Block 76 (Public Square Park);

b) A combination of parkland dedication and cash-in-lieu, with final parkland size and configuration to be determined prior to registration; or

c) Full cash-in-lieu of parkland in accordance with municipal policy.

If any adjustments to the proposed parkland dedication are required, the Owner shall submit a revised plan and enter into an amended Subdivision Agreement to reflect the final parkland arrangement.

# Schedule C - Conditions of Draft Approval (Plan of Common Elements Condominium 57T-502):

#### Site Plan Agreement Condition

Prior to final approval and registration of the Plan of Common Elements Condominium, a Site Plan Agreement shall be executed and registered on title.

#### Sanitary Sewer Capacity Study

Prior to final approval and registration of the Plan of Condominium, the Owner shall submit a sanitary sewer capacity study, to the satisfaction of the City, to determine the maximum number of dwelling units and/or lots that can be serviced, and make the necessary unit and lot adjustments to the satisfaction of the Director of Engineering or their designate.

#### Water Capacity & Hydraulic Analysis

Prior to final approval and registration, the Owner shall submit a Water Distribution System Hydraulic Analysis to the satisfaction of the PUC. If the analysis determines that the existing municipal system cannot support the required 276 L/s design flow, the Owner shall either, at the discretion of the City and PUC:

a) Enter into an agreement with the City/PUC to upgrade or modify the municipal water system at the Owner's expense; or

b) Submit a revised plan reducing the number of dwelling units and/or lots to align with available water capacity, to the satisfaction of the City and PUC.

# Schedule D - Conditions of Draft Approval (Plan of Standard Condominium 57T-503)

#### Site Plan Agreement Condition

Prior to final approval and registration of the Plan of Condominium, a Site Plan Agreement shall be executed and registered on title.

#### Sanitary Sewer Capacity Study

Prior to final approval and registration of the Plan of Condominium, the Owner shall submit a sanitary sewer capacity study, to the satisfaction of the City, to determine the maximum number of dwelling units and/or lots that can be serviced, and make the necessary unit and lot adjustments to the satisfaction of the Deputy CAO of Public Works and Engineering.

#### **Geotechnical Study Condition**

Prior to final approval and registration of the Plan of Condominium, the Owner shall submit a geotechnical study for the apartment block, prepared by a qualified professional, to the satisfaction of the City.

#### **Enbridge Gas Compliance**

The Owner shall ensure that no construction activity occurs within the easement limits of the Enbridge Gas high-pressure main unless reviewed and approved by Enbridge Gas.

Prior to final approval of the draft plan, the Owner shall provide confirmation from Enbridge Gas that all necessary requirements related to the easement have been satisfied. Final approval of the draft plan shall be conditional upon Enbridge Gas confirming, to the satisfaction of the City, that all easement and utility-related concerns have been addressed.

#### Water Capacity & Hydraulic Analysis

Prior to final approval and registration, the Owner shall submit a Water Distribution System Hydraulic Analysis to the satisfaction of the PUC. If the analysis determines that the existing municipal system cannot support the required 276 L/s design flow, the Owner shall either, at the discretion of the City and PUC:

a) Enter into an agreement with the City/PUC to upgrade or modify the municipal water system at the Owner's expense; or

b) Submit a revised plan reducing the number of dwelling units and/or lots to align with available water capacity, to the satisfaction of the City and PUC.



The Corporation of the City of Sault Ste. Marie

# COUNCIL REPORT

| April 7, 2025 |                                                     |
|---------------|-----------------------------------------------------|
| TO:           | Mayor Matthew Shoemaker and Members of City Council |
| AUTHOR:       | Jonathan Kircal, RPP, Intermediate Planner          |
| DEPARTMENT:   | Community Development and Enterprise Services       |
| RE:           | A-3-25-Z Housekeeping Amendments to Zoning By-law   |
|               | 2005-150                                            |
|               |                                                     |

## PURPOSE

The purpose of this report is to obtain Council approval of a City-initiated application of housekeeping amendments to Zoning By-law 2005-150 to clarify technical language and improve implementation. The proposed amendments confirm that limited residential development is permitted in the Rural Aggregate Extraction Zone (REX), rear yard setbacks are reduced to 1.2 metres for one-storey residential buildings in the Gentle Density Residential Zone (R2), and that dwelling units may be distributed across multiple residential buildings in the urban residential zones. These amendments will be city-wide in their effect.

## PROPOSED CHANGE

## Reintroduction of Residential Uses in the REX Zone:

Amend the Rural Aggregate Extraction Zone (REX) by permitting: "a residential structure containing no more than one dwelling unit on an existing lot, subject to rural area zone regulations".

#### Rear Yard Setback Adjustment for One-Storey Homes in the R2 Zone:

Amend the Gentle Density Residential Zone (R2) to reduce the rear yard setback to 1.2 metres for one-storey residential structures on R2 lots except for those that abut Lake Superior and St. Mary's River.

#### Clarification of Residential Structure and Unit Count Per Lot

Amend the list of permitted uses in the Rural Area Zone (RA) and the Estate Residential Zone (R1) by replacing *"Residential Structure containing up to 2 dwelling units"* with *"Residential Structure/s with no more than 2 dwelling units per lot*".

Amend the list of permitted uses in the Gentle Density Residential Zone (R2) and the Low Density Residential Zone (R3) by replacing "*Residential Structure*" with "*Residential Structure*/s".

A-3-25-Z Housekeeping Amendments to Zoning By-law 2005-150 April 7, 2025 Page 2.

Amend the list of permitted uses in the Medium Density Residential Zone (R4) by replacing "*Residential Structure – containing at least two dwelling units*" with "*Residential Structure/s – at least two dwelling units per lot*".

Amend the list of permitted uses in the High Density Residential Zone (R5) by replacing "*Residential Structure – containing at least four dwelling units*" with "*Residential Structure/s – at least four dwelling units per lot*".

## Subject Property:

The proposed amendments apply City-wide.

## BACKGROUND

In April 2024, City Council passed zoning amendment by-law 2024-48, *Gentle Density: Proposed Amendments to the Zoning By-law Regarding Residential Development Regulations*. A number of significant changes were made throughout the zoning by-law as a result of this amendment. The general purpose of these amendments is to allow for modest increases in residential density within existing neighbourhoods, with the goal of increasing housing supply, supporting affordability, and achieving other land use planning objectives while maintaining neighbourhood character.

## ANALYSIS

## Conformity with Official Plan

The proposed amendments aim to streamline the implementation of regulations designed to reduce barriers to residential development, thereby promoting a diverse range of housing options on urban residential lots without the need for a formal *Planning Act* application.

These amendments unlock significant development potential within the city's urban serviced areas by supporting future growth through infill development and redevelopment.

Therefore, the following Official Plan policies and goals strongly support the recommended zoning amendments:

## Housing Policies

- HO.1 Opportunities for a full range of housing types shall be provided to meet the present and expected needs of the community.
- HO.2 Innovative and alternative residential development standards supporting affordable housing and compact urban form shall be encouraged...

## Residential Land Use Policies

• *R.1 – A mixture of housing types and diversity of ownership and tenure forms shall be encouraged in new development.* 

- R.2 Low and high density development should be integrated and compatible in density, height and building setbacks. Generally, high density development shall be restricted to major arterial streets and areas abutting the downtown core.
- *R.4* Small-scale intensification may be permitted in all residential areas unless adequate supporting infrastructure is not available or significant physical constraints exist.

## PART VI – Physical Development – Built Environment

• Goal: to develop flexible and adaptable land use plans and development procedures that respond rapidly to development opportunities.

## Conformity with Provincial Planning Statement 2024

These proposed housekeeping amendments enhance the zoning framework to better direct residential growth into existing serviced urban areas, optimizing current infrastructure and minimizing the need for the outward expansion of residential uses.

These technical amendments conform to the PPS.

## Conformity with Growth Plan for Northern Ontario 2011

The housekeeping amendments do not conflict with the GPNO.

## COMMENTS

Staff continually monitor feedback on the effectiveness of the zoning by-law, collecting input from internal sources, other departments, and the public. Based on this feedback, staff periodically propose housekeeping amendments to improve its implementation.

In 2024, application A-1-24-Z, referred to as *Gentle Density: Proposed Amendments to the Zoning By-law Regarding Residential Development Regulations*, and its corresponding by-law, 2024-48, were adopted by Council. This introduced significant changes to zoning provisions aimed at increasing flexibility for residential developments across the city. Since its adoption, Planning staff have collected feedback on ways to improve its implementation.

It has been noted that some of the changes to the zoning by-law as a result of A-1-24-Z, unintentionally removed certain permissions or introduced vagueness. This application seeks to reverse or clarify these changes to ensure that the bylaw is implemented as originally intended.

A description of the amendments is provided below:

A-3-25-Z Housekeeping Amendments to Zoning By-law 2005-150 April 7, 2025 Page 4.

#### Reintroduction of Residential Uses in the REX Zone

Residential uses were inadvertently removed as a permitted use in the REX zone due to changes in housing terminology. Previously, single-detached dwellings were allowed in this zone; however, with the approval of A-1-24-Z, the term "single-detached dwelling" was replaced with "residential structure containing no more than one unit." The REX zone was not updated to reflect this change, resulting in the unintended exclusion of residential uses.

#### Rear Yard Setback Adjustment for One-Storey Homes in the R2 Zone

The zoning application intended to reduce the rear yard setback from 10 metres to 1.2 metres for one-storey residential uses in all urban residential zones; however this change was not applied to the R2 zone.

This application recommends aligning the R2 zone with other urban residential zones by reducing the rear yard setback for one-storey residential structures from 10 metres to 1.2 metres. R2 zoned lots that abut Lake Superior and St. Mary's River are excluded from this amendment due to environmental sensitivity, flooding, and shoreline stability concerns.

#### Clarification of Residential Structure and Unit Count Per Lot

These amendments aim to clarify the language in the zoning by-law regarding residential structures by specifying that multiple residential structures may be permitted on a lot, provided they meet the minimum or maximum unit requirements for the lot as prescribed in the respective zone.

These amendments clarify the zoning by-law by specifying that multiple residential structures may be permitted on a lot, as long as they comply with the minimum and maximum unit requirements of the respective zone and all other performance standards. Rural residential zones will continue to be subject to no more than one or two dwelling units per lot, whereas the zones intended for the highest density will require a minimum of 2 to 4 dwelling units per lot.

## CONSULTATION

Public notice was advertised in the following manner:

- Sault Star, Saturday, March 15, 2025.
- City website, Tuesday, March 11, 2025.

As this is a City-wide application, no physical notices were mailed out.

No comments from the public were received.

## **Application Circulation**

As part of the application review, this proposal was circulated to City divisions and external agencies for detailed technical review and comment. No comments were received during application circulation.

A-3-25-Z Housekeeping Amendments to Zoning By-law 2005-150 April 7, 2025 Page 5.

#### FINANCIAL IMPLICATIONS

Approval of this application will not result in any incremental changes to municipal finances.

#### STRATEGIC PLAN / POLICY IMPACT

Housekeeping amendments keep the zoning by-law relevant and streamlined to ensure ease of the development approvals process. This complements the service delivery focus area of the strategic plan.

#### SUMMARY

This is a City-initiated application to introduce housekeeping amendments to Zoning By-law 2005-150 for the purpose of clarifying technical language and improving implementation. The proposed amendments confirm that limited residential development is permitted in the Rural Aggregate Extraction Zone (REX), rear yard setbacks are reduced to 1.2 metres for one-storey residential buildings in the Gentle Density Residential Zone (R2), and that dwelling units may be distributed across multiple residential buildings in the residential zones.

#### RECOMMENDATION

It is therefore recommended that Council take the following action:

Resolved that the report of the Planner dated April 7, 2025 concerning Application A-3-25-Z Technical Amendments to Zoning By-law 2005-150 be received and that Council approve the application to amend Zoning By-law 2005-150 as outlined in Schedule A;

And that the Legal Department be requested to prepare the necessary by-law(s) to effect the same.

Respectfully submitted,

Jonathan Kircal, RPP 705.759.6227 j.kircal@cityssm.on.ca

# Schedule A – Proposed Zoning Amendments

## PROPOSED CHANGE

Reintroduction of Residential Uses in the REX Zone:

Amend the Rural Aggregate Extraction Zone (REX) by permitting: "a residential structure containing no more than one dwelling unit on an existing lot, subject to rural area zone regulations".

<u>Rear Yard Setback Adjustment for One-Storey Homes in the R2 Zone:</u> Amend the Gentle Density Residential Zone (R2) to reduce the rear yard setback to 1.2 metres for one-storey residential structures on R2 lots except for those that abut Lake Superior and St. Mary's River.

#### Side Yard Setback:

Amend the Gentle Density Residential Zone (R2), Low Density Residential Zone (R3), and Medium Density Residential Zone (R4) to reduce the required side yard setback to 1.8 metres for two-storey residential structures and 1.2 metres for one-storey residential structures, provided that vehicular parking is not required in the side yard.

#### Clarification of Residential Structure and Unit Count Per Lot

Amend the list of permitted uses in the Rural Area Zone (RA) and the Estate Residential Zone (R1) by replacing "*Residential Structure containing up to 2 dwelling units*" with "*Residential Structure/s with no more than 2 dwelling units per lot*".

Amend the list of permitted uses in the Gentle Density Residential Zone (R2) and the Low Density Residential Zone (R3) by replacing "*Residential Structure*" with "*Residential Structure*".

Amend the list of permitted uses in the Medium Density Residential Zone (R4) by replacing "*Residential Structure - containing at least 2 dwelling units*" with "*Residential Structure/s – at least two dwelling units per lot*".

Amend the list of permitted uses in the High Density Residential Zone (R5) by replacing *"Residential Structure - containing at least 4 dwelling units"* with *"Residential Structure/s"* – at least four dwelling units per lot".



The Corporation of the City of Sault Ste. Marie 99 Foster Drive, Sault Ste. Marie, Ontario P6A 5X6 saultstemarie.ca | 705.759.2500 | info@cityssm.on.ca

# NOTICE OF APPLICATION & PUBLIC MEETING

# Housekeeping Amendment

Application No.: A-3-25-Z

Applicant: The Corporation of the City of Sault Ste. Marie

Date: April 07, 2025 Time: 5:00 PM Location: City of Sault Ste. Marie Civic Centre, Council Chambers 99 Foster Drive

## PURPOSE

This is a city-initiated application to introduce housekeeping amendments to Zoning By-law 2005-150 for the purpose of clarifying technical language and improving implementation. The proposed amendments confirm that limited residential development is permitted in the Rural Aggregate Extraction Zone (REX), rear yard setbacks are reduced to 1.2 metres for one-storey residential buildings in the Gentle Density Residential Zone (R2), and that dwelling units may be distributed across multiple residential buildings in the urban residential zones. These amendments will be city-wide in their effect.

## PROPOSED CHANGE

Reintroduction of Residential Uses in the REX Zone:

Amend the Rural Aggregate Extraction Zone (REX) by permitting: "a residential structure containing no more than one dwelling unit on an existing lot, subject to rural area zone regulations".

Rear Yard Setback Adjustment for One-Storey Homes in the R2 Zone:

Amend the Gentle Density Residential Zone (R2) to reduce the rear yard setback to 1.2 metres for one-storey residential structures on all R2 lots except for those that abut Lake Superior and St. Mary's River.

Clarification of Residential Structure and Unit Count Per Lot

Amend the list of permitted uses in the Rural Area Zone (RA) and the Estate Residential Zone (R1) by replacing *"Residential Structure containing up to 2 dwelling units"* with *"Residential Structure/s with no more than 2 dwelling units per lot"*.

Amend the list of permitted uses in the Gentle Density Residential Zone (R2) and the Low Density Residential Zone (R3) by replacing *"Residential Structure" with "Residential Structure/s"*.

Amend the list of permitted uses in the Medium Density Residential Zone (R4) by replacing "Residential Structure - containing at least 2 dwelling units" with "Residential Structure/s – at least two dwelling units per lot".

Amend the list of permitted uses in the High Density Residential Zone (R5) by replacing "Residential Structure - *containing at least 4 dwelling units*" with "Residential Structure/s – at least four dwelling units per lot".

## HAVE YOUR SAY

Input on the proposed Zoning By-Law amendment is welcomed and encouraged. You can provide input by making a written submission or by making a public presentation.

**TAKE NOTICE THAT** the Council of The Corporation of the City of Sault Ste. Marie will hold a Public Meeting on **Monday, April 07, 2025** at 5:00 p.m. to consider a proposed amendment to Zoning By-Law No. 2005-150 under Section 34 of The Planning Act, Chap. P.13, R.S.O.1990, as amended. This meeting will be broadcast by Shaw Cable and may be viewed on Shaw Cable's Community Channel, Sootoday.com and on the City's YouTube Channel <a href="https://www.youtube.com/saultstemarieca">https://www.youtube.com/saultstemarieca</a> Any person wishing to present at the public meeting may do so electronically or in person. Electronic participants must contact the City Clerk at <a href="mailto:cityclerk@cityssm.on.ca">cityclerk@cityssm.on.ca</a> or 705-759-5388 to register as a presenter. Registered presenters will be provided with instructions as to how to join the meeting in advance Any written submissions received in advance of the meeting will be included with Council's Agenda.

## **MORE INFORMATION**

The application may be reviewed in the Planning Division, Level 5, Civic Centre, 99 Foster Drive. The Report of the Planning Division will be available as part of the Council Agenda on the City's website at 4:30 p.m. on **Thursday, April 03, 2025** and in person on **Friday, April 04, 2025**, during regular

office hours in the Planning Division. Digital and physical copies of the report are available upon request. Inquiries should be directed to Jonathan Kircal, Planning Division, at 705.759.6227 or <u>j.kircal@cityssm.on.ca</u> please refer to the application file number.

## WRITTEN SUBMISSION

To provide input in writing, or request notice if the proposed application is approved, please submit a letter to Jonathan Kircal, Planning Division, 99 Foster Drive, Sault Ste. Marie, ON P6A 5X6, or e-mail to <u>j.kircal@cityssm.on.ca</u> with your name, address and application file number on or **before Monday**, **April 07, 2025.** 

If you wish to be notified of the Council of the City of Sault Ste. Marie decision to adopt or refuse the approval of an application, you must make a written request to the Planning Division at the address noted above.

## LEGAL NOTICE CONCERNING YOUR RIGHT TO APPEAL

As per the Planning Act, appeal rights are only provided to specified persons, public bodies, applicants, registered owners of any land to which the by-law and/or plan would apply to, the Minister, and the appropriate approval authority.

If a specific person, public body, registered owner of a subject property does not make oral submission at a public meeting or make written submission to the City of Sault Ste. Marie before the By-law is passed, the specified person, public body or registered owner of a subject property may not be entitled to appeal the decision of the Council of the City of Sault Ste. Marie to the Ontario Land Tribunal.

If a person or public body does not make oral submissions at a public meeting, or make written submissions to the City of Sault Ste. Marie before the By-law is passed, the person or public body may not be added as a party to the hearing of an appeal before the Ontario Land Tribunal unless, in the opinion of the Tribunal, there are reasonable grounds to add the person or public body as a party.

## THE CORPORATION OF THE CITY OF SAULT STE. MARIE

## BY-LAW 2025-49

**<u>AGREEMENT</u>**: A by-law to authorize the execution of the Extension Agreement between the City and The Corporation of the Township of Prince for the provision of policing services to the Township.

**THE COUNCIL** of The Corporation of the City of Sault Ste. Marie, pursuant to section 9 of the *Municipal Act, 2001*, S.O. 2001, c. 25, **ENACTS** as follows:

## 1. EXECUTION OF DOCUMENT

The Mayor and City Clerk are hereby authorized for and in the name of the Corporation to execute and affix the seal of the Corporation to the Extension Agreement dated March 18, 2025 between the City and The Corporation of the Township of Prince, a copy of which is attached as Schedule "A" hereto. This Extension Agreement is for the provision of policing services to the Township.

## 2. SCHEDULE "A"

Schedule "A" forms part of this by-law.

## 3. **EFFECTIVE DATE**

This by-law takes effect on the day of its final passing.

**PASSED** in open Council this 7<sup>th</sup> day of April, 2025.

## MAYOR – MATTHEW SHOEMAKER

## CITY CLERK – RACHEL TYCZINSKI

lv/\citydata\LegalDept\Legal\Staff\COUNCIL\BY-LAWS\2025\2025-49 Prince Township Police Services Agreement.docx

THIS EXTENSION AGREEMENT made in duplicate this 18<sup>th</sup> day of March 2025.

BETWEEN:

# THE CORPORATION OF THE CITY OF SAULT STE. MARIE

## (hereinafter called the "City")

## OF THE FIRST PART

- AND -

## THE CORPORATION OF THE TOWNSHIP OF PRINCE

## (hereinafter called the "Township")

## OF THE SECOND PART

**WHEREAS** an Agreement for the provision of police services dated March 23, 2020 between the City and the Township was entered into, a copy of which is appended as Schedule "A" hereto (hereinafter: the "Agreement");

**AND WHEREAS** the Agreement has a term of five (5) years commencing March 23, 2020, to March 31, 2025.

**AND WHEREAS** the parties are engaged in renewing the Agreement.

**AND WHEREAS** the Township wishes to continue to provide adequate and effective police service in accordance with its needs and as set out in the Agreement until a new agreement can be concluded.

**AND WHEREAS** the Township agrees to continue to benefit from the provision of police service on a month-to-month basis and under the same terms and conditions as set out in the Agreement until a new agreement can be entered in to.

**NOW THEREFORE** in consideration of the mutual terms and covenants herein contained, the Parties covenant and agree as follows:

## 1. EXTENDED TERM

The City and the Township hereto acknowledge and agree that the term in the Agreement shall hereby extend for a period of three (3) months, commencing April 1, 2025 and ending June 30, 2025 (the "Extended Term") or until the parties finalize a new agreement, whichever occurs first.

## 2. TERMS AND CONDITIONS

The City and the Township acknowledge and agree that all other terms and conditions as set out in the Agreement, shall remain unchanged.

IN WITNESS WHEREOF the parties have executed this Extension Agreement to be effective as of the date first above written.

## THE CORPORATION OF THE CITY OF SAULT STE. MARIE

## MAYOR-MATTHEW SHOEMAKER

## CITY CLERK-RACHEL TYCZINSKI

## THE CORPORATION OF THE TOWNSHIP OF PRINCE

## MAYOR-MELANIE MAGERAN

## CLERK – SAM CAROLEI

#### Schedule "A"

#### POLICE SERVICE AGREEMENT

#### UNDER SECTION 6.1 OF THE POLICE SERVICES ACT, R.S.O. 1990, C.P.15 AS AMENDED

**THIS POLICE SERVICE AGREEMENT** (the "**Agreement**") is dated the 23rd day of March, 2020.

BETWEEN:

#### THE CORPORATION OF THE CITY OF SAULT STE. MARIE (hereinafter called the "City")

#### OF THE FIRST PART;

- and -

#### THE CORPORATION OF THE TOWNSHIP OF PRINCE (hereinafter called the "Township")

#### OF THE SECOND PART;

**WHEREAS** pursuant to Section 4(1) of the *Police Services Act, R.S.O. 1990 c.P.15* as amended (the "Act"), the Township is required to provide adequate and effective police services in accordance with its needs;

**AND WHEREAS** pursuant to Section 5(1)4. of the Act, the Township's responsibility to provide police services shall be discharged by entering into an agreement under Section 6.1 of the Act with the council of another municipality to have its police services provided by the Police Services Board of the other municipality on the conditions set out in the agreement;

**AND WHEREAS** on or about March 11, 2014, Council for the Township had previously requested the City to enter into an agreement pursuant to Section 6.1 of the Act to provide certain Police Services as specified in an Agreement, which resulted in an "Agreement for the Provision of Police Services Under Section 6.1 of the Police Services Act" between the parties dated March 24, 2014 ("2014 Agreement"), authorized by City By-law 2014-66, passed on April 28, 2014, for a term commencing June 1, 2014 and ending on May 31, 2019,

**AND WHEREAS** on December 19, 2017, the Township gave formal notice that it intended to terminate the 2014 Agreement effective December 31, 2018;

**AND WHEREAS** in October 2018, the new Sault Ste. Marie Police Chief approached Prince Township to discuss entering into a new agreement for the provision of Police Services.;

**AND WHEREAS** on or about the 10<sup>th</sup> day of December 2018, the Township and the City entered into an Extension Agreement authorized by By-law 2018-232, which extended the 2014 Agreement on a month to month basis commencing January 1, 2019 until such time as a new agreement could be forged between the City and the Township;

**AND WHEREAS** Council for the Township has now requested that the City enter into the within Agreement pursuant to Section 6.1 of the Act to provide certain Police Services as specified in this Agreement;

**AND WHEREAS** the City is agreeable to providing certain Police Services as specified in the within Agreement to the Township subject to the terms and conditions specified herein;

**NOW THEREFORE** this Agreement witnessed that in consideration of the mutual covenants and Agreements herein contained, and subject to the terms and conditions hereinafter set out, the parties hereto agree as follows:

#### 1. TERM AND CONCLUSION OF 2014 AGREEMENT AND EXTENSION AGREEMENT

- (a) The parties hereto acknowledge and agree that the 2014 Agreement dated March 24, 2014 and Extension Agreement dated December 10, 2018 are hereby terminated effective March 22, 2020.
- (b) The parties hereto further acknowledge and agree that the Term of this Agreement will be for a period of five (5) years and shall commence March 23, 2020 and terminate on March 31, 2025. This Agreement is also subject to termination as prescribed in Section 5 of this Agreement.

#### 2. POLICE SERVICES DETAILED

- (a) The Township requests and the City agrees to provide the following specific Police Services:
  - (i) The City shall provide to the Township a level of police service comparable to that provided to the residents of the City who reside in the more rural areas of the City of Sault Ste. Marie and, more particularly such service

shall be similar to the service provided at present to the inhabitants of the City of Sault Ste. Marie situated in that area bounded by the prolongation of Base Line to the north and Airport Road to the east;

- (ii) The City agrees that it shall provide routine patrols of the Township;
- (iii) The Chief of Police of the City shall report to the Township, at mutually agreed upon intervals, regarding the provision of Police Services in and for the Township.

The above shall collectively be referred to as the "Police Services" in this Agreement.

- (b) The Township hereby acknowledges and agrees that pursuant to this Agreement, the City shall not respond to any other requests for Police Services other than the specific Police Services set out above.
- (c) The parties acknowledge that there is an agreement between the City and Township regarding the provision of 911 Services. The provision of 911 Services is exclusive to this Agreement, and therefore the provision of Police Services as detailed herein does not cover 911 Services.
- (d) Pursuant to Section 6.1(2) of the Act, the Township may select a person to advise the Sault Ste. Marie Police Services Board with respect to objectives and priorities for police services in the Township and the Sault Ste. Marie Police Services Board shall be receptive and respond appropriately to the objectives and priorities of the Township.
- (e) The Township shall throughout the term of this Agreement appoint and maintain a person(s) to enforce the by-laws of the Township and the enforcement of such by-laws will be the exclusive jurisdiction of the Township and at cost to the Township exclusive to this Agreement. The Provision of Police Services in this Agreement does <u>not</u> include the enforcement of any Township By-laws.

#### 3. COSTS

- (a) The Township shall pay the City for the Police Services provided under this Agreement in accordance with the Agreement.
- (b) The Township covenants and agrees to pay the City the total sum of One Hundred, Seventy Five (\$175,000.00) for the first year plus HST, for the provision of Police Services. Thereafter the amount will increase yearly in accordance with the CPI Ontario for the previous calendar year, commencing April 2021 and every April in the Term. The amount in the first year will be payable as follows:

The Township will pay the City the above amount in evenly disbursed monthly installments shown below inclusive of HST:

| April     | \$16,479.16 |
|-----------|-------------|
| May       | \$16,479.16 |
| June      | \$16,479.16 |
| July      | \$16,479.16 |
| August    | \$16,479.16 |
| September | \$16,479.16 |
| October   | \$16,479.16 |
| November  | \$16,479.16 |
| December  | \$16,479.16 |
| January   | \$16,479.16 |
| February  | \$16,479.16 |
| March     | \$16,479.16 |

(c) Special Duty officers provided by the City to the Township for an event located within the geographic confines of the Township will be provided <u>at a cost that is</u> <u>in addition to this Agreement</u> and the costs payable by the Township to the City shall be determined by the City in its sole discretion. The City shall promptly invoice the Township following the provision of any Special Duty Officers and thereafter the Township shall pay the City within thirty (30) days the amount so invoiced by the City.

#### 4. LIABILITY OF THE CITY AND THE SAULT STE. MARIE POLICE SERVICES BOARD

The City and the Sault Ste. Marie Police Services Board shall be liable for any damages that may arise as a result of any intentional or negligent acts or omissions of its members in the performance of this Agreement.

#### 5. TERMINATION

- (a) If either party wishes to terminate this Agreement, that party may do so by giving the other party at least (90) days' written notice of its intention to terminate.
- (b) Unless terminated earlier or in accordance with Clause a, this Agreement shall terminate on March 31, 2025. If the Township wants to extend the Agreement beyond the said date, the Township shall give to the City ninety (90) days' written notice of its intention to renegotiate a new agreement. The extension of this Agreement (if any) is subject to the successful negotiations of the parties hereto following receipt of this notice and Council approval of both parties.

- (c) In the event the Township fails to make any payment as set out in Clause 3, the City may, at its option and upon thirty (30) days' written notice to the Township, terminate this Agreement.
- (d) Paragraphs 2-5 inclusive shall survive the termination or completion of this Agreement.

#### 6. NOTICE

The City or the Township upon Termination shall provide written notice to the other party of their intention to do so. Notices shall be deemed given if deposited in the mail with postage charges prepaid and addressed to the party for whom intended at such party's address herein specified.

The City: Chief of Police Sault Ste. Marie Police Service 580 Second Line East, Sault Ste. Marie ON P6B 4K1

and to:

Chief Administrative Officer The Corporation of the City of Sault Ste. Marie 99 Foster Drive, Sault Ste. Marie, ON P6A 5X6

#### The Township:

The Clerk/Treasurer The Corporation of the Township of Prince 3042 Second Line West, Sault Ste. Marie ON P6A 6K4

#### 7. DISPUTE RESOLUTION MECHANISM

In the event a dispute arises between the parties regarding the interpretation, application, administration, or alleged violation of this Agreement, the parties agree that the following dispute resolution process shall be used:

- (a) A meeting must be held promptly between the parties, attended by the parties' respective Chief Administrative Officers regarding the dispute, to attempt in good faith to negotiate a resolution of the dispute.
- (b) If, within fourteen (14) days after such meeting, or such further period agreed to by the parties in writing, the parties have not succeeded in negotiating a resolution of the dispute, the parties agree to submit the dispute to mediation.

- (c) The parties must jointly appoint a mutually acceptable mediator. If the parties are unable to agree upon the appointment of a mediator within seven (7) business days after the end of the negotiation period referred to in paragraph 2, the mediator shall be appointed by ADR Chambers based on a recommendation and process implemented by the Chief Executive Officer (or similar position) of the ADR Chambers, or such other organization or person agreed to by the parties in writing.
- (d) The parties agree to participate in good faith in a mediation session which must occur within thirty (30) days after the appointment of the mediator, or such further period agreed to by the parties in writing.
- (e) If the parties are unable to resolve all issues in dispute in the mediation, the parties agreed that the remaining issues in dispute must be determined by arbitration under the Arbitration Act, 1991, S.O. 1991, c. 17. The parties agree that the decision of the arbitrator will be final and binding and will not be subject to appeal on a question of fact, law or mixed fact and law.

The parties agree to share equally the costs of the mediation and arbitration, which costs will not include costs incurred by a party for representation by counsel.

#### 8. GENERAL PROVISIONS

- (a) This Agreement and all matters or issues incident hereto shall be governed by and construed under and in accordance with the laws of the Province of Ontario. The parties hereto attorn to the jurisdiction of the Courts of Ontario. This Agreement shall be treated in all respects as an Ontario contract.
- (b) This Agreement constitutes the entire Agreement between the parties, and there are no representations, warranties, collateral agreements or conditions affecting this Agreement or the relationship of the parties or supported hereby other than as expressed herein in writing. Any amendment to this Agreement must be in writing, duly executed by the parties.
- (c) The parties hereby acknowledge and agree that any future amendments to this Agreement must be made in writing and signed by both parties.

(d) This Agreement shall ensure the benefit of and be binding upon the respective successors and assigns of the parties hereto.

**IN WITNESS WHEREOF** the part of the first part has hereto affixed its corporate seal attested by the hands of its duty to authorized officers and the parties of the Second part have hereunto set their hands and seals.

THE CORPORATION OF CITY OF SAULT STE. MARIE Mayor - Christian Provenzano APPROVED BY CITY OF SAULT STE. MARIE City Clerk - (Malcom White) Rackel TYCZUSKI BY-LAW# 2020-115 THE CORPORATION OF THE TOWNSHIP OF PRINCE Mayor – Ken Lamming her **Township Clerk** 

7

## THE CORPORATION OF THE CITY OF SAULT STE. MARIE

## BY-LAW NO. 2025-50

**PROPERTY**: A by-law to declare the City owned property legally described as PIN 31510-0131 (LT) LT 8 RCP H737 TARENTORUS; SAULT STE. MARIE being part civic 657 Fourth Line East, as surplus to the City's needs and to authorize the disposition of the said property.

**THE COUNCIL** of The Corporation of the City of Sault Ste. Marie, pursuant to the *Municipal Act, 2001*, S.0. 2001, c. 25, **ENACTS** as follows:

## 1. LANDS DECLARED SURPLUS

The lands more particularly described in Schedule "A" to this by-law are surplus to the requirements of the municipality.

#### 2. SALE AUTHORIZED

The Corporation of the City of Sault Ste. Marie shall sell the lands more particularly described in Schedule "A" hereto.

#### 3. SCHEDULE "A"

Schedule "A" hereto forms part of this by-law.

## 4. **EFFECTIVE DATE**

This by-law takes effect on the day of its final passing.

**PASSED** in open Council this 7<sup>th</sup> day of April, 2025.

## MAYOR – MATTHEW SHOEMAKER

## CITY CLERK – RACHEL TYCZINSKI

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## THE CORPORATION OF THE CITY OF SAULT STE. MARIE

## BY-LAW 2025-52

**<u>AGREEMENT</u>**: A by-law to authorize the execution of the Fourth Inter-Municipal Agreement Renewal between the City and the Municipal Partners for the provision of Provincial Offences administration, revenue sharing and prosecutorial services.

**THE COUNCIL** of The Corporation of the City of Sault Ste. Marie, pursuant to section 9 of the *Municipal Act, 2001*, S.O. 2001, c. 25, **ENACTS** as follows:

## 1. EXECUTION OF DOCUMENT

The Mayor and City Clerk are hereby authorized for and in the name of the Corporation to execute and affix the seal of the Corporation to the Fourth Inter-Municipal Agreement Renewal dated April 7, 2025 between the City and the Municipal Partners for the provision of Provincial Offences administration, revenue sharing and prosecutorial services, a copy of which is attached as Schedule "A" hereto.

#### 2. SCHEDULE "A"

Schedule "A" forms part of this by-law.

## 3. EFFECTIVE DATE

This by-law takes effect on the day of its final passing.

**PASSED** in open Council this 7<sup>th</sup> day of April, 2025.

## MAYOR – MATTHEW SHOEMAKER

## CITY CLERK – RACHEL TYCZINSKI

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## FOURTH INTER-MUNICIPAL AGREEMENT RENEWAL

THIS RENEWAL made this 7th day of April, 2025.

## **BETWEEN**:

## THE CORPORATION OF THE CITY OF SAULT STE. MARIE

Hereinafter referred to as "the City"

-and-

THE MUNICIPAL PARTNERS BEING: The Town of Bruce Mines The Township of Hilton The Municipality of Huron Shores The Township of Johnson The Township of MacDonald, Meredith & Aberdeen Additional The Township of Plummer Additional The Township of Dubreuilville The Village of Hilton Beach **Township of Jocelyn** The Township of Laird The Municipality of Wawa The Township of Prince The Township of St. Joseph The Corporation of the Town of Thessalon The Township of Tarbutt & Tarbutt Additional The Township of White River **Garden River First Nation Batchewana First Nation of Ojibways** 

## Hereinafter referred to as "Municipal Partners"

**WHEREAS** an Inter-Municipal Service Agreement dated May 14, 2001 (the "Agreement") was made between the City and the Municipal Partners in support of a Memorandum of Understanding for the transfer of service delivery for all court administration and court support functions under the *Provincial Offences Act* and prosecutions of matters under Parts I and II of the *Provincial Offences Act*;

**AND WHEREAS** the Parties agreed to the City of Sault Ste. Marie being the service delivery agent to effect a seamless transition of *Provincial Offences Act* court administration and to share the net revenues on a population basis among the Municipal Partners;

**AND WHEREAS** the Agreement has been renewed by the City and the Municipal Partners from time to time to allow for the continuous provision of services;

**AND WHEREAS** the most recent renewal of the Agreement was the Renewal of Inter-Municipal Agreement made the 10<sup>th</sup> day of August, 2020 (the "2020 Agreement"), which renewed the Agreement for the period of five (5) years commencing on April 1, 2020 and ending on March 31, 2025;

**AND WHEREAS** Section 13 of the 2009 Agreement provides that the Parties hereto may amend the agreement on the written consent of the Parties thereto;

**AND WHEREAS** the Parties hereto agree and wish to renew the 2009 Agreement for a further period of five (5) years;

**NOW THEREFORE** the Parties hereto agree as follows:

- 1. The Parties hereto acknowledge and agree that Section 9 of the 2009 Agreement shall be amended, so as to cause the renewal of the 2009 agreement for a future period of five (5) years, commencing on April 1, 2025 and ending on March 31, 2030.
- 2. This Agreement may be executed in several counterparts, each of which so executed shall be deemed to be an original, and such counterparts together shall constitute but one and the same instrument.

**IN WITNESS WHEREOF** the Parties hereto have signed and sealed this renewal of the 2009 Agreement by their proper signing officers as of the date first above written.

#### THE CORPORATION OF THE CITY OF SAULT STE. MARIE

MAYOR – MATTHEW SHOEMAKER

CLERK – RACHEL TYCZINSKI

THE TOWN OF BRUCE MINES

MAYOR – LORY PATTERI

CLERK – JUDY DAVIS

THE TOWNSHIP OF HILTON

REEVE – RODNEY WOOD

MAYOR – ROBERT HOPE

MAYOR - BEVERLY NANTEL

CLERK – SHELLEY B. CASEY

THE VILLAGE OF HILTON BEACH

THE TOWNSHIP OF DUBREUILVILLE

ACTING CLERK – SARA DINSDALE

THE MUNCIPALITY OF HURON SHORES

MAYOR – JANE ARMSTRONG

CLERK – NATASHA ROBERTS

TOWNSHIP OF JOCELYN

CLERK – MYRA EDDY

REEVE – CORI MURDOCK

CLERK – KAYLEE D'ANGELO

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# THE TOWNSHIP OF JOHNSON THE TOWNSHIP OF LAIRD MAYOR – REG MCKINNON MAYOR – SHAWN EVOY CLERK – JANET MAGUIRE CLERK – JENNIFER ERRINGTON **TOWNSHIP OF MICHIPICOTEN** THE TOWNSHIP MACDONALD, **MEREDITH & ABERDEEN ADDITIONAL** NOW THE MUNICIPALITY OF WAWA MAYOR – LYNN WATSON MAYOR – MELANIE PILON CLERK – LACEY KASTIKAINEN CLERK – MAURY O'NEILL THE TOWNSHIP OF PLUMMER ADDITIONAL THE TOWNSHIP OF PRINCE MAYOR – BETH WEST REEVE – MELANIE MAGERAN CLERK – SAM CAROLEI ACTING CLERK – LIISA COTNAM THE TOWNSHIP OF ST. JOSEPH **THE TOWNSHIP OF TARBUTT & TARBUTT ADDITIONAL**

MAYOR – JODY WILDMAN

CLERK – AMANDA RICHARDSON

MAYOR – LENNOX SMITH

CLERK – CAROL O. TRAINOR

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# THE CORPORATION OF THE TOWN OF THESSALON

THE TOWNSHIP OF WHITE RIVER

MAYOR – TARA ANDERSON HART

COUNCILLOR CHESTER LANGILLE

COUNCILLOR CANDICE SIM

CLERK – JULIE ROY WARD

DEPUTY MAYOR – JORDAN BIRD

CLERK – DEBBIE RYDALL

GARDEN RIVER FIRST NATION

CHIEF KAREN BELL

COUNCILLOR KARI BARRY

COUNCILLOR DARWIN BELLEAU

COUNCILLOR KRISTY DAWN JONES

COUNCILLOR LEE ANN GAMBLE

COUNCILLOR TRAVIS JONES

**BATCHEWANA FIRST NATION OF OJIBWAYS** 

CHIEF MARK McCOY

COUNCILLOR JOE TOM SAYERS

COUNCILLOR AGNES LIDSTONE

COUNCILLOR LUKE McCOY

COUNCILLOR TREVOR SAYERS

COUNCILLOR BRENDA SAYERS

COUNCILLOR GARY ROACH

COUNCILLOR CAROL HERMISTON

COUNCILLOR ANN TEGOSH

## BY-LAW NO. 2025-53

**PROPERTY**: A by-law to declare the City owned property legally described as PIN 31610-0183 (LT) PT LT 9 PL H536 KORAH PT 1 1R6198; SAULT STE. MARIE, being civic 0 Nixon Road, as surplus to the City's needs and to authorize the disposition of the said property.

**THE COUNCIL** of The Corporation of the City of Sault Ste. Marie, pursuant to the *Municipal Act, 2001*, S.0. 2001, c. 25, **ENACTS** as follows:

## 1. LANDS DECLARED SURPLUS

The lands more particularly described in Schedule "A" to this by-law are surplus to the requirements of the municipality.

## 2. SALE AUTHORIZED

The Corporation of the City of Sault Ste. Marie shall sell the lands more particularly described in Schedule "A" hereto.

## 3. SCHEDULE "A"

Schedule "A" hereto forms part of this by-law.

## 4. **EFFECTIVE DATE**

This by-law takes effect on the day of its final passing.

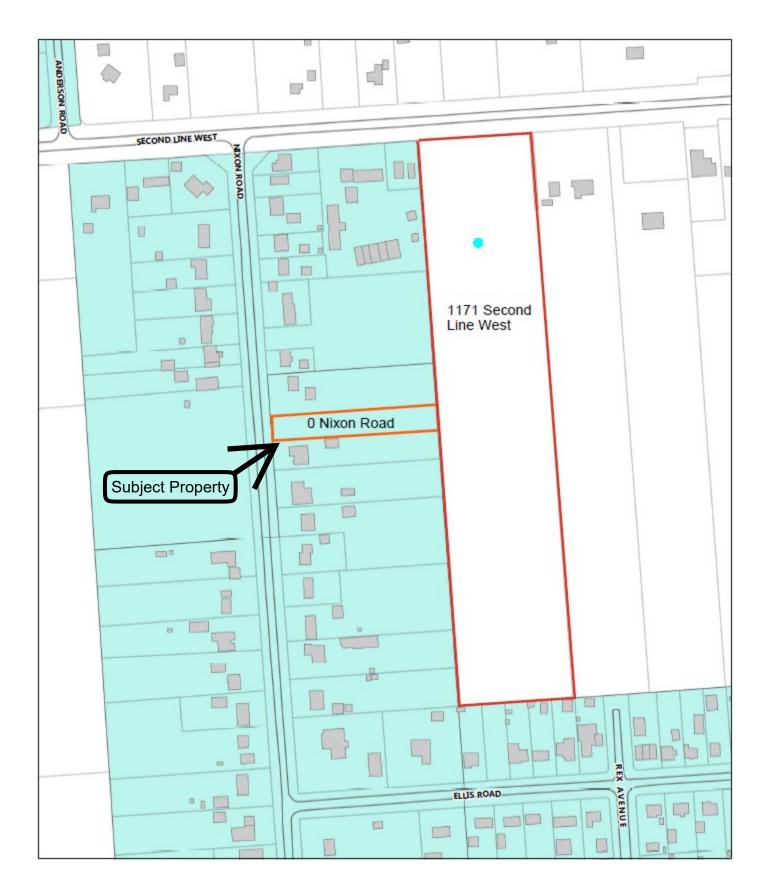
**PASSED** in open Council this 7<sup>th</sup> day of April, 2025.

# MAYOR – MATTHEW SHOEMAKER

# CITY CLERK – RACHEL TYCZINSKI

ep \\citydata\LegalDept\Legal\Staff\COUNCIL\BY-LAWS\2025\2025-53 Surplus Property - 0 Nixon Road (1644291 Ontario Limited – Ozzie Grandinetti).docx

Schedule "A"



## BY-LAW 2025-54

**<u>AGREEMENT</u>**: A by-law to authorize the execution of the Agreement between the City and FCD SPORTS GROUP LTD. for the lease and operation of space for a Pro Shop at the Northern Community Centre (NCC).

**THE COUNCIL** of The Corporation of the City of Sault Ste. Marie, pursuant to section 9 of the *Municipal Act, 2001*, S.O. 2001, c. 25, **ENACTS** as follows:

## 1. EXECUTION OF DOCUMENT

The Mayor and City Clerk are hereby authorized for and in the name of the Corporation to execute and affix the seal of the Corporation to the Agreement dated April 7, 2025 between the City and FCD SPORTS GROUP LTD., a copy of which is attached as Schedule "A" hereto. This Agreement is for the lease and operation of space for a Pro Shop at the Northern Community Centre (NCC).

## 2. SCHEDULE "A"

Schedule "A" forms part of this by-law.

## 3. EFFECTIVE DATE

This by-law takes effect on the day of its final passing.

**PASSED** in open Council this 7<sup>th</sup> day of April, 2025.

## MAYOR – MATTHEW SHOEMAKER

# CITY CLERK – RACHEL TYCZINSKI

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# LEASE AGREEMENT

**THIS AGREEMENT** made this 7<sup>th</sup> day of April, 2025.

IN PURSUANCE OF the Short Forms of Leases Act, R. S. O. 1990, c. s.11

## BETWEEN:

# THE CORPORATION OF THE CITY OF SAULT STE. MARIE

(hereinafter referred to as the "Landlord")

- and -

# FCD SPORTS GROUP LTD.

(hereinafter referred to as the "Tenant")

WHEREAS the Landlord desires to lease the Demised Area to the Tenant;

**AND WHEREAS** the Tenant wishes to operate the Demised Area for a Pro Shop;

**NOW THEREFORE** the parties agree as follows:

- 1. In this Lease:
  - (a) "Demised Area" shall mean a Pro Shop comprising a portion of the Northern Community Centre consisting of 313 square feet of leasable area;
  - (b) "Profit" means all Net Profits after Expenses; and,
  - (c) "Manager" shall mean the Landlord's Manager of Community Arenas or his/her designate
- 2. Term of the Lease:
  - (a) The Landlord hereby demises and leases the Demised Area to the Tenant for a term of five (5) years commencing April 7, 2025 and expiring May 30, 2030, on the terms and conditions set out in this Lease, with rent payable on the 15th day of each month during the term.
  - (b) Prior to the expiry of the Term, but not less than 60 days before expiry, the Tenant, provided it is not in default of any covenant or obligation herein contained, may

give the Landlord a minimum of sixty (60) days written notice of its desire to renew this Lease for an additional period of one (1) year.

- (c) The parties agree that either party may terminate the Lease by providing forty-five (45) days of Notice in writing in accordance with Section 9 herein.
- (d) If, at the expiration of the Term, the Tenant remains in possession with the consent of the Landlord but without further written agreement, a tenancy from year to year shall not be created by implication of law or otherwise, but the Tenant shall be deemed to be a monthly Tenant only at a rental payable monthly in advance at the rate payable at the expiration of the Term or renewal and otherwise upon and subject to the terms and conditions contained in this Lease.
- 3. Rent:
  - (a) The Tenant shall during the Term, pay the Landlord as follows:

## WINTER – September to April

• Rent - \$1250.00/month + HST

## SUMMER – May to August – With Both Ice Sheets Opens and In Use

• Rent - \$400.00/month + HST

## SUMMER – May to August – With No Ice Sheets Open or In Use

- Rent \$250.00/month + HST
- (b) In addition to the payment of rent set out above, the Tenant shall be responsible for paying:
  - (i) its own cleaning costs; and,
  - (ii) any goods and services tax payable as a result of the Tenant's occupancy and use of the Demised Area and any provincial sales tax.
- (c) The Tenant shall keep or cause to be kept on the Demised Area or in such other location as the Landlord may approve in writing, full, true, and accurate records in a reasonable form and detail approved by the Landlord of all business at the Demised Area to which the Landlord and its employees and agents or any auditor or auditors appointed by it shall have access at any and all times during business hours of the Tenant for the purpose of examination or audit.

## 4. Covenants:

- (a) The Tenant covenants with the Landlord:
  - (i) to pay rent;
  - (ii) not to make changes in the Demised Area except in accordance with plans therefor which have been submitted to, and approved by, the Manager, such approval not be unreasonably withheld to make any such changes

expeditiously in a good and worker like manner (including property cleanup) to the satisfaction of the Manager;

- (iii) to keep the Demised Area in a clean and well-ordered condition and not to permit any rubbish, refuse, debris or other objectionable material to be stored or to accumulate therein, all to the satisfaction of the Manager;
- (iv) to use the Demised Area only for the purposes of a Pro Shop. For the purposes of this lease, a Pro Shop shall be defined to mean the sale and servicing of sport products and shall include skate sharpening and repair. The Pro Shop shall not be allowed to sell food or drink products;
- (v) not to assign or sublet this Lease without the permission of the Landlord and the Landlord will not unreasonably withhold that permission;
- (vi) not to erect any signs on the Demised Area without the written consent of the Manager;
- (vii) not to store flammable or explosive substances on the Demised Area;
- (viii) to comply with all federal, provincial, and municipal law, by-laws, rules and regulations affected the Demised Area, including the obtaining of all necessary permits and licenses to save the Landlord harmless from any liability or cost suffered by it as a result of failure of the Tenant to do so;
- (ix) upon termination of the tenancy, at its own risk and expense, to remove from the Demised Area within 30 days, any fixtures and chattels belonging to it, with all damage, if any, caused by such removal made good by it and leave the Demised Area neat, clean, level, and free of all waste material, debris, and rubbish, all to the Manger's satisfaction, and
- (x) that upon failure by the Tenant to comply with any covenant(s) incumbent upon it under this indenture within 30 days after written notice requiring such compliance is given by the Landlord to the Tenant, the Landlord may enter the Demised Area and fulfil such covenant(s) at the sole expense of the Tenant, who shall forthwith upon being invoiced therefor reimburse the Landlord who in default of such reimbursement may collect same as rent owing and in arrears.
- (b) The Landlord covenants to the Tenant:
  - a. To pay any property taxes that may arise as a result of the Tenant's occupancy and use of the Demised Area; and
  - b. To pay utilities for the Demised Area.
- (c) The Tenant accepts the Demised Area in the condition existing at the date of the commencement of the Term.
- 5. Operation:
  - (a) The Tenant shall operate seven (7) days per week. The Tenant's hours of operation shall be Monday to Friday 4:00 p.m. to 9:00 p.m. and on Saturday and Sunday from 9:00 a.m. 8:00 p.m., unless otherwise agreed to in writing by the Manager.
- 6. The Tenant covenants that the entrance and exit to the Demised Area shall be:

- (a) in the case of the exterior entrance being from the west side of the main arena entrance; and
- (b) in the case of the interior entrance being in the corridor adjoining the arena only and the Tenant shall cause proper signs in this regard to be erected.
- 7. Indemnity:
  - (a) The Tenant shall completely and at all times indemnify and save harmless the Landlord, its employees, officers, agents from any and all claims, demands, actions, losses, expenses, costs or damages of every kind and nature whatsoever and howsoever caused that the Landlord, its employees, officers, or agents may sustain or suffer as a consequence of the actions, inactions, or omissions of the Tenant, its employees, agents, of officers or as a consequence of the negligent actions or inactions of the Tenant, its employees, agents, or officers whether or not the Landlord is partially or wholly responsible for such claims, demands, actions, losses, expenses, costs or damages.
  - (b) The Tenant shall at all times indemnify and save harmless the Landlord from and against any and all manner of claims, demands, losses, costs, charges, actions, and other proceedings whatsoever (including those under or in connection with the *Workplace Safety and Insurance Act*, 1997 S.O. 1997, c. 16, Sch. A, or any successor legislation) made or brought against, suffered by, or imposed on the Landlord or its property in respect of any loss, damage, injury (including fatal injury) to any person or property (including, without restriction, employees, agents, and property of the Landlord or of the Tenant) directly or indirectly arising out of, resulting from or sustained as a result of the Tenant's occupation or use of, or any operation in connection with the Demised Area or any fixtures or chattels therein except to the extent attributable to the Landlord's negligence.
  - (c) The provisions of this clause will continue to apply, notwithstanding cessation of the tenancy created by this indenture.
- 8. Insurance
  - (a) The Tenant agrees to maintain at all times during the currency of this Lease Term and any renewal thereof, at its own expense maintain in force insurance coverage with respect to the Demised Area and its use and occupation thereof, a minimum of Two Million (\$2,000,000.00) Dollars comprehensive general liability insurance in respect of personal injury, death, loss or damage of or to any person or property of third parties, with insurers licensed to conduct business in Ontario. The Landlord shall be added as an Additional Insured to the required liability insurance policy or policies and no such policy shall be cancelled or allowed to lapse without at least thirty (30) days written notice having been given to the Landlord. An Insurance Certificate, on the C.S.I.O. form and satisfactory to the City's Risk Manager, shall be provided to the Landlord prior to the commencement of the Lease Term.

- (b) The Landlord assumes no responsibility for damage by fire, theft, or otherwise whatsoever, to the goods, chattels, fixtures, and improvements of the Tenant or any other person except to the extent caused by the negligence of the Landlord or any person(s) for whom the Landlord is at law responsible.
- 9. Notice:
  - (a) Any notice pursuant to any of the provisions of this indenture shall be deemed to have been properly given if delivered in person, or mailed by pre-paid registered post addressed:

in case of notice to the Landlord to:

Manager of Community Areas Community Services Department The Corporation of the City of Sault Ste. Marie 269 Queen Street East Sault Ste. Marie, ON P6A 1Y9

in case of notice to the Tenant to:

FCD Sports Group LTD. 298 East Balfour Sault Ste. Marie, ON P6C 1X9

or to such other address as either party may notify the other of, and in the case of mailing as aforesaid, such notice shall be deemed to have been received by the addressee, in the absence of a major interruption in postal service affecting the handling or delivery thereof, on the 4<sup>th</sup> business day, excluding Saturdays, next following the date of mailing. If the notice is faxed, the notice shall be deemed to have been received on the 1<sup>st</sup> day next following the date of faxing.

- 10. Interest and Legal Costs
  - (a) All sums, for rent or otherwise, payable to the Landlord under this lease shall bear interest commencing the first day next following the failure due thereof, at the then current rate of interest charged to the Landlord by its bankers until the actual date of payment.
  - (b) The Tenant shall pay to the Landlord all the Landlord's legal costs, on a solicitor and client basis, of all actions or other proceedings in which the Landlord participates in connection with, or arising out of the obligations of the Tenant under this indenture or arising out of the Tenant's occupation of the Demised Area, except to the extent that the Landlord is not successful herein.

## 11. Rights of the Landlord

- (a) The Landlord or any employee or agent of the Landlord shall have the right during business hours of the Tenant or at any time during an emergency as determined by the Landlord, to enter the Demised Area for any of the following purposes:
  - (i) To examine the state of maintenance, repair, and decoration of the Demised Area and the equipment and fixtures therein;
  - (ii) to install and maintain pipes, conduits, wire, and ducts in the Demised area to serve the Demised Area or other premises, or both;
  - (iii) to show the Demised Area to prospective purchasers, lessees, encumbrances or assignees.
- (b) No condonation, excusing or overlooking by the Landlord of any default, breach, or non-observance of any of the Tenant's obligations under this Lease at any time or times shall affect the Landlord's remedies or rights with respect of any subsequent (even if by way of continuation) default, breach or non-observance.
- (c) No waiver shall be inferred from or implied by anything done omitted by the Landlord.
- (d) Any written waiver by the Landlord shall have effect only in accordance with its express terms.
- (e) All rights and remedies of the Landlord under this Lease shall be cumulative and not alternative.
- 12. Termination of the Term:
  - (a) The termination of the Term by expiry or otherwise shall not affect the liability of either party to this Lease to the other with respect to any obligation under this Lease which has accrued up to date of such termination but not been properly satisfied or discharged.
  - (b) The Tenant acknowledges that there are no covenants representations, warranties, agreements, or conditions expressed or implied, collateral or otherwise forming part of or in any way affecting or relating to this Lease other than as set out in this Lease which constitutes the entire agreement between the parties concerning the Demised Area and which may be modified only by further written agreement under seal.
  - (c) The provisions of this lease shall be binding upon, and ensure to the benefit of, the parties and their respective successors and (where applicable) permitted assigns.

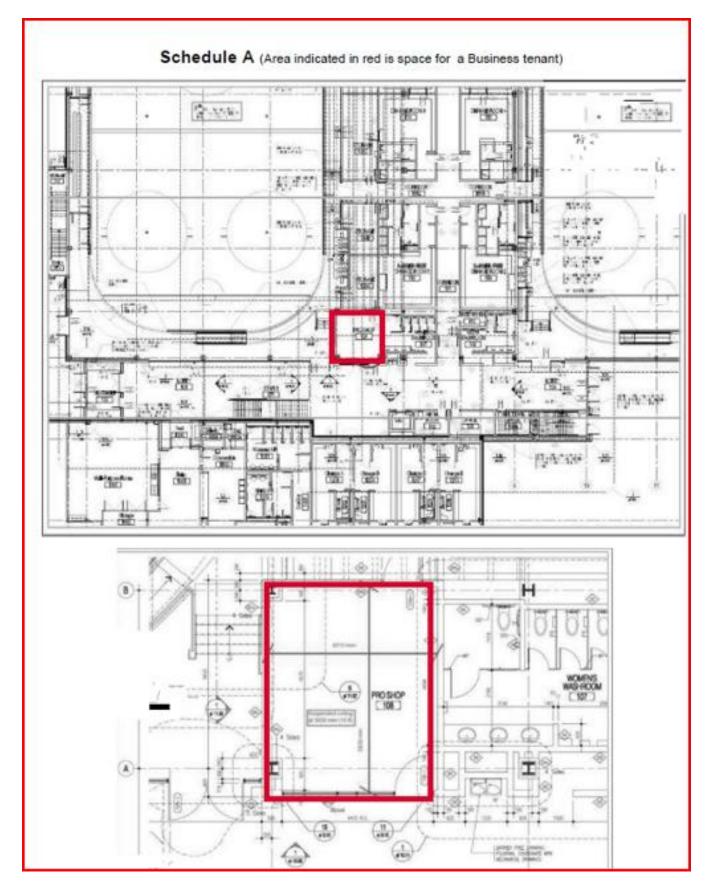
**IN WITNESS WHEREOF** the parties hereto have signed this Agreement this day of March, 2025.

> THE CORPORATION OF THE CITY OF SAULT STE. MARIE PER:

MATTHEW SHOEMAKER MAYOR

RACHEL TYCZINSKI CITY CLERK

FCD SPORTS GROUP LTD. PER: DOMINIC BLONOMO SECRETARY, FCD SPORTS GROUP LTD.



# Attached to and forming part of a Lease

# Between

# The Corporation of the City of Sault Ste. Marie, Landlord

# and FCD SPORTS GROUP LTD., Tenant

# Schedule "B"

Northern Community Centre Financial Agreement

Item #1-

Base Rent Per Year

| Year 1                                                                   | Year 2                                                                   | Year 3                     | Year4                                                                       | Years                                                                       |
|--------------------------------------------------------------------------|--------------------------------------------------------------------------|----------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| \$10,000 Sept to April                                                   | \$10,000 Sept to April                                                   | \$10,000 Sept to April     | \$10,000 Sept to April                                                      | \$10,000 Sept to April                                                      |
| Additional Summer<br>Cost:                                               | Additional Summer<br>Cost:                                               | Additional Summer<br>Cost: | Additional Summer<br>Cost:                                                  | Additional Summer<br>Cost:                                                  |
| See applicable summer<br>rent below dependent<br>on Ice use availability | See applicable summer<br>rent below dependent on<br>Ice use availability | summer rent below          | See applicable<br>summer rent below<br>dependent on Ice use<br>availability | See applicable<br>summer rent below<br>dependent on Ice use<br>availability |

## SUMMER – May to August – With Both Ice Sheets Opens and In Use

• Rent - \$400.00 + HST

## SUMMER – May to August – With No Ice Sheets Open or In Use

• Rent - \$250.00 + HST

## BY-LAW 2025-56

<u>AGREEMENT</u>: A by-law to authorize the execution of the Fourth Extension Agreement between the City and Superior Osteo Postural Clinic Inc. to extend the current lease at the John Rhodes Community Centre for one year to May 5, 2026 with the option to extend.

**THE COUNCIL** of The Corporation of the City of Sault Ste. Marie, pursuant to section 9 of the *Municipal Act, 2001*, S.O. 2001, c. 25, **ENACTS** as follows:

## 1. EXECUTION OF DOCUMENT

The Mayor and City Clerk are hereby authorized for and in the name of the Corporation to execute and affix the seal of the Corporation to the Fourth Extension Agreement dated March 24, 2025, between the City and Superior Osteo Postural Clinic Inc., a copy of which is attached as Schedule "A" hereto. This Fourth Extension Agreement is to extend the current lease at the John Rhodes Community Centre for one year to May 5, 2026 with the option to extend.

## 2. SCHEDULE "A"

Schedule "A" forms part of this by-law.

## 3. **EFFECTIVE DATE**

This by-law takes effect on the day of its final passing.

**PASSED** in open Council this 7<sup>th</sup> day of April, 2025.

## MAYOR – MATTHEW SHOEMAKER

# CITY CLERK – RACHEL TYCZINSKI

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## Schedule "A"

## FOURTH EXTENSION AGREEMENT

THIS AGREEMENT made this 24<sup>th</sup> day of March, 2025.

## **BETWEEN:**

## THE CORPORATION OF THE CITY OF SAULT STE. MARIE

(the "City")

OF THE FIRST PART

-and-

## SUPERIOR OSTEO POSTURAL CLINIC INC.

("Superior")

OF THE SECOND PART

**WHEREAS** the City and Superior Sports Training Inc. entered into a Lease Agreement made the 6<sup>th</sup> day of May, 2019 for the use of space in the John Rhodes Community Centre located at 260-280 Elizabeth Street, Sault Ste. Marie, Ontario, under the terms and conditions of the said Lease Agreement appended as Schedule "A" to this Agreement;

**AND WHEREAS** the term of the Lease Agreement is for a period of 3 years commencing May 6, 2019 and terminating May 5, 2022, with the option to extend as set out in Section 6.9 of the Lease Agreement as follows:

"Provided the Tenant is not in material default in the performance of any obligations contained in the Lease, the Tenant shall have the option of extending the Term, on a year-to-year basis at the agreed upon rent, as is negotiated between the Parties (the "Extended Term").

Such option shall be exercised by notice in writing given to the Landlord no later than two (2) months prior to the expiration of the Term. The Extended Term, unless the parties otherwise agree in writing, shall be on the same terms as in the Lease, except as to any further right of extension."

**AND WHEREAS** Superior Sports Training Inc. changed its name from Superior Sports Training Inc. to Superior Osteo Postural Clinic Inc. effective December 16, 2021;

**AND WHEREAS** pursuant to section 7.4 of the Lease Agreement, the Lease Agreement is binding upon any successors, assigns and other legal representatives as the case may be, and is therefore binding on Superior effective December 16, 2021;

**AND WHEREAS** Superior exercised its option to extend the Term for a period of one year in accordance with the Lease Agreement and therefore the City and Superior entered into an Amending and Extension Agreement dated the 11<sup>th</sup> day of April 2022 to address the extension of the Lease Agreement and successor rights to Superior;

**AND WHEREAS** Superior thereafter exercised its option to extend the Term for a further period of one year in accordance with the Lease Agreement, and the City and Superior entered into a Second Extension Agreement dated the 1<sup>st</sup> day of May, 2023 which extended the term for a further period of one year, commencing May 6, 2023 and ending on May 5, 2024 (the "Second Extended Term").

**AND WHEREAS** Superior thereafter exercised its option to extend the Term for a further period of one year in accordance with the Lease Agreement, and the City and Superior entered into a Third

Extension Agreement dated the 8<sup>th</sup> day of April, 2024 which extended the term for a further period of one year, commencing May 6, 2024 and ending on May 5, 2025 (the "Third Extended Term") with the continuing option to extend as set out in Section 6.9 of the original Lease Agreement;

**NOW THEREFORE** in consideration of the rents, covenants and agreements herein contained and hereby assumed, the parties for themselves and their respective successors and assigns do hereby covenant and agree with one another as follows:

## 1. EXTENSION TERM

The Lease Agreement shall be extended for a period of one year, commencing May 6, 2025 and ending on May 5, 2026 (the "Fourth Extended Term") with the continuing option to extend as set out in Section 6.9 of the original Lease Agreement.

## 2. RENT

The parties hereto acknowledge and agree that the Rent payable pursuant to Section 3.2 of the original Lease Agreement shall be amended for the Fourth Extended Terms as follows:

"Annual Rent for the Fourth Extended Term shall be calculated at a rate of \$7.90 per square foot plus 3% CPI increase for the rent portion on the contract, plus HST, calculated as follows:

887 square feet X \$8.14 (Rent plus CPI at 3%) = \$7,217.52 + \$938.28 (HST) = \$8,155.80 annually.

Rent shall be payable in equal monthly installments in the amount of \$601.46 plus HST on or before the first day of each month in the Fourth Extended Term."

## 3. MISCELLANEOUS

The parties hereto acknowledge and agree that the remaining terms and conditions of the Lease Agreement shall remain in place and in full force and effect during the Fourth Extended Term commencing May 6, 2025 and ending on May 5, 2026.

**IN WITNESS WHEREOF** the parties hereto have signed this Third Extension Agreement this 7<sup>th</sup> day of April, 2025.

## SUPERIOR OSTEO POSTURAL CLINIC INC.

## PER:

Name: Authorized Representative for Superior Osteo Postural Clinic Inc. I have authority to bind the Corporation

# THE CORPORATION OF THE CITY OF SAULT STE. MARIE

## PER:

# MAYOR – MATTHEW SHOEMAKER

PER:

## CITY CLERK – RACHEL TYCZINSKI

Page 807 of 904

## BY-LAW 2025-57

**<u>AGREEMENT</u>**: A by-law to authorize the execution of the Agreement between the City and Intact Public Entities for claims handling.

**THE COUNCIL** of The Corporation of the City of Sault Ste. Marie, pursuant to section 9 of the *Municipal Act, 2001*, S.O. 2001, c. 25, **ENACTS** as follows:

## 1. EXECUTION OF DOCUMENT

The Mayor and City Clerk are hereby authorized for and in the name of the Corporation to execute and affix the seal of the Corporation to the Agreement dated April 7, 2025 between the City and Intact Public Entities, a copy of which is attached as Schedule "A" hereto. This Agreement is for claims handling.

## 2. SCHEDULE "A"

Schedule "A" forms part of this by-law.

## 3. EFFECTIVE DATE

This by-law takes effect on the day of its final passing.

**PASSED** in open Council this 7<sup>th</sup> day of April, 2025

## MAYOR – MATTHEW SHOEMAKER

## CITY CLERK – RACHEL TYCZINSKI

lv\\citydata\LegalDept\Legal\Staff\COUNCIL\BY-LAWS\2025\2025-57 Intact Claims Handling Agreement.docx

# Claim Handling Agreement

This agreement is by and between Intact Public Entities ("IPE")

and This Agreement pertains to the following Policy Numbers:

CP83590

PURPOSE

- To formally set the basis upon which the "Insured" is permitted to respond to claims against the "Insured" that normally would be reported to and handled by "IPE"
- To streamline the administration of claims which are within the Insured's deductible
- To ensure all claims are handled effectively and appropriately
- To reduce the cost of claims handling
- To ensure all arms-length expenses incurred by the "Insured" on internally handled claims matters are tracked accurately and completely
- To provide an early warning system for claims that may exceed the Policy deductible

For clarity, nothing in this agreement is intended to negate or supersede the conditions of the Policy, referenced above.

#### BACKGROUND

Whereas reporting conditions and requirements are present in and form part of the policies of insurance issued to the "Insured" by "IPE"; and

whereas the "Insured" wishes to handle and respond to certain claims against the "Insured" internally; and

whereas "IPE" authorizes the "Insured" to respond to certain claims against the "Insured" internally subject to the terms of this agreement; and

whereas this agreement is intended to remain in force until all claims handled by the Insured and covered by the policies of insurance issued by IPE are resolved, therefore, the "Insured" agrees to the following terms and conditions.

#### **REPORTING REQUIREMENT**

The "Insured" shall **immediately** report to "IPE", despite the insured not bearing any liability, any claim that:

- is expected to reach a total incurred (Reserves + Payments) value in excess of 50% of the policy deductible or,
- is the type of claim set out below, or
- triggers coverage under a Claims Made wording

Notwithstanding the reporting requirement above, and irrespective of whether the Insured bears any liability for a claim, the "Insured" shall **immediately** report to "IPE" any claim that is the type of claim set out below:

- Fatalities
- Brain damage resulting in mental or physical impairment
- Injuries resulting in total or partial paralysis
- Third degree burns (10% of body) or second-degree burns (30% of body)
- Impairment of vision or hearing (50% or more)
- Massive internal injuries affecting internal body organ(s)
- Multiple fractures involving more than one member or significant shortening of limbs
- Fracture of both heel bones
- Any injuries requiring surgical intervention which require a hospital stay of greater than 24 hours for recovery
- Total disability of more than 6 months, regardless of injury
- Multiple cases of drug or vaccine reaction
- Class action suits
- Claims in Excess of Policy Deductible
- Pollution, environmental or contamination
- Catastrophic Accident Benefit Claims
- Sexual abuse, molestation, rape, sexual harassment
- Employment-related practices claims including but not limited to discrimination, harassment, or termination of employment

The "Insured" shall immediately report such claim to "IPE" and "IPE" may elect to assume handling of any claim that is reportable.

If at any time a claim is not reported to "IPE" that otherwise should have been as per the above criteria or "IPE" requests a claim be reported which subsequently is not, and this failure to report results in prejudice for "IPE", "IPE" reserves the right to deny cover as may be outlined under the Policy.

When claims are reported to "IPE", any commitments made by the "Insured" are subject to review and ratification by "IPE", with such review based on economic and/or strategic rationale. For clarity, subject to the foregoing, "IPE" may exercise its right to engage alternative service providers than those the "Insured" has assigned.

#### TRACKING

Further to the Regular Reporting section above, the "Insured" shall maintain a claims reporting and tracking system on which all claims will be entered. An up-to-date claims loss bordereaux of all claims handled by the "Insured" must be forwarded to "IPE" on a quarterly or as requested by "IPE". The bordereaux shall include, at minimum, the following data elements:

- Date Claim Reported
- Claims Reference
- Date of loss
- Loss Description inclusive of injuries and or property damage details
- Claim Status (open / closed / reopened)
- Financials
  - o Reserve Indemnity
  - o Reserve Expense
  - Paid –Indemnity
  - Paid Expense
  - o Total Incurred

The "Insured" shall continue to provide the above noted bordereaux until such time that there are no longer anyopen "IPE" claims being handled internally.

#### **EXPENSES**

Arms-length expenses will include the following:

- Defense legal
- Third Party and In-House Adjusting
- Investigation
- Experts

Arms-length expenses will not include salaries for "Insured" personnel, administrative or overhead expenses not related to those expenses outlined above.

#### AUDIT

"IPE" shall have the right to audit claims handled by the "Insured", under this Claims Handling Agreement, on the provision of reasonable notice. The results of all audits will be shared with the "Insured".

The audit will address proper documentation to support coverage, liability and quantum, claim handling quality, reserve timeliness, settlement level appropriateness, quality of defense and adherence to this agreement.

"IPE" shall have the right to audit claims handled by the "Insured" under this Claim Handling Agreement until all claims handled by the "Insured" and covered by "IPE" are resolved; regardless of whether "IPE" continues to issue policies on behalf of the "Insured".

#### THE POLICY

This Agreement shall be construed in accordance with the terms, conditions and provisions of the Policy referred to above. In the event of any ambiguity, conflict or disagreement relating to the contents of this Agreement, it is understood by the parties that the Policy terms prevail at all times.

#### **TERMINATION**

The insured shall be given written notice of any non-compliance with this agreement and given reasonable opportunity (at least 90 days, or as otherwise agreed between the parties) to take corrective action ("Correction Period").

If, after the "Correction Period", the insured continues not to meet the terms of this agreement, "IPE" reserves the right to terminate this agreement and assume carriage of all or some of the "Insured's" claims.

We the undersigned have the authority to execute this agreement.

| Dated at                                | _the | day of      | , 202                       |
|-----------------------------------------|------|-------------|-----------------------------|
|                                         | (Th  | ne Insured) |                             |
| Mayor Matthew Shoemaker                 |      |             | City Clerk Rachel Tyczinski |
| Name and Title of Authorized Representa | tive |             |                             |
|                                         |      |             |                             |

Signature of Authorized Representative

#### **Intact Public Entities**

Josie Pachis, Vice President Claims Name and Title of Authorized Representative

Signature of Authorized Representative

# BY-LAW 2025-58

**EMPLOYEES:** A by-law to amend By-law 2004-234 (being a by-law to adopt hiring policies).

**THE COUNCIL** of the Corporation of the City of Sault Ste. Marie, pursuant to section 270(2) of the *Municipal Ac*t, 2001, **ENACTS** as follows:

## 1. BY-LAW 2004-234 AMENDED

By-law 2004-234 is amended by:

(a) replacing Schedule "C" (Guidelines for the Recruitment and Selection of Senor Staff dated January 2005) and inserting the new Schedule "C" (Guidelines for the Recruitment of the Chief Administrative Officer dated April 7, 2025);

(b) replacing Schedule "D" (Summer Student Hiring Policy dated March 29, 2004) and inserting the new Schedule "D" (Summer Student Hiring Policy dated August 2011, June 2018); and

(c) Adding Schedule "E" (Guidelines for the Recruitment and Selection of Senior Staff dated April 7, 2025).

## 2. SCHEDULES "C", "D" and "E"

Schedules "C", "D" and "E" hereto form a part of this by-law.

## 3. EFFECTIVE DATE

This by-law takes effect on the day of its final passing.

**PASSED** in open Council this 7<sup>th</sup> day of April, 2025.

# MAYOR – MATTHEW SHOEMAKER

# CITY CLERK – RACHEL TYCZINSKI

lv/\citydata\LegalDept\Legal\Staff\COUNCIL\BY-LAWS\2025\2025-58 Amend Hiring Policy 2004-234.doc

## Schedule "C"

# HUMAN RESOURCES POLICIES AND PROCEDURES Policy No: 1-10

| SUBJECT: Guidelines for the Recruitment of the Chief Administrative Officer |             |  |  |
|-----------------------------------------------------------------------------|-------------|--|--|
| File in Section: EMPLOYMENT PRACTICES                                       |             |  |  |
| Effective Date:                                                             | Page 1 of 3 |  |  |
| Revision Date: April 7, 2025                                                |             |  |  |
| Approved by: City Council                                                   |             |  |  |

## PURPOSE:

Provide guidelines to be used in the recruitment of the Chief Administrative Officer.

## SCOPE:

These guidelines apply to the Chief Administrative Officer.

## PROCEDURES:

## Chief Administrative Officer (C.A.O.)

- 1. City Council shall authorize the filling of a C.A.O. vacancy in an open Council meeting.
- 2. Upon approval of the filling of the vacancy City Council shall appoint a Selection Committee consisting of the Mayor and two (2) Councillors.

Note: The Commissioner of Human Resources or his designate shall act as a resource to the Selection Committee as may be required throughout the recruitment and selection process.

3. The Selection Committee shall carry out the recruitment and selection process and keep City Council advised throughout the process.

# HUMAN RESOURCES POLICIES AND PROCEDURES

| SUBJECT: Guidelines for the Recruitment of the Chief Administrative Officer |             |  |  |
|-----------------------------------------------------------------------------|-------------|--|--|
| File in Section: EMPLOYMENT PRACTICES                                       |             |  |  |
| Effective Date:                                                             | Page 2 of 3 |  |  |
| Revision Date: April 7, 2025                                                |             |  |  |
| Approved by: City Council                                                   |             |  |  |

The recruitment and selection process may consist of some or all of the following:

- A) Use of Consultants in the Recruitment Process
  - R. F. P.
  - Selection of the Consultant
  - Contract and costs

# B) Establish Criteria for the Positions

- Review the job descriptions
- Update as necessary
- Establish qualifications and criteria for position

# C) Advertising of the Position

- Internal posting only
- Internal posting and external advertising
- Local, Provincial or National advertising
- Prepare posting/advertisement
- D) Receipt and Processing of Resumes
  - Resumes received by whom
  - Acknowledgment of receipt
  - Establish time frame for further contact
- E) Long Listing of Resumes
  - Establish criteria for "long list" of resumes
  - Establish a long list of applicants
  - Respond to all applicants regarding status of application
- F) The Interview Process
  - Determine the participants in the interview process.
  - Establish interview questions and interview process
- G) Recommend "Short List" of Candidates to City Council
- H) City Council interview of "Short List Candidates"
  - Determine the participants in the interview process
  - Establish the interview process and conduct interviews.
     Page 815 of 904

# HUMAN RESOURCES POLICIES AND PROCEDURES

| SUBJECT: Guidelines for the Recruitment of Chief Administrative Officer |                       |  |  |
|-------------------------------------------------------------------------|-----------------------|--|--|
| File in Section: EMPLOYMENT PRACTICES                                   |                       |  |  |
| Effective Date:                                                         | ive Date: Page 3 of 3 |  |  |
| Revision Date: April 7, 2025                                            |                       |  |  |
| Approved by: City Council                                               |                       |  |  |

- I) Selection of successful candidate by City Council
  - Offer of Employment and Acceptance
  - Prepare Announcement
- J) Appointment by By-Law

The Selection Committee may amend this recruitment process as necessary with the approval of Council.



The City of Sault Ste. Marie Information Manual

Subject: Summer Student Hiring Policy Service Area: Employment Practices Source: Human Resources Original Date: March 2004 Date: August 2011, June 2018

## Purpose:

This policy will provide guidelines for the recruitment and selection of Summer Student employees that is fair, open and transparent and will comply with all relevant legislation.

## Definition of a "Summer Student"

To be eligible for Summer Student employment with the City of Sault Ste. Marie, applicants must have completed their first year of post-secondary education and be returning to a full-time accredited institution for the following school term. Proof of attendance and/or proof of returning may be required.

Summer Student employment is defined as the time period commencing the last week of April through to the Friday following Labour Day.

Where student employment is not governed by a collective agreement, students may be employed at any time of the year at the student rate of pay. Where governed by a collective agreement, students who work during the summer months (May to September) may work from the third Monday in December to the first Friday in January and on special projects with the Union's concurrence where and as required.

Applicants are no longer eligible for Summer Student employment if they have been employed five consecutive years in the Summer Student program.

## **Change in Student Status**

If proof of continuing education is not received prior to July 15<sup>th,</sup> employment may be terminated.

When a student advises a Supervisor or if the Supervisor becomes aware that a student no longer meets the definition of "Summer Student", such student's employment may be terminated, based on not meeting the criteria for 'Summer Student'.

## Partiality

The Corporation of the City of Sault Ste. Marie recognizes the benefits of providing summer employment and training opportunities for students enrolled in post-secondary education. To be fair-minded to all applicants and residents of the City, the Corporation will not hire more than one student per family for the same employment period.

## Procedure

- The deadline for Summer Student Applications will be posted each year.
- Late applications are only considered after all current applications have been exhausted.
- Department vacancies are determined by the annual budget.

Page 1 of 2

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- The Human Resources Department shall receive and retain applications for summer employment from all qualified students.
- HR will determine current vacancies, taking into account returning students.
- Department / Division Managers will work with HR to coordinate screening of applications.
- A ratio of 2:1 is recommended when determining the number of candidates to be interviewed in relation to the number of available positions.
- Department/Division is responsible for conducting interviews. Human Resources will assist as required.
- Interview questions will be consistent, structured, and previously approved by Human Resources.
- Job offers are made to those candidates, based on interview results; taking into consideration knowledge, skills, abilities, capability, and behavior.
- All Summer Students must attend mandatory legislative training as scheduled.
- No applications will be processed where an applicant has been offered tentative employment by a department and then advised to report to HR to formally apply for a position.
- Transfers are only granted under exceptional circumstances and must be reviewed and approved by the Director of Human Resources.
- With regard to relatives working together, refer to the "Hiring of Relatives Policy" (#1-3) for details. Further, related students will not be assigned to work in the same division.

## Relative is defined as:

- Spouse: Person to whom the employee is legally married or in a common-law relationship.
- Child: Natural, adopted and includes in-law and stepchildren
- Parent: Includes father, mother, stepfather, stepmother
- Sibling: Brother or Sister, half brother and half sister
- In-Law: Father/Mother In-law, Brother/Sister In-law
- Department / Division must administer performance evaluations with all students.
- Performance evaluations must be received by Human Resources prior to September 15<sup>th</sup>.
- Results of performance evaluations will determine if a student is eligible for subsequent employment opportunities.
- Regardless of the preceding, any concerns regarding employee conduct must be addressed real time.
- This policy shall not apply to students given unpaid job placement experience for course credits through recognized co-operative education programs.
- > The C.A.O. must specifically approve any exceptions to this policy.

# Schedule "E"



The City of Sault Ste. Marie Human Resources Policies and Procedures

Subject: Guidelines for the Recruitment and Selection of Senior Staff Service Area: Human Resources File in Section: Employment Practices Effective Date: April 7, 2025 Revision Date: April 7, 2025 Approved by: City Council

## Purpose:

To provide guidelines for recruiting Senior Staff positions identified in the Scope section.

## Scope:

These guidelines apply to Senior Staff positions, which consist of Department Heads and certain positions required by other legislation including Deputy Chief Administrative Officers (DCAOs), City Solicitor, City Clerk or Deputy Clerk, Chief Financial Officer and the Treasurer or Deputy Treasurer, Fire Chief or Deputy Fire Chief, Chief Building Official.

## **Procedures:**

## I Senior Staff

1. a) Council shall authorize the filling of a Senior Staff vacancy. City Council may approve filling such vacancy through appointment or through a selection process.

b) For Department Head positions, inclusive of (Deputy Chief Administrative Officers (DCAOs), City Solicitor, City Clerk or Deputy Clerk, Chief Financial Officer and the Treasurer or Deputy Treasurer, Fire Chief or Deputy Fire Chief, Chief Building Official), the approval to fill such vacancy shall be in an open City Council meeting.

2. a) If filled by appointment, the appointment is confirmed through passage of a By-law and by confirming to the employee such appointment in writing.

b) If approved to be filled by a Selection Process, a selection committee will be formed consisting of:

- Chief Administrative Officer or their designate
- Director of Human Resources or their designate
- DCAOs (as appropriate, if DCAO recruitment)
- Others as determined appropriate by the Chief Administrative Officer.

Page 1 of 3

# Schedule "E"



The City of Sault Ste. Marie Human Resources Policies and Procedures

3. The Selection Committee shall carry out the recruitment and selection process. The process may consist of all or some of the following:

A) Decide if the Use of Consultants in the Recruitment Process is required. If a Consultant,

- Prepare R. F. P.
- Selection of the Consultant
- Contract and costs
- B) Establish Criteria for the Position
  - Review the job description
  - Update as necessary
  - Establish qualifications and criteria for position
- C) Advertising of the Position (options include):
  - Internal posting only
  - Internal posting and external advertising
  - Local, Provincial or National advertising
  - Prepare posting/advertisement

D) Receipt and Processing of Resumes

- Resumes received by Human Resources
- Acknowledgment of receipt
- Establish time frame for further contact
- E) Short Listing of Resumes
  - Establish criteria for "short list" of resumes
  - Establish a short list of applicants
  - Respond to all applicants regarding status of application
- F) The Interview Process
  - Determine the participants in the interview process
  - Establish interview questions and interview process

G) Recommendation to Council

- CAO recommends successful candidate to Council
- If approved, offer of Employment and selection
- Prepare Announcement

H) Approve appointment by By-law.

Page 2 of 3

# Schedule "E"



The City of Sault Ste. Marie Human Resources Policies and Procedures 1-9

The Selection Committee may amend this recruitment process as necessary with the approval of Council.

Page 3 of 3

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## BY-LAW 2025-59

**AGREEMENT**: A by-law to authorize the execution of the Agreement between the City and ClearRisk Inc. for Risk Management Information System Software for a three (3) year period to April 14, 2028 as required by the City's Legal Department.

**THE COUNCIL** of The Corporation of the City of Sault Ste. Marie, pursuant to section 9 of the *Municipal Act, 2001*, S.O. 2001, c. 25, **ENACTS** as follows:

## 1. EXECUTION OF DOCUMENT

The Mayor and City Clerk are hereby authorized for and in the name of the Corporation to execute and affix the seal of the Corporation to the Agreement dated April 7, 2025 between the City and ClearRisk Inc., a copy of which is attached as Schedule "A" hereto. This Agreement is for Risk Management Information System Software for a three (3) year period to April 14, 2028 as required by the City's Legal Department.

## 2. SCHEDULE "A"

Schedule "A" forms part of this by-law.

## 3. **EFFECTIVE DATE**

This by-law takes effect on the day of its final passing.

**PASSED** in open Council this 7<sup>th</sup> day of April, 2025.

## MAYOR – MATTHEW SHOEMAKER

# CITY CLERK – RACHEL TYCZINSKI

ep \\citydata\LegalDept\Legal\Staff\COUNCIL\BY-LAWS\2025\2025-59 ClearRisk Inc. Renewal Addendum.docx



Schedule "A"

# ClearRisk Renewal Addendum

This ClearRisk Renewal Addendum (the "**Order Form**") is entered into between ClearRisk Inc. ("**Company**"), and the Client listed below ("**Client**"). This Order Form includes and incorporates the ClearRisk Terms of Services located at <u>https://www.clearrisk.com/terms-of-service</u> and, upon execution, this Order Form and the ClearRisk Terms of Service form the agreement between the parties and set forth the specific terms and conditions relating to the purchase and use of the ClearRisk Service as described below.

There shall be no force or effect to any different terms of any related purchase order or similar form even if signed by the parties after the date hereof. Any term used but not defined herein shall have the meaning ascribed to it in the ClearRisk Terms of Service.

# **Subscription**

| Term                |                |
|---------------------|----------------|
| Effective Date      | April 15, 2025 |
| Renewal Term Length | 3 years        |



| Base Functionality                                 |                                                                                                                                                                                                            |  |
|----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Functionality                                      | Description                                                                                                                                                                                                |  |
| Claims & Risk<br>Management System<br>Core Package | Included Modules:<br>• Occurrences<br>• Claims/Incidents<br>• Policies<br>• Assets<br>• Departments<br>• Organizations<br>• Organizations<br>• Contacts<br>• Files<br>• Tasks<br>• Reports<br>• Dashboards |  |

| Additional Modules |          |                                                                                                       |  |  |
|--------------------|----------|-------------------------------------------------------------------------------------------------------|--|--|
| Functionality      | Selected | Description                                                                                           |  |  |
| Vendor Management  | Y        | <ul><li>Includes the following modules:</li><li>Certificates of Insurance</li><li>Contracts</li></ul> |  |  |
| Risk Registers     | N        | Includes the following modules:<br>• Risks<br>• Risk Registers                                        |  |  |

| Current Subscription Items         |          |          |  |
|------------------------------------|----------|----------|--|
| Product Type                       | Quantity | Comments |  |
| Admin User License                 | 3        |          |  |
| Delegate User License              | 4        |          |  |
| Online Data Submission Web Form(s) | 3        |          |  |
| Automated Data Feeds               | 0        |          |  |
| Storage                            | 21GB     |          |  |
| Enhanced Security Package          | 0        |          |  |
| Report Receiver License(s)         | 0        |          |  |



| Subscription Items being added     |          |             |  |
|------------------------------------|----------|-------------|--|
| Product Type                       | Quantity | Comments    |  |
| Admin User License                 | 0        |             |  |
| Delegate User License              | 0        |             |  |
| Online Data Submission Web Form(s) | 0        |             |  |
| Automated Data Feeds               | 0        |             |  |
| Online Data Submission Web Form    | 0        |             |  |
| Storage                            | 10GB     | \$1620/year |  |
| Enhanced Security Package          | 0        |             |  |

Payment Terms Invoice payment for Year 1 shall be due in full upon execution of this Order Form (April 15, 2025). Future year payments are due annually on the effective date found within this Order Form (April 15, 2026 and April 15, 2027).

# **Pricing Schedule:**

| Item                   | Year-1      | Year-2      | Year-3      |
|------------------------|-------------|-------------|-------------|
| Annual<br>Subscription | \$56,811.18 | \$59,651.74 | \$62,634.34 |



# Additional ClearRisk Comments

The Corporation of the City of Sault Ste. Marie's annual subscription will increase by 15% for this renewal year and the 5% annual cost escalation remains intact for future years. 10 support hours per year will be added to the agreement. Support hours can be used towards:

- Additional training sessions
- How-to Questions
- Building reports and dashboards
- Setting up standard notifications and templates

#### The following are amendments to the terms of service:

**13.2** SUBJECT TO SECTION 13.3 HEREOF, IN NO EVENT WILL EITHER PARTY'S MAXIMUM CUMULATIVE LIABILITY UNDER THIS AGREEMENT ARISING OUT OF OR RELATED TO THIS AGREEMENT OR RELATING TO THE SUBJECT MATTER HEREOF FOR ALL CLAIMS, COSTS, LOSSES AND DAMAGES EXCEED THE LIMITS OF ANY AVAILABLE INSURANCE COVERAGE. THE EXISTENCE OF MORE THAN ONE CLAIM SHALL NOT ENLARGE THIS CUMULATIVE LIMIT.

**16.9** GOVERNING LAW IS CHANGED FROM THE PROVINCE OF NEWFOUNDLAND AND LABRADOR TO THE PROVINCE OF ONTARIO.

## **Additional Client Comments**



The terms of this Order Form and the ClearRisk Terms of Service are hereby accepted and agreed to by Client as of the date set forth below.

| ClearRisk Inc.                            |                       | The Corporation of the City of Sault<br>Ste. Marie |                             |
|-------------------------------------------|-----------------------|----------------------------------------------------|-----------------------------|
| Signature:                                |                       | Signature:                                         |                             |
| Name:                                     | Mike Bowman           | Name:                                              | Matthew Shoemaker           |
| Title:                                    | Chief Revenue Officer | Title:                                             | Mayor                       |
| Date:                                     | December 12th, 2024   | Date:                                              |                             |
| I have authority to bind the corporation. |                       | I have authori                                     | ty to bind the corporation. |

City Clerk - Rachel Tyczinski



## BY-LAW 2025-60

**AGREEMENT**: A by-law to authorize the execution of the Agreement between the City and Sault Ste. Marie Professional Firefighters Association (Local 529) for the term commencing January 1, 2024 to December 31, 2026.

**THE COUNCIL** of The Corporation of the City of Sault Ste. Marie, pursuant to section 9 of the *Municipal Act, 2001*, S.O. 2001, c. 25, **ENACTS** as follows:

## 1. EXECUTION OF DOCUMENT

The Mayor and City Clerk are hereby authorized for and in the name of the Corporation to execute and affix the seal of the Corporation to the Agreement dated October 21, 2024 between the City and Sault Ste. Marie Professional Firefighters Association (Local 529), a copy of which is attached as Schedule "A" hereto. This Agreement is for the term commencing January 1, 2024 to December 31, 2026.

## 2. SCHEDULE "A"

Schedule "A" forms part of this by-law.

## 3. **EFFECTIVE DATE**

This by-law takes effect on the day of its final passing.

**PASSED** in open Council this 7<sup>th</sup> day of April, 2025.

## MAYOR – MATTHEW SHOEMAKER

## CITY CLERK - RACHEL TYCZINSKI

lv \\citydata\LegalDept\Legal\Staff\COUNCIL\BY-LAWS\2025\2025-60 SSM Firefighters (Local 529) Agreement.docx

Schedule "A"

## AGREEMENT

between



## THE CORPORATION OF THE CITY OF SAULT STE. MARIE

-and-



# SAULT STE. MARIE PROFESSIONAL FIREFIGHTERS ASSOCIATION (Local 529)

January 1, 2024 to December 31, 2026

# INDEX

# <u>Article</u>

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## SCHEDULE "A" TO BY-LAW

AGREEMENT entered into as of October 21, 2024

## THE CORPORATION OF THE CITY OF SAULT STE. MARIE (Hereinafter called the "EMPLOYER")

OF THE FIRST PART

## - AND -

#### THE SAULT STE. MARIE PROFESSIONAL FIREFIGHTERS ASSOCIATION (Hereinafter called the "ASSOCIATION") (Local 529)

OF THE SECOND PART

## 1:00 <u>PURPOSE</u>

1:01 Whereas the Association has established to the satisfaction of the Employer that all fulltime employees of its Fire Services except the Fire Chief, Deputy Chief – Operations, Deputy Chief – Education, Prevention & Emergency Management and the Assistant Chief - Support Services and Office Supervisor, are members of the Association and that it is therefore entitled to represent the said employees as their bargaining agent.

NOW THEREFORE THIS AGREEMENT WITNESSETH:

- 1:02 The employees shall at all times co-operate with the Employer and the Chief of the Fire Services to the fullest extent to provide an efficient firefighting organization for the benefit of the City and the inhabitants thereof.
- 2:00 <u>SCOPE</u>
- a) The terms of this agreement shall apply to all full-time employees of the Sault Ste. Marie Fire Services and the Association shall have the right to bargain for the purpose of defining, determining and providing for remuneration, pensions and working conditions for all full-time employees of the Fire Services except the Fire Chief, Deputy Chief - Operations, Deputy Chief - Education, Prevention & Emergency Management and the Assistant Chief - Support Services and Office Supervisor.
  - b) The probationary period for all new full-time employees of the Fire Service shall be twelve (12) months. A probationary employee ("Probationer") is an employee who is serving the probationary period prior to being recommended as a permanent employee. Probationary employees shall be subject to the terms of this Agreement, except with respect to discipline and/or discharge. If a probationary employee is laid off under article 10:05 and then recalled, all time previously served will be credited toward their twelve (12) month probationary period.
- 2:02 To ensure the safe and efficient operation of the Fire Services, management staff in the positions of Deputy Chief Education, Prevention & Emergency Management, Assistant

Chief - Support Services and Office Supervisor shall be allowed to perform the duties of employees under their command as may be required from time to time.

- 2:03 Every new employee, on joining the Sault Ste. Marie Fire Service shall become a member of the Association. All employees who are now or who in future become members of the Association shall as a condition of employment, maintain such membership in good standing.
- 2:04 The employer shall deduct from the salary of each employee, the Association contributions (dues), assessments, and remit by cheque or direct deposit each month to the Treasurer of the Association, the full amount so collected.

## 3:00 <u>RECOGNITION</u>

- 3:01 The Employer recognizes the Association as the bargaining agent for all said full-time employees (as provided in the Fire Protection and Prevention Act, 1997) of the Sault Ste. Marie Fire Services.
- 3:02 The Chief of the Fire Services shall meet with a committee of the Association on reasonable notice to discuss any subject or matter which may be deemed of mutual benefit to the employees and the City or the inhabitants thereof.
- 3:03 The Association agrees to notify the Director of Human Resources in writing, with a copy to the Fire Chief, of the names of all the Association representatives and the committees upon which such representatives will serve. The Association will also be responsible for notifying the employer of any changes to the list of Association representatives.

The City shall not be required to recognize any Association representative until such time as the Director of Human Resources has been notified in writing by the Association as outlined above.

3:04 When employees are involved in a meeting with Senior Management that may become disciplinary in nature, Senior Management shall ensure that the member will have representation from the Association Executive. Please note that discipline "must be forthcoming" for this to take place.

## 4:00 MANAGEMENTS' RIGHTS

- 4:01 The Association acknowledges the exclusive right of the Employer to maintain order, discipline and efficiency to establish and enforce rules and regulations necessary to the efficient and safe operation and generally to govern the conduct of employees, including but not limited to, the right to hire, discharge, promote, demote, layoff, classify, assign/realign platoons or suspend or discipline employees. The employer agrees that these functions shall be exercised in a manner consistent with the general purpose and intent of this agreement and subject to the right of an employee to lodge a grievance as set forth herein. The methods to be utilized such as the qualifications, the testing, interview and Firefighter selection are the sole responsibility of the Employer and Senior Fire Management.
- 4:02 The Association further recognizes that it is the exclusive right and responsibility of the Employer to operate and manage the Fire Services in all respects and in accordance with all its commitments coming within its jurisdiction including but not limited to: the

equipment to be used, the methods to be employed, the number of personnel to be employed, the deployment model and the assignment of personnel.

- 4:03 The Association also recognizes that it is the right of the Employer to delegate any of its functions, rights, duties, or powers, subject to this agreement or otherwise, to the Fire Chief, or such persons or committees as the Employer may deem advisable subject to the terms of the Fire Protection and Prevention Act, 1997.
- 4:04 All employees should maintain good physical condition and in accordance with their commitment to protect the public all employees are urged to make every effort to meet this requirement.
- 4:05 All employees and probationers shall be governed by the Rules and Regulations of the Employer as from time to time established and published after prior notice to the Association. Where the "Rules" are in conflict with the provisions of this agreement, the provisions of the agreement shall apply. The Employer will encourage the study of advanced firefighting techniques by any employee if such studies are approved by a recognized school of instruction.
- 4:06 Disciplinary action against any employee may result in discharge or suspension if the cause is grave enough to warrant such action. Such causes shall include, but are not limited to, incompetence, neglect of duty, reporting for duty under the influence of liquor, cannabis or other intoxicant, bringing intoxicants into a fire hall, refusal to comply with an order, disorderly conduct or conduct unbecoming an employee, absence from duty without proper leave, theft from the employer and any offense sufficiently grave to warrant disciplinary action or discharge. The employer shall record an employee's offense to both the employee and the Secretary of the Association. Association agrees that all members must be in compliance with the City of Sault Ste. Marie's Employee Code of Conduct, Corporate Policies and Operating Guidelines.
- 4:07 Discipline of an employee shall be removed from the employee's disciplinary record after twenty-four months (24) provided there has been no further discipline given to the employee within such twenty-four (24) month period. This requirement to remove discipline does not apply to discipline related to substance abuse or workplace violence and/or harassment.

## 5:00 HOURS OF WORK

5:01 (a) For an employee in the suppression division (that is, an employee on the 24-hour shift rotation) an average of 42 hours per week, in accordance with the following repeating schedule. In this schedule, a week is considered a period of time from the Monday through to and including the Sunday, and a "Full Tour" is considered 24 hours starting at 8:00 a.m. and ending at 7:59 a.m. the following day. The first 12 hours of the shift will be referred to as the "Day shift," the second 12 hours of the shift will be referred to as the "Night shift".

## <u>Schedule</u>

Week 1: a shift on the Monday and the Thursday Week 2: a shift on the Friday and the Sunday Week 3: a shift on the Wednesday and the Saturday Week 4: a shift on the Tuesday Employees shall work no more than a maximum thirty-six (36) consecutive hours and shall have a minimum of twelve (12) hours off duty prior to returning to duty. Employees may work a maximum of twelve (12) hours past or before their shift on the Friday / Sunday "Back to Back" tour. This shall not limit the rights of the Fire Chief under the Fire Protection and Prevention Act, 43 (7).

(b) The working hours of work for the Training Division and Mechanical Division shall be from 7:30 a.m. to 4:00 p.m., Monday to Thursday inclusive, 7:30 a.m. to 3:30 p.m. Friday with one-half ( $\frac{1}{2}$ ) hour paid lunch.

The working hours of the Training officer shall be from 8:00 a.m. to 6:30 p.m. Tuesday to Friday with one-half ( $\frac{1}{2}$ ) hour paid lunch. It is further understood and agreed that Training Division personnel may conduct training outside these hours or be called out to assist at incidents. Training division personnel will receive lieu-time off at straight pay for such hours.

The working hours for the Mechanics within the Support Services Division, Public Education Officer(s) and the Fire Prevention Planner within the Public Education Prevention Division shall consist of a 42-hour work week shall be Monday to Thursday 8:00 a.m. to 4:30 p.m., Friday 8:00 a.m. to 3:30 p.m. with one-half ( $\frac{1}{2}$ ) hour paid lunch.

By the nature of public education work, flexibility to work weekends and nights is expected. As such, only articles 5:03 and 5:04 will apply to overtime hours worked and will not be subject to Article 5:02, unless an 'emergency call back' is actually required in excess of regular flex schedule 42 hours.

When required to work weekends or nights, the City will offer a 'flexible shift' in daily schedule to accommodate the event. This will be offered 48 hours in advance of the event (example – Fire Prevention Week, Tapp-C clients, Community Involvement programs, Partnership meetings, etc.) and will not exceed regular 42 hour work week.

The hours of work for the Administrative Clerks shall be from 8:30 a.m. to 4:30 p.m., Monday to Friday with one (1) hour unpaid lunch for a total of a 35 hour week.

(c) The Fire Prevention Division shall be rotation of Friday/Monday (off day) every four (4) months unless otherwise mutually agreed to by both parties.

A vacation or sick day will be a 10.5-hour deduction from the appropriate bank (vacation or sick leave bank).

Specifically:

The working hours for the Fire Prevention Division shall be an average 42 hour work week within a 2 platoon system as follows;

Platoon A (2-FPO's) – 7:00 a.m. to 5:00 p.m. Monday through Thursday. Platoon B (2-FPO's) – 7:00 a.m. to 5:00 p.m. Tuesday through Friday.

Each officer making up the remaining  $\frac{1}{2}$  hour per day, by providing 24/7 on call for Fire Investigation beginning Tuesday – 5:00 p.m. to Tuesday – 5:00 p.m. the following week.

- 7:00 a.m. to 5:00 p.m. Monday/Thursday or Tuesday/Friday
- 8 hours in lieu of on call time for every completed week
- One half (1/2) hour paid lunch

 Each Fire Prevention Officer agrees to 13 weeks of scheduled on call (Tuesday to Tuesday, 7:00 a.m. to 7:00 a.m.) to perform Fire Investigation. A vehicle shall be made available to FPO's to take home (within the City of Sault Ste. Marie) when on call. When a call in occurs, articles 5:02, 5:03 and 5:04 of the Collective Agreement will apply. FPOs will earn eight (8) hours of lieu time for each week of standby completed. If the FPO does not complete any number of these standby hours, standby time will be adjusted in accordance with 5:01 (c) 7.

The Fire Prevention Officers shall schedule standby lieu time and/or payout of standby lieu time in conjunction with the final approval of the Deputy Chief – Education, Prevention & Emergency Management to ensure the level of service for the community is achieved. In order to administer the stand-by bank accumulation, a maximum of 48 hours shall be banked at any one time. Any hours above 48 hours will be paid out at straight time on the following pay period. There shall be no carry over from year to year. Any remaining time will be paid out at straight time at the end of the year unless approved otherwise through the Deputy Chief.

- 2) Determination concerning specific on call week(s) for upcoming year, shall be decided and agreed upon by FPO's, after holiday signings are determined the previous fall. If FPO's cannot determine the week(s), management reserves the right to schedule the on call week(s).
- 3) One lieu time or sick time day, will be calculated at a rate of 10.5 hours per day.
- 4) Outside of scheduled 4-day workweek, only one FPO, at a time, is permitted vacation during the week. Additional requests for vacation and/or lieu time shall be at the discretion of the Deputy Chief – Education, Prevention & Emergency Management. If the statutory holiday is the FPO's normal day off, the FPO's regularly scheduled day following or preceding the holiday will be the FPO's day off in lieu of that day.
- 5) When any scheduled training, including Ontario Fire College courses occurs, affecting an FPO's schedule, the FPO shall be reverted to a five (5) day work week. Said FPO will receive 30 days' notice of schedule change and vacation schedules will not be affected.
- 6) When the regularly schedule stand-by FPO calls in sick, the stand-by time outside of regular working hours, will be offered by seniority to the remaining FPO's, at the following rates:
  - 14 hour stand-by shift shall be compensated at 1.5 hours pay or 2 hours stand-by time
  - 24 hour stand-by shift shall be compensated at 3 hours pay or 4 hours stand-by time
- 7) When the regularly scheduled stand-by FPO calls in sick on a scheduled working day, 0.85 hours of stand-by time will be deducted per day.

When the regularly scheduled stand-by FPO calls in sick on a non-working day (i.e. vacation, weekend, or day off), 1.5 hours of stand-by time will be deducted per day.

8) If the regularly scheduled FPO is unable to perform their scheduled duties because of scheduled training, the FPO will be given the opportunity to switch their on call days with another FPO. If they are unable to do so, the stand-by time will be deducted as per 5:01 (c) 7 for the time the FPO is unable to fulfill. 9) If an FPO schedules lieu time or vacation time while on call and is called in to perform Fire Investigation cause/determination duties, the schedule FPO will return to their normal working schedule and only the used lieu time hours will be deducted.

(d) From time to time, the Community Emergency Management Coordinator (CEMC) position requires relief coverage (i.e. due to illness, or vacation or otherwise absent). The Deputy Chief – Fire Prevention, Education and Emergency Management shall assign the Public Education Officer or Fire Prevention Planner to act as alternate CEMC as required.

As part of their duties, the alternate CEMC is required to be on call to respond to the Emergency Operation Centre (EOC) during emergencies, including evenings. Only when the CEMC is absent for a full week will the alternate CEMC also be on-call on one weekend, as follows:

• Monday at 8 a.m. to the following Monday at 8 a.m.

When a call in occurs, articles 5:02, 5:03 and 5:04 of the Collective Agreement will apply.

5:02 All employees may be subject to off-shift call back at the discretion of the Chief of the Fire Services. When off-shift employees are called back they will be paid a minimum of three (3) hours pay at the rate of time and one-half. This applies to divisional duties as described in most current job descriptions or up-staffing as determined by the Fire Chief or designate.

Note: Any other requirement to attend the workplace for exams, testing, etc. will be addressed in Article 18 and the employee will only be paid for time spent on the duration of the exam/test except requirements of any promotional process.

5:03 Employees authorized to work greater than fifteen (15) minutes continuous past their regular shift will be paid at time and one-half (1.5x) their rate of pay for overtime worked calculated in quarter hour segments. Employees are not considered relieved from duty until they have arrived back at their respective fire station and authorized to leave by an officer.

Premium pay will commence on fifteen (15) minutes has been worked and paid in quarter hour segments rounded down to applicable quarter hour.

- 5:04 When at the discretion of the Fire Chief it is possible, employees will have the option of taking straight time off in lieu of overtime worked.
  - (a) Any time taken from the lieu time bank in the form of time off with pay shall be scheduled through mutual agreement between members of the Association and their Manager, subject to operational requirements. Any time remaining in the bank as of November 15<sup>th</sup> shall be paid out to the member in Pay Period 26 of the current year at time and one-half their hourly rate of pay.
  - (b) An employee may make a request to their supervisor, on an exception basis, to pay out a portion or all of the hours accumulated in their lieu time bank, to be paid out at the rate of time and one half their regular salary on the next possible pay period.
  - (c) Employees will be allowed to carry over a maximum of 48 hours.

- (d) This also applies to any overtime incurred while attending courses.
- (e) Lieu time may not be approved for any shift in which overtime will be incurred.
- (f) Once approved, the lieu time off will not be revoked or cancelled by either party unless by mutual agreement of the employee and the Chief or designate. The Fire Chief reserves the right to call in off-duty firefighters under the *Fire Protection and Prevention Act*, Section 43 (7).
- 5:05 Employees shall be allowed to change shifts with other employees at any of the fire stations provided such employees are qualified to perform the duties and that such change of shifts are done when an employee is on a recognized day off or on holidays.
  - (a) Employees wishing to change shifts will apply for a change to the officer in charge of the shift. Officer in charge of the shift shall mean the officer in charge on the day of the change of shift. Shift exchanges may be made on the basis of 12-hour periods. Shift exchanges shall not result in an employee working more than 36 consecutive hours, or having less than 12 hours off between shifts. All exchanges/trades must be of equal value, 12 or 24 hours and will be clearly recorded on the Master Daily Report (MDR) by the Platoon Chief. Shift coverage practices including those for less than 12 hours shall continue in accordance with past practice.
  - (b) Twenty-four hours' notice <u>must</u> be given for a change to be given any consideration, except in the case of an extreme emergency when a good reason must be given for a requested change of shift.
  - (c) Employees requesting a change of shift will see the officer concerned while the employee is on duty at the Fire Hall, except in the case of an emergency.
  - (d) Employees having a day off due to having exchanged a shift must not work for gain or pay on such a day off. Any employee of the Association working for gain or pay on exchange shift will be immediately suspended from the department. The <u>only</u> exception to exchanging a shift for gain will be for an employee that is a verified Adjunct Instructor or Adjunct Shadow Instructor with the Ontario Fire College and is teaching or instructing a verified Ontario Fire College or Regional Training Center course. The shift trade request must be approved by the Deputy Chief or Fire Chief. Further, the supporting documentation must be submitted to the Deputy or Chief prior to approval to exchange shifts for gain for this sole purpose.
  - (e) Captains or Acting Captains in charge of shifts will ensure that all changes of shift are duly recorded in the daily report sheets.
  - (f) Employees, who have promised to work for another employee and then become sick or injured, shall be solely responsible to have that shift filled by another qualified member of the Association able to do the job. Any employee who has promised to work for another employee of the Association and fails to report for duty on the day the employee is scheduled to work for another employee, shall forfeit pay equal to thirty-six (36) hours.
  - (g) All officers in charge of shifts will ensure that paragraph (b) is adhered to.
  - (h) For a probationary firefighter, a shift change must be approved by Chief or Deputy Chief in advance of the shift.
  - (i) Fire Prevention Officers wishing to change shifts shall apply to the Deputy Chief

     Fire Prevention, Education and Emergency Management. Articles 5:05 (b) and 5:05 (d) shall apply to FPOs changing shifts. Any FPO who has promised to work for another and fails to report for duty on the day they are scheduled to work for that FPO shall forfeit three (3) days of pay.

#### 5:06 Definitions

"Overtime (OT)" shall be defined as the practice of calling in off-duty employees for the purposes of filling vacancies for the on-duty Platoon that would otherwise bring that Platoon complement below minimum staffing levels.

"Up-staffing" shall be defined as the practice of calling in off-duty employees for the purposes of increasing the on-duty complement of the current on-shift Platoon.

"Meeting" shall be defined as the practice of calling in off-duty employees to attend any meeting pertaining to City or Fire Services business.

"Leave" means authorized absence from duty by an employee during their scheduled day(s) and/or regular hours of work.

## 6:00 VACATIONS

For an employee on the 24-hour shift rotation, a "week" of vacation and specified paid holidays means the following:

1 week of earned vacation entitlement shall equal 2 vacation credits.

2 weeks of earned vacation entitlement shall equal 4 vacation credits.

3 weeks of earned vacation entitlement shall equal 6 vacation credits.

4 weeks of earned vacation entitlement shall equal 8 vacation credits.

5 weeks of earned vacation entitlement shall equal 10 vacation credits.

6 weeks of earned vacation entitlement shall equal 12 vacation credits.

One (1) 24-hour shift shall be equal to one (1) vacation credit.

Each employee on the 24-hour shift shall be entitled to select vacation and specified paid holidays in blocks of four Vacation Credits for each pick, in rotation, by seniority, except where an employee has a period to be selected of less than this maximum. One 24-hour shift shall equal one (1) Vacation Credit.

6:01 Each employee shall be entitled to vacations with pay as provided hereunder, namely:

- (a) All employees who have completed one year of continuous service but less than five years shall receive two (2) weeks annual vacation with pay.
- (b) All employees who have completed five years of continuous service but less than ten years shall receive three (3) weeks annual vacation with pay.
- (c) All employees who have completed ten years of continuous service but less than fifteen years shall receive four (4) weeks annual vacation with pay.
- (d) All employees who have completed fifteen years of continuous service but less than twenty-two years shall receive five (5) weeks annual vacation with pay.
- (e) All employees who have completed twenty-two years of continuous service shall receive six (6) weeks annual vacation with pay.

- 6:02 Employees who are absent from work without pay for 30 days or more due to a leave of absence, suspension, or layoff, shall have their vacation entitlement reduced in proportion to such time absent from work.
- 6:03 One week of vacation as referred to herein shall mean:
  - Administrative Staff: 35 hours at 5 consecutive shifts
  - Fire Prevention Officers & Training Officer are 42 hours at 4 consecutive shifts
  - Public Education Officer, Fire Prevention Planner, and Mechanical Staff is 42 hours at 5 consecutive shifts
- 6:04 The period at which employees may take vacation shall run from the 1st day of January to the 31st day of December annually.
- 6:05 Any employee having become entitled to regular vacation as defined in Sections (a), (b), (c), (d) and (e) of Article 6:01 and who, before receiving such vacations, terminates employment voluntarily with the City's Fire Services shall become entitled to cash payment in lieu of such vacations as the employee had become entitled to at the rate of 1/91 (Suppression only) of the annual wage for each vacation day for the respective rank at the time the employee ceased to be an employee of the City's Fire Services.
- 6:06 Vacations shall be arranged by the Chief of the Fire Services and shall be given to employees in accordance with seniority. Employees will be granted a maximum of two weeks' vacation at any one signing.

## 7:00 SPECIFIED PAID HOLIDAYS

- 7:01 Each employee shall be entitled to the following specified paid or declared holidays, namely, New Year's Day, Family Day (3<sup>rd</sup> Monday in February), Victoria Day, Good Friday, Easter Monday, Canada Day, Civic Holiday, Labour Day, Remembrance Day, Thanksgiving Day, Christmas Day and Boxing Day, occurring in the remainder of the calendar year in and after which three months continuous service has been attained.
- 7:02 Each Suppression Firefighter is entitled, subject to the terms hereof, to 12 paid off-duty days in lieu of specified paid holidays which equals 6 credits (24 hour shifts).

The following procedure will be used to schedule vacations and specified paid holidays:

- (i) Subsequent to September 1st, the platoon lists shall be posted.
- (ii) Subsequent to the posting of the platoon lists, a vacation list shall be posted that shall include sufficient space allocation to provide for the scheduling of all vacations, specified paid holidays and confirmed Ontario Fire College attendance, and other Fire Services course offerings.
- (iii) Each employee shall be entitled to select vacation and specified paid holidays in blocks of *two-week periods only*, except where an employee has a period to be selected of less than two weeks.
- (iv) No employee shall be permitted to select a period of time off outside the space allocated in the posted vacation and specified paid holidays list.

7:03 An employee who is absent without pay due to a leave of absence, suspension, or layoff during the period when a specified paid holiday occurs shall have off duty days in lieu of such holiday reduced accordingly.

## 8:00 LEAVE OF ABSENCE

8:01 The employer may grant leave of absence without pay and without loss of seniority for a period up to six months to any employee requesting such leave for good and sufficient cause. Applications for such leave shall be made in writing to the Chief of the Fire Services and such leave must be approved by the Chief and the City's Chief Administrative Officer. During the period of such leave of absence, the total cost of the benefits set out in Articles 11:08 and 11:09 will be payable by the employee. Notwithstanding the provisions of this article, leave of absence will not be granted an employee for the purpose of working at alternative employment.

## 8:02 Bereavement Leave

- (a) An employee shall be granted paid bereavement leave up to two (2) Full Tours for those employees on the 24-hour shift rotation and for all other employees four (4) working days, in total, to make arrangements for, and to attend the funeral of their spouse, common-law spouse, child, stepchild, son-in-law, daughter-in-law, parent, stepparent, mother-in-law, father-in-law, grandparent, grandchild, brother or sister; and up to one (1) 12-hour shift off for those employees on the 24-hour shift rotation, and for all other employees one (1) working day to attend the funeral of their brotherin-law, sister-in-law, spousal grandparent, aunt, uncle, niece, or nephew. Paid bereavement leave shall not be granted beyond one calendar day following the day of the funeral. The pay shall be on a straight time basis and for only such days as are scheduled shifts.
- (b) An employee may reserve one (1) twelve (12) hour Day Shift or Night Shift of paid bereavement leave if on a 24-hour shift rotation, or one (1) bereavement day if not on the 24-hour shift, from the above entitlement to attend a Celebration of Life ceremony or internment, to be taken no later than 6 months from the time of death. This time off must coincide directly with the employee's working hours and the scheduled event and is not intended to be used for any other purpose.
- (c) An employee shall not be entitled to paid bereavement leave for a day on which they are absent from work for some other reason.
- 8:03 The City shall pay to the Association an annual allowance in February of each year the amount of twelve thousand (\$12,000) for the Association to pay duly appointed or elected officials for attendance at Association conventions, education programs or other Association business. This shall be understood to encompass all union related attendance at meetings, inclusive of, but not limited to negotiations, grievances, investigation and discipline meetings. Any required back-fill for such meetings will be at the expense of the Association.

## 8.04 <u>Quarantine</u>

Should an employee be quarantined by the Medical Officer of Health as a result of work duties, the City will maintain the employee's pay for the scheduled shifts that the employee was unable to work during the quarantine period.

## 9:00 <u>SENIORITY</u>

- 9:01 Seniority shall be established on the basis of an employee's service with the employer, calculated from the date upon which the employee commenced full time employment with the Fire Services.
- 9:02 The first twelve (12) months service shall be classed as a probationary period.
- 9:03 A seniority list shall be prepared and approved by the Fire Chief and the Executive Committee of the Association and such a list shall be posted for a period of thirty (30) days in each Fire Station of the City of Sault Ste. Marie on the fifteenth day of January of each year.
- 9:04 Errors or omissions in a list posted in accordance with Article 9:03 shall be corrected on application of the Association or the employee concerned provided:
  - (1) such error or omission relates to the period subsequent to the date of the previous list, and
  - (2) the error or omission is brought to the attention of the Fire Chief within fifteen (15) days of the employee's first reasonable opportunity to see the list.
- 9:05 Once a seniority list has been finalized the only protest which will be considered against the next posted list shall be protests relative to deletions and additions occurring since the date of the previous list.
- 9:06 (a) An employee transferring from one division to another may return to their former position within twelve (12) months from the date of the employee's transfer without loss of divisional seniority. Once an employee has completed twelve (12) months in that division, an employee may request a transfer to the employee's former division and such transfer will be at the discretion of the Chief. However, if the transfer is to the Fire Suppression Division, it shall be a rank not higher than a first class firefighter, at the seniority level corresponding to the master seniority list. In either case, the return to a previous position may result in the displacement and layoff of the lowest seniority member in the division.
  - (b) Divisional seniority lists shall be prepared and approved by the Chief and the Executive Committee of the Association and such lists shall be posted for a period of 30 days in each fire station on the 15th day of January each year.

## 10:00 PROMOTIONS AND LAYOFFS

- 10:01 In the event a permanent position in the Fire Suppression Division under the jurisdiction of the Association becomes vacant, such position shall be filled by the next senior qualified employee that has maintained the required qualifications, acting officer hour requirements and continuing education requirements in line for such position within thirty (30) days. It is understood that the employee must have the ability to perform the job.
- 10:02 Where a vacancy occurs in other than the Fire Suppression Division, the position will be posted and preference will be given to the senior applicant with the qualifications and the ability to perform the job. It is acknowledged the applicant must have the ability to perform the job.

- i) The Employer will post annually, necessary qualifications for all Association positions in the SSMFS, including but not limited to Firefighter, Captain, Platoon Chief, Fire Prevention Officer, Fire Mechanical Technician, Mechanical Officer, Administrative Clerk, Public Education Officer, and Fire Prevention Planner at all Fire Stations within the SSMFS. This shall be posted by January 15 of each year in addition to the Master Seniority List.
- ii) All courses required for promotional purposes within the respective Divisions will be as per Policy 1400-17.
- iii) If a revision to the required qualifications is made the Employer will notify the Association a minimum of five (5) business days prior to the revised qualifications being posted.
- 10:03 A member of the Association hired into a position other than the Fire Suppression Division, who wishes to apply to the Fire Suppression Division as a Firefighter shall apply when the recruitment process is activated. The member must have all the necessary requirements as outlined in the firefighter recruitment posting.
  - 1. Upon successful completion of the firefighter recruitment process, the Employee will be placed on the final qualified list in the order of the Employee's ranking, and will be offered a position in the Fire Suppression Division when their rank on the qualified list arises.
  - 2. The Employee will enter the Fire Suppression Division at the bottom rank of a firefighter. Seniority rights for promotion purposes shall be based on the date of entry into the Fire Suppression Division.
  - 3. Service with the Employer, for the purpose of vacation entitlement, sick leave accrual, etc. will be based on the Employee's original hire date.
- 10:04 An employee who has changed positions shall remain on a trial period for up to six months. If found unsuitable for this position by the Chief during the aforementioned period, such employee shall revert to their former position.
- 10:05 Lay Off and Recall

In the event of a layoff, it is recognized and agreed that the employee with the least divisional seniority in the affected Division will be the first employee affected.

In the event of a recall in that Division, the employee will be recalled in the reverse order of their respective seniority.

## 11:00 WELFARE

11:01 The schedule of sick allowance shall be as follows:

#### 24 Hour Shift Rotation

(a) For employees on the 24-hour shift rotation, on completion of three months of service, sick leave bank will be accrued at the rate of 18 hours per month to a maximum sick bank of 2520 hours.
 The first 12 hours of the shift will be referred to as the "Day shift". The second 12 hours of the shift will be referred to as the "Night shift".

- (b) When calling in sick due to Illness/Injury, employees may utilize their sick bank in 12hour increments. If an employee leaves work sick, such hours will be pro-rated accordingly.
- (c) Employees shall call the Platoon Chief no later than 06:30 hrs when possible to call in sick. If the Employee calls in sick prior to their shift, they are permitted to book off for the Day Shift or Night Shift or both.
- (d) An employee who books off for the Day Shift shall call the Platoon Chief by 16:00 hrs of that scheduled shift to indicate if the will be returning for the Night Shift. If overtime was utilized to cover the absence, such overtime cost will cease at 20:00 hrs, as a result, the Firefighter on overtime will be relieved from duty.

## Other / Non-24 Hour

- (a) Upon completion of three months of service, sick leave will be accumulated at the rate of one and one-half (1 1/2) days per month from the date of employment.
- (b) Sick leave will be reduced on the basis that one shift off sick will result in one day deduction from sick leave.
- (c) Sick leave accumulation in 11:01 (a), (b), shall commence as of January 1, 1983. Accumulation up to December 31, 1982 shall be converted to days and fixed at that amount in the employee's sick leave bank.
- 11:02 Sick leave means the period of time any employee is permitted to be absent from duty with full pay by virtue of being disabled or sick, or because of accident, or illness for which compensation is not payable under the Workplace Safety and Insurance Act, 1996. The foregoing accumulated sick allowance shall be used entirely as sick leave and not have any monetary value at the completion of an employee's service with the City whether retiring voluntarily or dismissed for cause.

Notwithstanding the provisions of this article, sick leave will not be paid to an employee who is absent due to an injury/illness suffered while employed by another employer covered by the Workplace Safety and Insurance Act, 1996. The employee is obligated under this clause to notify both WSIB and the Employer of any such circumstances. If the injury occurred at another employer, SSMFS is not obligated to offer any accommodated work.

- 11:03 The length of service shall be calculated from the date of employment and such service must be continuous from said date of employment.
- 11:04 Such sick leave to be cumulative, but in no case shall such sick leave exceed a period of 2520 hours. An employee who is absent due to illness or leave of absence for the major portion of the employee's regularly schedule hours in any month shall not accumulate sick leave as provided in article 11:01, in that month.
- 11:05 Recognized days off shall not be deducted from accumulated sick leave.
- 11:06 No active employee with the Fire Service shall draw accumulated sick leave benefits if the absence from work is not due to illness/injury as supported by the approved certificate of a medical practitioner (if requested by the Employer).

If a medical certificate is requested by the Employer, the Employer shall reimburse the cost of the certificate to a maximum of seventy dollars (\$70.00) upon presentation of a valid receipt from the medical practitioner.

When required by the Employer, employees are responsible to provide return to work clearance certificates prior to their return to work in any capacity.

The City's Injury/Illness Status Form shall be used for this request, with the direction that the medical practitioner only complete the form as applicable.

- 11:07 An employee in receipt of W.S.I.B. benefits for injuries or illness suffered during the course of employment shall receive full net salary and benefits during such period. During the period an employee received full net salary, all compensation payments shall be deposited with the City. A member's sick bank or vacation credits shall not be reduced while in receipt of W.S.I.B. benefits.
- 11:08 Each employee shall be provided with the Ontario Health Insurance Plan, Green Shield Semi-Private and Green Shield Extended Health Care vision care to include eye examination \$600 every two (2) years and laser eye surgery to a lifetime maximum of \$1,800, 100% of the cost of such plan to be contributed by the Employer.

Green Shield Extended Health Care - Drug Plan co-insurance reinstated to 90% employer/10% employee. A cap on dispensing fees – \$12 maximum per prescription. Drug Plan to provide for the dispensing of generic drugs unless a physician prescribes a brand name. Overage Dependent Coverage is applied to the Green Shield Extended Health Care. Each employee shall be provided with the Out-of-Province Travel Plan, 100% of the cost of such plan will be contributed by the Employer and will not be available to retirees.

Reimbursements for standard hearing aids, repairs or replacement parts up to \$1,500 every four (4) years. Batteries are eligible.

No OTC drug coverage with the exception of those deemed by the insurer to be "life sustaining". This also applies to those employees who retire after June 1<sup>st</sup>, 2011 on an O.M.E.R.S. unreduced early retirement pension.

Paramedical Benefit:

• Full chiropractic, physiotherapy, massage therapy, chiropody and naturopath coverage shall be provided by the employer, from the first visit, to a combined maximum per person per calendar year of \$2,000.

Psychological Benefit:

 Psychologist, Master of Social Work, Social Worker/Counsellor, Psychoanalyst and Psychiatrist: up to a combined maximum of \$2,500 per calendar year (employee and dependents).

Professional Services are only eligible when the practitioner rendering the service is a member in good standing with their provincial regulatory agency or an active member of a professional association, either of which must be recognized by GSC. Please contact the GSC Customer Service Centre to confirm eligibility when in doubt.

Each employee shall be provided with the Great West Life Long Term Disability Plan, 100% of the cost will be contributed by the Employer with coverage to a maximum \$7,500 monthly.

Each employee shall be provided **Maple Premium** virtual health care.

Each employee shall be provided with the Green Shield #9 Dental Plan, Rider 3C, (Lifetime Maximum \$3,000), based on current O.D.A. Schedule, 100% of the cost of the plan will be contributed by the Employer.

Each employee shall be provided with restorative dental coverage, 80% to be paid by the employer and 20% by the employee, based on current O.D.A. schedule to a maximum of \$2,500 per person per year.

Dental recall for adults (over age 16) to be nine (9) months. Children (age 16 and younger) shall be subject to a six (6) month dental recall.

Overage Dependent Coverage is applied to the Green Shield Dental Plan.

The benefit plan shall pay for the full cost of the following Specialized Diagnostic Tests required by the employee's physician for cancer screening (Protein Specific Antigen, Cancer Antigen 125, Fecal Occult Blood Test). Test results will be between the employee and the physician.

- 11:09 Each employee shall be provided with Group Life Insurance of two times the employee's salary to the nearest \$1,000.00 with double indemnity: 100% of the cost of such plan will be paid by the Employer. The payment of such benefit shall be in accordance with the terms and conditions of the applicable plan "Great West Life policy #320925."
- 11:10 The Employer shall have the right to select the carrier for such plans. All refunds, reductions in premiums, dividends, etc., shall become and remain the sole property of the Employer. Benefits under any such plan or plans shall not be changed or reduced by the Employer without the consent of the Association.
- 11:11 The Corporation agrees to pay any employee covered by this agreement the difference in regular salary and witness fees when required to act as a Court witness on matters relating to the Employer's business. In addition, when an employee is required to attend Court as a witness on matters relating to the Employer's business during off duty time, such employee shall be paid at the rate of one and one-half times their regular rate, with a minimum of 4 hours at the premium rate, for time so spent. The employee shall provide proof of services, including proof of time spent and amount of payment received. Failure to provide satisfactory proof shall disqualify the employee from such payment or time off.

## 11:12 <u>Retiree Benefits</u>

(i) The City shall comply with all Regulations contained in the Ontario Municipal Employees Retirement System (OMERS).

The parties agree that employees covered under O.M.E.R.S. for normal retirement age 60 shall retire no later than the end of the month in which they reach age 60.

Those employees covered under O.M.E.R.S. for normal retirement age 65 shall retire no later than the end of the month in which they reach 65.

(ii) The parties agree that eligibility for LTD benefits, as set out in 11:08 shall cease when the employee becomes eligible for an OMERS unreduced retirement pension.

11:13 The employer agrees to pay the cost of the Ontario Hospital Insurance Plan and the Green Shield Extended Health Care Plan:

Cap Orthotics/Orthopedic shoes at one (1) pair and \$400/year; vision care to include eye examination \$600 every two (2) years and laser eye surgery to a lifetime maximum of \$1,800, 100% of the cost of such plan will be contributed by the Employer.

Green Shield Extended Health Care – Drug Plan co-insurance at 90% employer/10% employee; a cap on dispensing fees - \$12.00 maximum per prescription; Drug Plan to provide for the dispensing of generic drugs unless a physician prescribes a brand name. Overage Dependent Coverage is applied to the Green Shield Extended Health Care.

Paramedical Benefit - Full chiropractic, physiotherapy, chiropody and massage therapy coverage shall be provided by the employer, from the first visit, to a combined maximum per person per calendar year of \$2,000.00. These benefits are provided for employees who retire on an O.M.E.R.S. unreduced early retirement pension. Such benefits shall be paid for the retired employee to age 65. At age 65, the retiree will cease access to the aforementioned benefit plan and will only be entitled to HCSA of \$1000 to age 75. Such benefits shall not apply to a retired employee who is employed elsewhere.

Such benefits shall be paid for a deceased member's surviving spouse and dependent children for a period of twenty-four (24) months following the member's death or until the date as of which the retiree would have attained age 65 or until the surviving spouse remarries, whichever occurs first.

11:14 Pregnancy and Parental Leave

An employee on pregnancy/parental leave shall be entitled to receive Supplementary Employment Benefit (S.E.B.) equal to eighty percent (80%) of their normal weekly earnings for the one (1) week waiting period for Employment Insurance and a topping up of their Employment Insurance benefits to seventy five percent (75%) of their normal weekly earnings for the following seventeen (17) weeks of such leave.

The employee receiving the top-up will present proof of the Employment Insurance amount to the Human Resources Department by way of a copy of the Employment Insurance cheque stub.

The City will not be responsible in any manner for the repayment of any Employment Insurance payable by the employee upon completing their personal income tax return for the year of the leave in accordance with Canada Revenue Agency rules.

The Corporation shall provide Pregnancy/Parental Leave in accordance with the provisions of the Employment Standards Act for the remaining duration of such leave.

Proof of El receipts is required.

- 11:15 "Spouse" means either of two persons who,
  - (a) Are married to each other, or
  - (b) Are not married to each other and are living together in a conjugal relationship ("conjoint"),
    - i. continuously for a period of not less than one (1) year, or

- ii. in a relationship of some permanence, if they are the parents of a child as set out in section 4 of the Children's Law Reform Act.
- 11:16 Health and Wellness

The parties agree to form a voluntary Health and Wellness Committee made up of Association and Employer representatives that will meet every 6 months to provide input and share information that pertains to health and wellness in the Fire industry.

The employer will engage in providing annual resiliency training in conjunction with our peer support provider for all staff. Peer support team members will continue to receive annual update training arranged by and provided by the employer.

## 12:00 GRIEVANCE PROCEDURE

- 12:01 Grievances shall be dealt with in the following manner provided such grievances are filed in writing within 15 working days of the occurrence of the incident which gave rise to the matter in dispute. Any employee or group of employees of the Fire Services covered by this agreement who is of the opinion that the employee has been unjustly disciplined, suspended, superseded, discharged, or unreasonably denied leave of absence, shall have the right to have the case investigated and to be represented by a Committee of the Association.
  - STEP 1: The employee assisted by an officer of the Association shall discuss the case with the Fire Chief within 15 working days of filing the grievance, barring any unforeseen circumstances for either party. The Fire Chief shall render their decision in writing together with the reason therefore, within five (5) working days of the hearing.
  - STEP 2: If the Committee considers that a satisfactory settlement was not reached at Step 1, it may within five (5) working days of receipt of the Step 1 reply request a hearing within 15 days of the request, barring any unforeseen circumstances by either party, by the Commissioner of Human Resources, or designated representative.
    Such request shall state the reason or reasons the answer at Step 1 was unsatisfactory and in what manner the City's interpretation of the contract clause in question is disputed. The Commissioner of Human Resources or their designated representative shall render a decision within five (5) working days of the hearing.
  - STEP 3: If the Committee considers that a satisfactory settlement was not reached at Step 2, it may within five (5) working days of receipt of the Step 2 reply, request a hearing by the Chief Administrative Officer. This hearing shall be held within 15 working days of the request, barring any unforeseen circumstances by either party. The Chief Administrative Officer shall render a decision within five (5) working days of the hearing.
  - STEP 4: If the Committee considers that a satisfactory settlement was not reached at Step 3, it may within five (5) working days of receipt of the Step 3 reply, request that the grievance be referred to Arbitration pursuant to the Fire Protection and Prevention Act 1997.

- 12:02 In the event that any employee or group of employees who have been unjustly discharged or suspended shall be reinstated as the result of such settlement of any disagreement as aforesaid, such reinstatement shall be made without loss of time, pay or seniority to such employee.
- 12:03 No employee shall be discharged or disciplined except for just and sufficient cause. In any discharge or discipline grievance, an Arbitration Board or single Arbitrator shall have the power to dispose of the grievance by any arrangement, which in the opinion of the Arbitration Board or single Arbitrator, it is deemed to be just and equitable.
- 12:04 Any employee or group of employees having a grievance which the employee wishes the Committee of the Association to represent for such employee shall put the grievance in writing on the grievance form adopted by the Association. The Committee of the Association shall abide by the steps on the grievance form.
- 12:05 In the matter of a grievance a Board of Arbitration or Arbitrator shall not alter, modify or amend any part of this agreement or make any decision inconsistent with its provisions, or the provisions of the Fire Protection and Prevention Act, 1997.

## 13:00 STRIKES AND LOCKOUTS

The Association agrees that they will at no time enter into or participate in any strike or join any sympathetic strike with or for any other organization.

## 14:00 CLOTHING AND TURN-OUT GEAR

- 14:01 The following articles of clothing and wear apparel shall be supplied to each employee in the Fire Suppression Division and the Training Officer:
  - 1 Dress uniform as needed, which includes one tunic (coat and pants), one dress cap, one white shirt, and one tie (at the approval of the Fire Chief)
  - 1 Job Shirt (every 2 years)
  - 2 Uniform Shirts
  - 2 T-Shirts
  - 1 Golf Shirt
  - 2 Pair Station Wear Pants (annually)
  - 1 All-Season Coat, as required (at the approval of the Fire Chief)
  - 1 Toque (every 2 years)
  - 1 Casual Cap Fire Dept. Approved (every 2 years) to be worn as directed by the Fire Chief, the same as other items of clothing issued are governed.
  - 1 \$180.00 boot allowance (every 2 calendar years)

The following articles of clothing and wear apparel shall be supplied to each employee in the Support Services Division:

- 1 Dress uniform as needed which includes one tunic (coat and pants), one dress cap, one white shift, and one tie (at the approval of the Fire Chief)
- 1 Job Shirt (every 2 years)
- 2 Uniform Shirts (annually)
- 4 T-Shirts (annually)
- 2 Pair Station Wear Pants (annually)

- 1 All-Season coat as required (at the approval of the Fire Chief)
- 1 Toque (every 2 years)
- 1 Casual Cap Fire Dept. Approved (every 2 years) to be worn as directed by the Fire Chief, the same as other items of clothing issued are governed.
- 1 Pair Coveralls (as required)
- 1 \$180.00 boot allowance (every 2 calendar years)
- 14:02 The City agrees to provide NFPA standard equipment when required at the discretion of the Chief or designate as follows:
  - Gloves
  - Boots
  - Helmet
  - Turnout Gear
  - Balaclava
- 14:03 The Fire Prevention and Public Education Division will be provided the following articles of clothing and wearing apparel:
  - 1 Dress uniform as needed, which includes one tunic (coat and pants), one dress cap, one white shirt, and one tie (at the approval of the Fire Chief)
  - 1 Job Shirt (every 2 years)
  - 6 Total Uniform and T-Shirts (minimum 3 uniform shirts) annually
  - 2 Pair Station Wear Pants (annually)
  - 1 All-season coat as required (at the approval of the Fire Chief)
  - 1 Toque (every 2 years)
  - 1 Casual Cap Fire Dept. Approved (every 2 years) to be worn as directed by the Fire Chief, the same as other items of clothing issued are governed.
  - 1 Pair Coveralls (as required)
  - 1 Boot Allowance of \$90.00 (annually)

The Fire Prevention Planner, the Fire Prevention Officers and Public Education Officer shall be provided a dry-cleaning allowance of \$115.00 (annually).

14:04 It is a desire of the Sault Ste. Marie Professional Firefighters Association and the Sault Ste. Marie Fire Services that when an employee is not in need of a new portion of the uniform clothing package, the employee is encouraged to notify the Platoon Chief or the Office, of such employee's clothing requirements for the upcoming year.

## 15:00 SCHEDULE OF WAGES

- 15:01 The Schedule of Wages shall be provided in Schedule "A" attached to and forming part of this agreement.
- 15:02 RECOGNITION PAY

Effective April 15, 2016, employees in the Mechanic Division staff and Training Division staff of the Sault Ste. Marie Fire Services will be paid recognition pay of 3/6/9 after 8/17/23 years of service. It is understood that Mechanical and Training staff will not receive service pay once recognition pay is implemented.

15:03 All employees in the Suppression Division working on a statutory holiday will be paid at a rate of 1.5x (one and a half times their regular rate of pay) for twelve (12) hours. The Block of time agreed to constitute the statutory holiday commences at 8:00 A.M. the day of the statutory holiday and ends at 8:00 P.M. the same day for those firefighters (Suppression group). An employee who exchanges a shift on a statutory holiday will be considered working for the purpose of any statutory holiday pay earned for the shift.

It is agreed and understood that any call out on a statutory holiday will only be compensated at 1.5x (one and a half their regular rate of pay).

## 16:00 CONTRACTING OUT

16:01 Except to the extent and to the degree agreed upon by the parties, and except in the case of an emergency, no work customarily performed by an employee covered by this agreement shall be performed by another employee or a person who is not an employee of the Corporation.

## 17:00 TECHNOLOGICAL CHANGE

17:01 Where possible and if known in advance, at least 60 days prior the City will provide notice of the introduction or implementation of substantial technological changes that will result in displacement of an Employee from their position. The Corporation shall, by written notice, furnish the Association with full information, known at that time, of the planned change or changes.

Such prior notice shall contain relevant information respecting the nature and degree of change, the date or dates on which the Corporation plans to effect the change.

## 18:00 <u>GENERAL</u>

- 18:01 All fire stations shall have a company officer actively on duty and in charge of them at all times. The company officer shall be in charge of all apparatus and staff assigned to their station, including staff designation on front line and ancillary apparatus in accordance with qualification. The company officer shall deploy with and be in charge of their company and apparatus at all times. Where multiple apparatus are assigned that are dispatched and arrive together, and continuously operate together, they are managed by the single company officer. Apparatus responding to a call for mutual aid shall have a Sault Ste. Marie Fire Services company officer on board and in charge at the scene.
- 18:02 a) Once in each year, in conjunction with the vacation signing, the employees may notify the Fire Chief in writing, in which fire station they prefer to work in order of preference. The Fire Chief, Deputy Fire Chief Operations, or designate, in consultation with the Platoon Chiefs of each Platoon, will determine which station the Firefighters will be assigned. Consideration will be given to assign the firefighter, by seniority, to their respective station by priority of choice. Station postings will be assigned in January of each year. Employees will be scheduled at their respective stations, unless otherwise reassigned for promotion or for operational needs as determined by the Fire Chief or Designate. Promotion means advancement to a position that is classified as a higher salary grade.
  - b) The Station Captain, in consultation with the Platoon Chief and affected individuals,

has the ability to utilize the firefighter and driver assignments interchangeably for qualified employees.

- 18:03 Throughout the term of the Collective Agreement the employer will continue its general Municipal liability coverage in the form and upon the terms expressed in the current Royal Insurance Policy #5988612, or its equivalent.
- 18:04 Where the employee of the SSM Fire Services is charged with criminal or statutory offense flowing from the employee's duties and is subsequently acquitted of such charges, the employee shall be reimbursed for any reasonable legal expenses that have been taxed pursuant to the Solicitor's Act and incurred as a result of such charges. The Corporation further agrees that it will continue the coverage under its present existing general liability insurance or equivalent coverage as specified in article 18:03 herein.
- 18:05 An employee who is authorized to use their vehicle on city business shall be reimbursed on the basis of the current mileage rate paid to other city employees.
- 18:06 Employees scheduled to attend Ontario Fire College/Regional Training Centers or all other Training as determined by the Fire Chief or designate will follow the following:

#### **Suppression**

- I. Employees shall be granted the last twelve (12) hours off of their scheduled shift if it falls directly before the first day of in-town training.
- II. The City agrees to pay three hundred dollars (\$300) to employees who utilize their personal vehicle in the event a City vehicle is not available to attend out-of-town training as approved by the Chief.
- III. Any employee called-in on their scheduled day off for "testing" will be paid at a rate of time and one half, in quarter hour segments, from the scheduled time the event starts to the time that the event is finished. This includes Class exams and Course exams, written and practical components. In the event a re-write is required, the employee will complete it on their own time and there will be no back fill.
- IV. For those employees writing during their regularly scheduled shift, Fire Management will authorize the call-in, as per the above, of an employee to cover any Employee who is scheduled to work during a Class or Course exam.

## 18:06 (a) <u>Change of Work Schedule for Training – Suppression Division</u>

The Fire Chief may schedule an employee out of the 24-hour shift rotation for the purpose of receiving additional training for two weeks per year maximum to a combined total of 10 days, with no less than 45 days advanced notice to firefighters. Further, the parties can meet to discuss alternative dates to replace training dates which conflict with their personal schedules and such alternative dates shall not be unreasonably refused.

## **Credited Hours of Training**

With respect to attending training, employees shall be compensated based on a 42-hour work week +/- regularly scheduled hours for that work week.

Out-of-Town – Training conducted 200 KM or more from SSMFS #1 Station

In-Town – Training conducted less than 200 KM from SSMFS #1 Station

**Preparation for Training or Travel** – For a regularly scheduled shift that is scheduled to be completed at 8 a.m. on the day of training or travel, the employee will be scheduled off-shift at 8 p.m. on the previous evening of that shift. The employee that is off due to preparation for training may not work overtime, change of shift or any other reason that would cause them to be working during that time. An employee that is scheduled to travel to out-of-town training or attend training may not work overtime, change of shift or any other reason that would cause them to be working during that time. An employee that is scheduled to travel to out-of-town training or attend training may not work overtime, change of shift or any other reason that would cause them to be working after 8 p.m. on the previous evening. This does not limit the rights of the Fire Chief under the Fire Prevention and Protection Act, 43 (7).

**Post-Training** – If the last day of in-town training falls on a regularly scheduled shift, the employee will return to duty and complete the 24-hour shift.

**Compensation Calculation** – [Credited hours of training +/- 24 hour scheduled shift hours]

**Compensation** – Compensation for additional hours will be at a premium rate (time and one half) with the exceptions noted within this document. The Employer will not claw-back wages when the compensation hours are less than the hours the employee would have worked during their regularly scheduled hours of work. Any compensation for training will not move your name in the overtime list.

**Other Durations of Training** – When the duration of training is other than five (5) scheduled days, compensation calculation will be conducted in a similar manner in consultation with the Association.

**In-Town Single-Day Training** – The employee will be return to regularly scheduled duties immediately following training that is conducted on a regularly scheduled day of work. The employee will be compensated at a premium rate for actual hours of training when conducted on a regularly scheduled day off.

Fire Prevention and Support Services Division

- I. Employees shall be granted equivalent lieu time for travel days to attend training, only when such travel days fall on a regularly scheduled day off.
- II. The City agrees to pay three hundred dollars (\$300) to employees who utilize their personal vehicle in the event a City vehicle is not available to attend outof-town training as approved by the Chief.
- III. Any employee called-in on their scheduled day off for "testing" will be paid at a rate of time and one half, in quarter hour segments, from the scheduled time the event starts to the time that the event is finished. This includes Class exams and Course exams, written and practical components.
- (b) <u>Change of Work Schedule for Training Fire Prevention and Support Services</u> <u>Division</u>

## **Credited Hours of Training**

With respect to attending training out-of-town, employees shall be compensated with an 8.4 hour shift for each day of training, unless otherwise determined by duration of course hours. With respect to training conducted *in-town*, employees shall be compensated with actual hours of training in lieu if conducted outside of working hours.

Out-of-Town – Training conducted 200 km or more from SSMFS #1 Station

In-Town – Training conducted less than 200 km from SSMFS #1 Station

**Compensation** – Compensation for additional hours will be at a premium rate (time and one half) or straight lieu time with the exceptions noted within this document. The Employer will not claw-back wages when the compensation hours are less than the hours the employee would have worked during their regularly scheduled hours of work.

**Other Durations of Training** – When the duration of training is other than five (5) scheduled days, compensation calculation will be conducted in a similar manner in consultation with the Association.

**In-Town Single-Day Training** – The employee will return to regularly scheduled duties immediately following training that is conducted on a regularly scheduled day of work. The employee will be compensated at a premium rate for actual hours of training when conducted on a regularly scheduled day off.

# The following procedure shall apply to all Employees eligible to write examinations for advancement from Probationary year to 1<sup>st</sup> Class:

- a) An examination shall be conducted at least thirty (30) calendar days prior to the Employee's eligibility date. The contents of the examinations shall relate to the Employee's duties as determined by the Fire Chief, Deputy Fire Chief(s) and Training Officer.
- b) At the direction of the Fire Chief, the Training Officer shall provide each eligible Employee with forty-five (45) calendar days notice, in writing, of the date set for their examination. An exam outline shall be included at this time.
- c) An Employee must achieve a mark of at least seventy percent (70%) in each of the written and practical examinations to qualify for advancement.
- d) Should an Employee fail to achieve the required mark of seventy percent (70%) in any examination(s), the Employee shall retry the examination(s) within the next thirty (30) days.
- e) Should the Employee again fail to achieve the required marks, the Employee shall request a date to retry within the next thirty (30) days.
- f) If still not successful, the Employee will have the option to meet with a Deputy Chief or the Fire Chief to review testing within two (2) weeks. If remedial training is required, Management and the Association agree to meet to review requirements and duration of such training. The employee's classification date will be adjusted in conjunction with the date of successful testing.

- g) No adjustments to compensation shall apply during this interval. The Employee shall remain at the compensation rate of the classification last achieved until such time as the Employee qualifies for advancement and there shall be no retro payment due unless the employer fails to administer the exam within these timelines.
- 18:07 The Employer agrees to provide a \$100.00 weekly expense allowance to each employee attending out-of-town training as approved by the Fire Chief. The \$100.00 weekly expense allowance will be prorated based on a seven-day week.
- 18:08 The employer will provide a copy of the "Master Policy" of all benefits to the Association.
- 18:09 The Employer agrees to pay the cost of DZ medical examinations for Employees up to a maximum of \$150.00 per examination and up to \$80.00 per Mechanic for Mechanical Licensing/Certification. Employees are required to provide official receipts of payment within thirty (30) days from the date on receipt in order to be reimbursed as above.

#### 19:00 CLERICAL POSITIONS

19:01 Notwithstanding the provisions of Articles 14:00 and 15:02, the clerical staff shall not be entitled to uniform allowance or recognition pay.

#### 20:00 TERM OF AGREEMENT

- 20:01 This agreement shall be effective from the first day of January 2024 to December 31<sup>st</sup>, 2026, and from year to year thereafter unless either party notifies the other in writing not more than ninety (90) days and not less than thirty-one (31) days before the thirty-first day of December in any year, of its desire to amend the Agreement.
- 20:02 If either party desires a change in the agreement, said party shall give written notice of the proposed change to the other party not less than 30 days before the 31<sup>st</sup> day of December in any year and both parties shall thereupon negotiate in good faith with respect to the matters referred to in the notice.

IN WITNESS WHEREOF the parties have duly executed this agreement.

SIGNED, SEALED AND DELIVERED

THE CORPORATION OF THE CITY OF SAULT STE. MARIE

MATTHEW SHOEMAKER, MAYOR

RACHEL TYCZINSKI, CITY CLERK

THE SAULT STE. MARIE PROFESSIONAL FIREFIGHTERS ASSOCIATION - LOCAL 529

CHRIS MEI, PRESIDENT

MARK MORGENSTERN, VICE-PRESIDENT

HRIS PLOTYCIA, SECRETARY

JOSHUA SCOTT, TREASURER

Communications Operator – See Letter of Understanding #2 – Communications Operator

- (a) Any Firefighter permanently disabled because of sickness or accident, but able to do light duty, shall be assigned to fill the position of Communications Operator and shall be paid at the rate of 3<sup>rd</sup> class firefighter. This provision shall not apply to short-term disabilities.
- (b) Salaries for probationer, 4<sup>th</sup> class, 3<sup>rd</sup> class and 2<sup>nd</sup> class firefighters shall be calculated as follows:

2nd Class Firefighter to be 90% of 1st Class rate 3rd Class Firefighter to be 80% of 1st Class rate 4th Class Firefighter to be 70% of 1st Class rate Probationer Firefighter to be 60% of 1st Class rate

| January 1 <sup>st</sup> , 2024         |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
|----------------------------------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| RANK                                   | 1%        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
|                                        | Annual    | Hourly                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |
| Platoon Chief (127%)                   |           | , in the second se |  |
| 0% (0 – 8 years) Base Rate             | \$144,028 | \$65.947                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 3% (9 – 17 years)                      | \$147,431 | \$67.505                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 6% (18 – 23 years)                     | \$150,834 | \$69.063                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 9% (24 + years)                        | \$154,236 | \$70.621                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Captain (119%)                         |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| 0% (0 – 8 years) Base Rate             | \$134,956 | \$61.793                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 3% (9 – 17 years)                      | \$138,359 | \$63.351                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 6% (18 – 23 years)                     | \$141,761 | \$64.909                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 9% (24 + years)                        | \$145,164 | \$66.467                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Training Officer (125%)                |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| 0% (0 – 8 years) Base Rate             | \$141,761 | \$64.909                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 3% (9 – 17 years)                      | \$145,164 | \$66.467                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 6% (18 – 23 years)                     | \$148,564 | \$68.024                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 9% (24 + years)                        | \$151,967 | \$69.582                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Public Education Officer (112%)        | \$127,017 | \$58.158                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 2 <sup>nd</sup> Class                  | \$114,315 | \$52.342                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 3 <sup>rd</sup> Class                  | \$101,613 | \$46.526                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 4 <sup>th</sup> Class                  | \$88,913  | \$40.711                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Probationer                            | \$76,211  | \$34.895                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Fire Prevention Officer (112%)         |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| 0% (0 – 8 years) Base Rate             | \$127,017 | \$58.158                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 3% (9 – 17 years)                      | \$130,420 | \$59.716                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 6% (18 – 23 years)                     | \$133,822 | \$61.274                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 9% (24 + years)                        | \$137,225 | \$62.832                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| FPO – 2 <sup>nd</sup> Class            | \$114,315 | \$52.342                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| FPO – 3 <sup>rd</sup> Class            | \$101,613 | \$46.526                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| FPO – 4 <sup>th</sup> Class            | \$88,913  | \$40.711                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| FPO – Probationer                      | \$76,211  | \$34.899                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Fire Prevention & Planning (75%)       | \$85,056  | \$38.945                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Firefighter - 1 <sup>st</sup> Class    |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| 0% (0 – 8 years) Base Rate             | \$113,409 | \$51.927                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 3% (9 – 17 years)                      | \$116,811 | \$53.485                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 6% (18 – 23 years)                     | \$120,214 | \$55.043                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 9% (24 + years)                        | \$123,614 | \$56.600                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Firefighter – 2 <sup>nd</sup> Class    | \$102,067 | \$46.734                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Firefighter - 3 <sup>rd</sup> Class    | \$90,728  | \$41.542                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Firefighter - 4 <sup>th</sup> Class    | \$79,386  | \$36.349                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Firefighter – Probationer              | \$68,045  | \$31.156                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Firefighter Cadet 3 <sup>rd</sup> year | \$79,386  | \$36.349                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Firefighter Cadet 2 <sup>nd</sup> year | \$73,717  | \$33.753                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Firefighter Cadet 1 <sup>st</sup> year | \$68,045  | \$31.156                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Mechanical Officer (115%)              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| 3% (9 – 17 years)                      | \$133,822 | \$61.274                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 6% (18 – 23 years)                     | \$137,225 | \$62.832                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |

| 9% (24+ years)                  | \$140,626 | \$64.389 |
|---------------------------------|-----------|----------|
| Level 4 (0 – 8 years)           | \$130,420 | \$59.716 |
| Level 3                         | \$127,017 | \$58.158 |
| Level 2                         | \$121,347 | \$55.562 |
| Level 1                         | \$115,678 | \$52.966 |
| Support Services Mechanic (97%) |           |          |
| 3% (9 – 17 years)               | \$113,409 | \$51.927 |
| 6% (18 – 23 years)              | \$116,811 | \$53.485 |
| 9% (24+ years)                  | \$120,214 | \$55.043 |
| Level 4 (0 – 8 years)           | \$110,006 | \$50.369 |
| Level 3                         | \$104,336 | \$47.773 |
| Level 2                         | \$98,664  | \$45.176 |
| Level 1                         | \$92,995  | \$42.580 |
| Administrative (57%)            |           |          |
| Administrative Clerk – Level 3  | \$64,643  | \$35.518 |
| Administrative Clerk – Level 2  | \$61,241  | \$33.649 |
| Administrative Clerk – Level 1  | \$57,838  | \$31.779 |
|                                 |           |          |

| January 1 <sup>st</sup> , 2025         |           |          |  |
|----------------------------------------|-----------|----------|--|
| RANK 2.00%                             |           |          |  |
|                                        | Annual    | Hourly   |  |
| Platoon Chief (127%)                   |           | Í        |  |
| 0% (0 – 8 years) Base Rate             | \$146,911 | \$67.267 |  |
| 3% (9 – 17 years)                      | \$150,382 | \$68.856 |  |
| 6% (18 – 23 years)                     | \$153,852 | \$70.445 |  |
| 9% (24 + years)                        | \$157,322 | \$72.034 |  |
| Captain (119%)                         |           |          |  |
| 0% (0 – 8 years) Base Rate             | \$137,658 | \$63.030 |  |
| 3% (9 – 17 years)                      | \$141,128 | \$64.619 |  |
| 6% (18 – 23 years)                     | \$144,598 | \$66.208 |  |
| 9% (24 + years)                        | \$148,066 | \$67.796 |  |
| Training Officer (125%)                |           |          |  |
| 0% (0 – 8 years) Base Rate             | \$144,598 | \$66.208 |  |
| 3% (9 – 17 years)                      | \$148,066 | \$67.796 |  |
| 6% (18 – 23 years)                     | \$151,537 | \$69.385 |  |
| 9% (24 + years)                        | \$155,007 | \$70.974 |  |
| Public Education Officer (112%)        | \$129,559 | \$59.322 |  |
| 2 <sup>nd</sup> Class                  | \$116,604 | \$53.390 |  |
| 3 <sup>rd</sup> Class                  | \$103,648 | \$47.458 |  |
| 4 <sup>th</sup> Class                  | \$90,691  | \$41.525 |  |
| Probationer                            | \$77,735  | \$35.593 |  |
| Fire Prevention Officer (112%)         |           |          |  |
| 0% (0 – 8 years) Base Rate             | \$129,559 | \$59.322 |  |
| 3% (9 – 17 years)                      | \$133,030 | \$60.911 |  |
| 6% (18 – 23 years)                     | \$136,500 | \$62.500 |  |
| 9% (24 + years)                        | \$139,970 | \$64.089 |  |
| FPO – 2 <sup>nd</sup> Class            | \$116,604 | \$53.390 |  |
| FPO – 3 <sup>rd</sup> Class            | \$103,648 | \$47.458 |  |
| FPO – 4 <sup>th</sup> Class            | \$90,691  | \$41.525 |  |
| FPO – Probationer                      | \$77,735  | \$35.593 |  |
| Fire Prevention & Planning (75%)       | \$86,759  | \$39.725 |  |
| Firefighter - 1 <sup>st</sup> Class    |           |          |  |
| 0% (0 – 8 years) Base Rate             | \$115,678 | \$52.966 |  |
| 3% (9 – 17 years)                      | \$119,148 | \$54.555 |  |
| 6% (18 – 23 years)                     | \$122,618 | \$56.144 |  |
| 9% (24 + years)                        | \$126,089 | \$57.733 |  |
| Firefighter – 2 <sup>nd</sup> Class    | \$104,109 | \$47.669 |  |
| Firefighter - 3 <sup>rd</sup> Class    | \$92,543  | \$42.373 |  |
| Firefighter - 4 <sup>th</sup> Class    | \$80,974  | \$37.076 |  |
| Firefighter – Probationer              | \$69,408  | \$31.780 |  |
| Firefighter Cadet 3 <sup>rd</sup> year | \$80,974  | \$37.076 |  |
| Firefighter Cadet 2 <sup>nd</sup> year | \$75,191  | \$34.428 |  |
| Firefighter Cadet 1 <sup>st</sup> year | \$69,408  | \$31.780 |  |
| Mechanical Officer (115%)              | <b>.</b>  |          |  |
| 3% (9 – 17 years)                      | \$136,500 | \$62.500 |  |
| 6% (18 – 23 years)                     | \$139,970 | \$64.089 |  |

| 9% (24+ years)                  | \$143,441 | \$65.678 |
|---------------------------------|-----------|----------|
| Level 4 (0 – 8 years)           | \$133,030 | \$60.911 |
| Level 3                         | \$129,559 | \$59.322 |
| Level 2                         | \$123,776 | \$56.674 |
| Level 1                         | \$117,991 | \$54.025 |
| Support Services Mechanic (97%) |           |          |
| 3% (9 – 17 years)               | \$115,678 | \$52.966 |
| 6% (18 – 23 years)              | \$119,148 | \$54.555 |
| 9% (24+ years)                  | \$122,618 | \$56.144 |
| Level 4 (0 – 8 years)           | \$112,207 | \$51.377 |
| Level 3                         | \$106,424 | \$48.729 |
| Level 2                         | \$100,639 | \$46.080 |
| Level 1                         | \$94,855  | \$43.432 |
| Administrative (57%)            |           |          |
| Administrative Clerk – Level 3  | \$65,936  | \$36.229 |
| Administrative Clerk – Level 2  | \$62,466  | \$34.322 |
| Administrative Clerk – Level 1  | \$58,996  | \$32.415 |
|                                 |           |          |

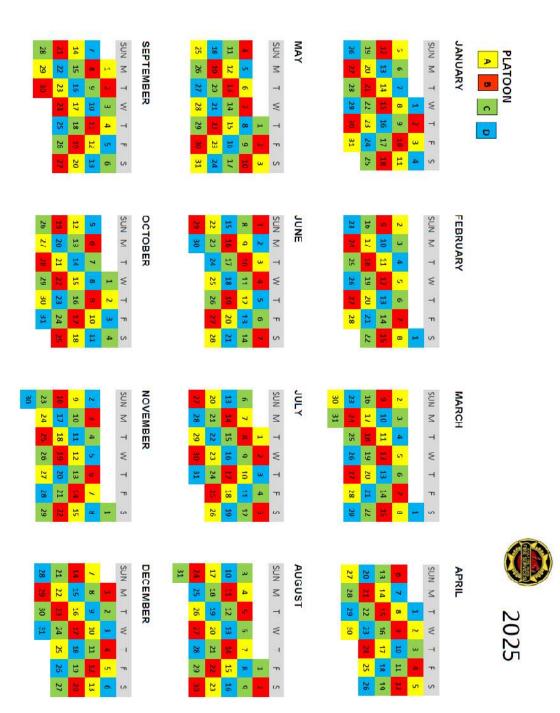
| January 1 <sup>st</sup> , 2026         |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
|----------------------------------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| RANK                                   | 2.00      | 1%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |
|                                        | Annual    | Hourly                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |
| Platoon Chief (127%)                   |           | , in the second se |  |
| 0% (0 – 8 years) Base Rate             | \$149,849 | \$68.612                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 3% (9 – 17 years)                      | \$153,389 | \$70.233                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 6% (18 – 23 years)                     | \$156,927 | \$71.853                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 9% (24 + years)                        | \$160,467 | \$73.474                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Captain (119%)                         |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| 0% (0 – 8 years) Base Rate             | \$140,409 | \$64.290                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 3% (9 – 17 years)                      | \$143,950 | \$65.911                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 6% (18 – 23 years)                     | \$147,488 | \$67.531                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 9% (24 + years)                        | \$151,028 | \$69.152                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Training Officer (125%)                |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| 0% (0 – 8 years) Base Rate             | \$147,488 | \$67.531                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 3% (9 – 17 years)                      | \$151,028 | \$69.152                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 6% (18 – 23 years)                     | \$154,568 | \$70.773                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 9% (24 + years)                        | \$158,108 | \$72.394                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Public Education Officer (112%)        | \$132,149 | \$60.508                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 2 <sup>nd</sup> Class                  | \$118,934 | \$54.457                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 3 <sup>rd</sup> Class                  | \$105,719 | \$48.406                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 4 <sup>th</sup> Class                  | \$92,506  | \$42.356                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Probationer                            | \$79,290  | \$36.305                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Fire Prevention Officer (112%)         |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| 0% (0 – 8 years) Base Rate             | \$132,149 | \$60.508                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 3% (9 – 17 years)                      | \$135,690 | \$62.129                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 6% (18 – 23 years)                     | \$139,230 | \$63.750                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 9% (24 + years)                        | \$142,768 | \$65.370                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| FPO – 2 <sup>nd</sup> Class            | \$118,934 | \$54.457                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| FPO – 3 <sup>rd</sup> Class            | \$105,719 | \$48.406                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| FPO – 4 <sup>th</sup> Class            | \$92,506  | \$42.356                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| FPO – Probationer                      | \$79,290  | \$36.305                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Fire Prevention & Planning (75%)       | \$88,493  | \$40.519                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Firefighter - 1 <sup>st</sup> Class    |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| 0% (0 – 8 years) Base Rate             | \$117,991 | \$54.025                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 3% (9 – 17 years)                      | \$121,531 | \$55.646                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 6% (18 – 23 years)                     | \$125,071 | \$57.267                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 9% (24 + years)                        | \$128,609 | \$58.887                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Firefighter – 2 <sup>nd</sup> Class    | \$106,193 | \$48.623                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Firefighter - 3 <sup>rd</sup> Class    | \$94,392  | \$43.220                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Firefighter - 4 <sup>th</sup> Class    | \$82,595  | \$37.818                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Firefighter – Probationer              | \$70,794  | \$32.415                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Firefighter Cadet 3 <sup>rd</sup> year | \$82,595  | \$37.818                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Firefighter Cadet 2 <sup>nd</sup> year | \$76,693  | \$35.116                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Firefighter Cadet 1 <sup>st</sup> year | \$70,794  | \$32.415                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Mechanical Officer (115%)              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| 3% (9 – 17 years)                      | \$139,230 | \$63.750                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 6% (18 – 23 years)                     | \$142,768 | \$65.370                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |

| 9% (24+ years)                  | \$146,308 | \$66.991 |
|---------------------------------|-----------|----------|
| Level 4 (0 – 8 years)           | \$135,690 | \$62.129 |
| Level 3                         | \$132,149 | \$60.508 |
| Level 2                         | \$126,250 | \$57.807 |
| Level 1                         | \$120,352 | \$55.106 |
| Support Services Mechanic (97%) |           |          |
| 3% (9 – 17 years)               | \$117,991 | \$54.025 |
| 6% (18 – 23 years)              | \$121,531 | \$55.646 |
| 9% (24+ years)                  | \$125,071 | \$57.267 |
| Level 4 (0 – 8 years)           | \$114,450 | \$52.404 |
| Level 3                         | \$108,551 | \$49.703 |
| Level 2                         | \$102,652 | \$47.002 |
| Level 1                         | \$96,753  | \$44.301 |
| Administrative (57%)            |           |          |
| Administrative Clerk – Level 3  | \$67,255  | \$36.953 |
| Administrative Clerk – Level 2  | \$63,715  | \$35.008 |
| Administrative Clerk – Level 1  | \$60,175  | \$33.063 |
|                                 |           |          |

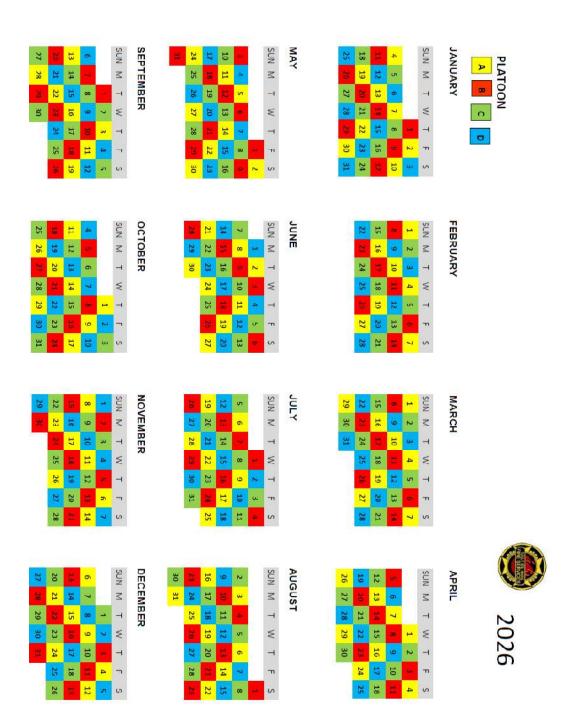
| RANK                       | July 1 <sup>st</sup> , 2026 |          |
|----------------------------|-----------------------------|----------|
|                            | Annual                      | Hourly   |
| Platoon Chief (130%)       |                             |          |
| 0% (0 – 8 years) Base Rate | \$153,389                   | \$70.233 |
| 3% (9 – 17 years)          | \$156,927                   | \$71.853 |
| 6% (18 – 23 years)         | \$160,467                   | \$73.474 |
| 9% (24 + years)            | \$164,007                   | \$75.095 |

"Any Firefighter assigned or transferred to the Fire Prevention Division will be placed in the corresponding FPO class level equivalent to their Firefighter class level."

## 2025 Work Schedule – 24 Hour Shifts



## 2026 Work Schedule – 24 Hour Shifts



# LETTER OF UNDERSTANDING #1

Transfer of Personnel Policy

- 1. The Corporation agrees to the annual realignment of platoons for the purpose of vacation selection and acting ranks in accordance with an employee's seniority.
- 2. The employer agrees to have the Association President and Vice-President in attendance at the scheduling meeting to discuss and review the annual platoon re-alignment and to provide input and suggestions on conflicts and/or errors and omissions.
- 3. For the purpose of any Platoon transfer or Platoon re-alignment, the member shall not work greater than seven (7) shifts in their 28-day rotation. If the member is required to work greater than seven (7) shifts in the 28-day rotation, they shall be paid the rate of 1.5x (one and a half times the regular rate of pay) for all hours worked.

### **Temporary Transfer**

- 4. The Employer shall have the right to temporarily transfer the junior Fire Fighter on each platoon who is on duty at the time the reassignment is required.
- 5. A Fire Fighter on platoon transfer shall be allowed to take their vacation as scheduled to the closest 24-hour period available (i.e.: As the vacation day was scheduled on a different rotation on the original platoon, they will be given the choice of the nearest working day prior to or after that day on the new platoon). Should specific scheduled vacation dates be affected by extenuating circumstances, at the discretion of the Fire Chief, the individual may request to reschedule these specific vacation days to different dates within a 28-day maximum window of the originally scheduled vacation date.
- 6. It is agreed that a temporary transfer as outlined above, the Chief will notify with the association and provide the necessary information related to such platoon transfer as soon as possible.

#### **Promotional Transfer Mid-Year**

- 7. The Employer may transfer the most senior Acting Member to realign for a permanent promotion mid-year. For the purpose of this promotional transfer, the member shall be allowed to take their vacation as scheduled to the closest 24-hour period available (either the day before or after). Should specific scheduled vacation dates be affected by extenuating circumstances, at the discretion of the Fire Chief, the individual may request to reschedule these specific vacation days to different dates within a 28-day maximum window of the originally scheduled vacation date.
- 8. It is agreed that such a promotional transfer as outlined above, the Chief will notify with the association and provide the necessary information related to such platoon transfer.

AGREED TO THIS 29th DAY OF May, 2024.

| ON BEHALF<br>THE ASSOCIATION | ON BEHALF OF<br><u>THE CITY</u>  |
|------------------------------|----------------------------------|
| " <u>Chris Mei"</u>          | " <u>Nicole Ottolino"</u>        |
| " <u>Mark Morgenstern</u> "  | <u>"Mike Oliverio"</u>           |
| <u>"Chris Plotycia"</u>      | " <u>Andrea Mitchell-Wiacek"</u> |
| <u>"Josh Scott"</u>          | <u>"Justine Palmer"</u>          |
|                              |                                  |

### LETTER OF UNDERSTANDING #2

#### **Communications Operator**

The City agrees to establish a cadet system to perform the duties of Communications Operator which shall be the entry position into the Firefighting services.

As it is the interest of the City to utilize cadets as both Communications Operators and as firefighters, as necessary, the entry requirements for a cadet will be the same as applied to firefighters.

The City agrees to hire cadets to fill the Communications position at the following rates:

| 1 <sup>st</sup> year | - | 60% of 1 <sup>st</sup> class firefighter rate |
|----------------------|---|-----------------------------------------------|
| 2 <sup>nd</sup> year | - | 65% of 1 <sup>st</sup> class firefighter rate |
| 3 <sup>rd</sup> year | - | 70% of 1 <sup>st</sup> class firefighter rate |

An employee shall remain as a Communications Operator until such time as a vacancy occurs for a firefighter and then the senior qualified communications operator shall be assigned as a per Schedule "A" of the Collective Agreement.

A new employee shall be on probation for the first twelve months of employment; a maximum of six (6) months shall be served as Probationary Communication Operator and the remainder of the twelve (12) months as a Probationary Firefighter.

The termination of employment during any such probation periods shall not be the subject of a grievance.

Communications operators will be assigned to firefighting duties to fill temporary vacancies as required and shall be paid at their regular rate of pay.

A regular firefighter who is capable of performing light duty shall be assigned temporarily to the Communications Operator position at their regular rate of pay. In the event of a dispute over the ability of an employee to perform such duties, the final determination will be based on medical evidence.

AGREED TO THIS 23<sup>rd</sup> DAY OF September, 2024.

| ON BEHALF<br>THE ASSOCIATION | ON BEHALF OF<br><u>THE CITY</u>  |
|------------------------------|----------------------------------|
| " <u>Chris Mei"</u>          | " <u>Nicole Ottolino"</u>        |
| " <u>Mark Morgenstern</u> "  | <u>"Peter Johnson"</u>           |
| <u>"Chris Plotycia"</u>      | " <u>Mike Oliverio"</u>          |
| <u>"Josh Scott"</u>          | " <u>Andrea Mitchell-Wiacek"</u> |
|                              | <u>"Justine Palmer"</u>          |

### LETTER OF UNDERSTANDING #3

#### Health & Safety Committee

It is mutually agreed that the parties will co-operate to the fullest extent in the prevention of accidents and in the promotion of safety and health of the employees.

The City will make all reasonable provision for the safety and protection of the health of the employees.

The Union agrees that a Worker Representative(s) will be selected for participation in the Joint Health and Safety Committee in accordance with the Occupational Health and Safety Act.

The Union agrees Worker members of the Committee will attend and participate in Joint Health and Safety meetings in accordance with the Occupational Health and Safety Act.

AGREED TO THIS 24<sup>th</sup> DAY OF April, 2024.

ON BEHALF THE ASSOCIATION ON BEHALF OF THE CITY

"<u>Chris Mei"</u>

"Mark Morgenstern"

"Chris Plotycia"

<u> "Josh Scott"</u>

<u>"Peter Johnson"</u>

"<u>Nicole Ottolino</u>"

"<u>Andrea Mitchell-Wiacek"</u>

<u>"Justine Palmer"</u>



# The Corporation of the City of Sault Ste. Marie Procedure By-law 2025-100

|--|

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# THE CORPORATION OF THE CITY OF SAULT STE. MARIE BY-LAW 2025-100

**COUNCIL PROCEDURE**: A by-law to regulate the proceedings of the Council of the City of Sault Ste. Marie

THE COUNCIL of the Corporation of the City of Sault Ste. Marie, pursuant to section 238 of the *Municipal Act, 2001*, and amendments thereto, ENACTS as follows:

# 1. Rules of Procedure Adopted

- 1.1 In all proceedings had or taken by Council the following rules and regulations shall be observed, and shall be the rules and regulations for the order and dispatch of business of the said Council.
- 1.2 This by-law shall apply to and govern the calling and proceedings of meetings of local boards and committees as defined in the *Municipal Act, 2001*, that is:

"committee" means any advisory or other committee, subcommittee or similar entity of which at least 50 per cent of the members are also members of Council or a local board;

"local board" does not include the police services board, public library board or conservation authority;

"meeting" means any regular, special or other meeting of Council, of a local board or of a committee where;

- (a) a quorum of members is present, and
- (b) members discuss or otherwise deal with any matter in a way that materially advances the business or decision-making of the Council, local board or committee.
- 1.3 The Procedure By-law shall be reviewed during the term of each Council by establishing a Procedure By-law Review Task Force initiated by the City Clerk.

# GENERAL PROVISIONS

### 2. General

2.1 Standing Rules Suspended

Any standing rule, order of Council, or provision of this by-law may be suspended by resolution of Council provided that two-thirds of the members of the Council present vote in favour thereof.

2.2 Rules of Parliament

All proceedings of the Council or Committees not specifically provided for herein shall be dealt with in accordance with James Lochrie's *Meeting Procedures: Parliamentary Law and Rules of Order for the 21<sup>st</sup> Century* and in such cases the decision of the head of Council or Chair as the case may be shall be final and accepted without debate or appeal.

2.3 Addresses of Members of Council

Notices of meetings, Agendas, and other information shall be sent to the member's City email address and any such notice, Agenda or other information is duly sent or given if sent to that email address.

### 2.4 Execution of Documents

Whenever, to give effect to any motion or by-law of the Corporation or to perform any of the statutory duties of the Corporation, the execution of any document is required, the head of Council and the City Clerk are hereby authorized for and in the name of the Corporation to execute and to affix the seal of the Corporation to such documents.

### 2.5 Electronic Devices

Each member shall place any electronic device on an inaudible setting during any open or closed session.

2.6 Attendance in Council Chamber

No person except members of Council and appointed officials of the City shall be permitted to come within or behind the horseshoe during a meeting of Council without the permission of the head of Council, or, if an objection is raised by any member of Council to such permission being granted, then by a majority of Council.

- 2.7 Signs in Council Chamber No signs are permitted in the Council Chamber, whether placards or affixed to walls, handrails, etc.
- 2.8 Obstructions in Council Chamber No one shall obstruct ramps, entry or exit areas to the Council Chamber.
- 2.9 Anonymous Communications Anonymous communications will not be circulated to members of Council or retained as an official record.
- 2.10 Administrative Corrections The City Clerk has the authority to make administrative corrections to official records of Council.
- 2.11 Severability

Each and every provision of this by-law is deemed severable and if a court or tribunal of competent jurisdiction declares any portion of this by-law to be illegal, invalid or unenforceable, that portion of this by-law shall be severed and shall be inoperative from the balance of the by-law. The remainder of this by-law shall remain operative and continue to operate in full force and effect.

# DUTIES OF THE MAYOR

# 3. Head of Council

### 3.1 Mayor Presides

The Mayor, being the head of Council, shall preside at all meetings of Council and shall be addressed as Mayor or Acting Mayor as the case may be.

# 3.2 *Right to Vote*

The head of Council (except where the head of Council is disqualified to vote by reason of conflict of interest or otherwise) may vote with the other members on all questions. Any question on which there is an equality of votes shall be deemed to be defeated.

### 3.3 State Facts and Position Without Leaving Chair

The head of Council may state relevant facts and their position on any matter before Council and may debate the question before Council without leaving the Chair.

### 3.4 Information to Council Without Leaving Chair

The head of Council may, without leaving the Chair, address Council between proceedings on any matter which the head of Council deems pertinent to the business of the municipality.

3.5 Acting Mayor

At the first business meeting of Council in its term, a by-law shall be placed on the Agenda designating members of Council as Acting Mayor on a monthly rotational basis. Members of Council assume the duties of Acting Mayor on a rotational basis in the event that the Mayor:

- a) does not attend at a meeting within fifteen minutes after the time appointed for the meeting;
- b) has informed the City Clerk that they will be late to the meeting;
- c) is unable to chair the meeting or a portion thereof due to the provisions of the *Municipal Conflict of Interest Act*;
- cannot attend to the business duties of the position of Mayor due to illness or absence;
- e) refuses to act; or
- f) if the Mayor's office is vacant.

These provisions only extend to the Acting Mayor presiding at Council Meetings.

The rotation list shall be determined by lot drawn by the City Clerk.

### 3.6 Amendment to List of Acting Mayors

A motion to amend the rotation list of Acting Mayors may be made without notice upon the written consent of the Councillor directly concerned.

# MEETINGS OF COUNCIL

## 4. Inaugural Meeting

# 4.1 Date

The inaugural meeting of the newly elected Council following a regular election shall be held on (or as near as practicable after) the 15<sup>th</sup> day of November.

The City Clerk shall be responsible for the content of the Agenda of the inaugural meeting. The contents of the Agenda shall be as follows:

- a) Opening of the Meeting (opening ceremonies)
- b) Mayor's Declaration of Office and Oath of Allegiance
- c) Councillors' Declarations of Office and Oaths of Allegiance
- d) Mayor's Inaugural Address
- e) Councillors' Inaugural Addresses
- f) Adjournment

### 4.2 Seating of Members

Prior to the inaugural or first business meeting of Council in each election year the order of seating of Council members shall be determined in the following manner. So long as members are elected from wards and the chamber is divided into two sides or rows, one member from each ward shall be seated in each row or side. The member with the greatest seniority of continuous service shall be seated at the end of the row or side closest to the head of Council. Where seniority is equal, seating shall be determined alphabetically by last name. The order of seating shall remain in effect for the whole term.

### 5. Regular Meetings

### 5.1 Date and Time

Regular meetings of Council shall be held at 5 p.m. on Mondays at approximately three week intervals. Where a Council meeting would fall on a holiday Monday, the meeting shall take place on the Tuesday following the holiday Monday.

### 5.2 Length of Meeting

No meeting of Council shall exceed five hours in length, including breaks, but excluding any portion of the meeting closed to the public. At the five-hour mark, the City Clerk shall call for a resolution to suspend the provisions of this by-law. Unless that resolution passes by a two-thirds vote of the members of Council present, Council shall adjourn the meeting.

### 5.3 Cancellation

Despite the provisions of section 4.1, the head of Council may, after consulting with other members of the Agenda Review Task Force, cancel a regular meeting of Council if, in their opinion, the items proposed for the Agenda are not of sufficient importance or urgency to warrant the holding of a meeting. Notice of such cancellation shall be posted to the City's website and distributed to the media electronically as soon as possible.

### 5.4 Changing Date or Time

The Council may change the time or date or both of a regular meeting of Council by passing a resolution at a meeting preceding the proposed meeting. Notice of such cancellation shall be posted to the City's website and distributed to the media electronically as soon as possible.

#### 5.5 Notice

Notice of meetings of Council, local boards and committees will appear on the City's website.

### 5.6 Place of Meeting

All open meetings of Council shall be held in the Council Chambers unless Council has by resolution appointed some other place.

### 5.7 *Electronic Participation*

Open and closed meetings of Council (and its boards and committees) may take place physically or electronically or a hybrid of both. Members who participate in open or closed meetings electronically shall be counted for purposes of quorum.

The Chair must attend meetings in person except where there are exclusive electronic meetings.

Where there are exclusive electronic meetings of Council or its boards and committees, they shall be livestreamed for public viewing.

### 5.8 *Commencement Proceedings*

As soon after the scheduled time of the meeting as there is a quorum present, the head of Council shall call the members present to order.

Council meetings are broadcast to YouTube as a courtesy. In the event that the broadcast is not functioning, meetings will continue after a 15-minute recess to allow any public who wish to come to the Council Chamber to do so.

Board and committee meetings are broadcast to YouTube as a courtesy. In the event that the broadcast is not functioning, board and committee meetings will continue after a 5-minute recess. Recordings of board and committee meeting broadcasts will remain on the City's YouTube channel until minutes of the meeting are approved.

## 5.9 *Quorum (City Council)*

Six members of City Council shall be necessary to form a quorum. No meeting shall be held or continue unless a quorum is present (except as provided for in the *Municipal Conflict of Interest Act*).

### 5.10 Quorum Lacking – Adjourn

Unless a quorum is present within fifteen minutes after the time appointed for the meeting of Council, the Council shall stand adjourned either until the next regular scheduled meeting or until a special meeting is called to deal with the matters intended to be dealt with at the adjourned meeting. The City Clerk shall record the

names of the members present at the expiration of the fifteen-minute time limit in the Minutes.

5.11 Meetings Open to Public

Meetings shall be open to the public and no person shall be excluded therefrom except for improper conduct. An exclusively electronic meeting is open to the public when it is livestreamed for public viewing.

Board and committee meetings may be held in person with the option for members to participate electronically. Members of the public or media may register and request to observe the meeting electronically.

### 5.12 Electronic Recording

Any person may make an electronic recording of Council or committee meetings provided that the activity does not, in the opinion of the Chair, interfere with the proceedings or interfere with Council sanctioned recording of the meeting.

### 5.13 Declarations of Conflict of Interest

Written declarations of a Conflict of Interest are required for open and closed meetings. A registry of the declarations shall be made available for public inspection.

### 6. Closed Session

### 6.1 Municipal Act Provisions

Notwithstanding the provisions of section 4.10 above, and pursuant to the provisions of the *Municipal Act, 2001*, a meeting or part of a meeting may be closed to the public if the subject matter being considered is:

- a) the security of the property of the municipality or local board;
- b) personal matters about an identifiable individual, including municipal or local board employees;
- c) a proposed or pending acquisition or disposition of land by the municipality or local board;
- d) labour relations or employee negotiations;
- e) litigation or potential litigation, including matters before administrative tribunals, affecting the municipality or local board;
- f) advice that is subject to solicitor-client privilege, including communications necessary for that purpose;
- g) a matter in respect of which a council, board, committee or other body may hold a closed meeting under another Act;
- h) information explicitly supplied in confidence to the municipality or local board by Canada, a province or territory or a Crown agency of any of them;
- i) a trade secret or scientific, technical, commercial financial or labour relations information, supplied in confidence to the municipality or local board, which, if disclosed, could reasonably be expected to prejudice significantly the competitive position or interfere significantly with the

contractual or other negotiations of a person, group of persons, or organization;

- j) a trade secret or scientific, technical, commercial or financial information that belongs to the municipality or local board and has monetary value or potential monetary value; or
- a position, plan, procedure, criteria or instruction to be applied to any negotiations carried on or to be carried on by or on behalf of the municipality or local board;
- I) an ongoing investigation respecting the municipality, a local board or a municipally-controlled corporation by the Ombudsman appointed under the Ombudsman Act, an Ombudsman referred to in subsection 223.13(1) of this Act, or the investigator referred to in subsection 239.2 (being the section authorizing appointment of a closed meeting investigator).
- m) A meeting shall be closed to the public if the subject matter relates to the consideration of a request under the *Municipal Freedom of Information and Protection of Privacy Act* if the Council, board, commission or other body is the head of an institution for the purposes of that Act.
- 6.2 Educational or Training Sessions

A meeting of Council or local board or committee may be closed to the public if the following conditions are both satisfied:

- a) the meeting is held for the purpose of educating or training the members; and
- b) at the meeting, no member discusses or otherwise deals with any matter in a way that materially advances the business or decision-making of the Council, local board or committee.
- 6.3 Resolution Authorizing Closed Session

Prior to a closed session being held, a resolution shall be passed in open session authorizing the closed session, citing the relevant section of the *Municipal Act 2001* as well as a general description of the matter to be discussed.

6.4 Recording Closed Sessions

Closed sessions of Council shall be recorded using digital audio-video recording technology. The City Clerk's department shall be responsible for the care and retention of the resulting City Council records. This provision is discretionary for local boards and committees of Council.

6.5 Voting

Voting is not permitted in a closed session unless the vote is for a procedural matter or for giving directions or instructions to officers, employees or persons retained by or under contract with the municipality.

6.6 Closed Meeting Investigation Should a report be issued by a closed meeting investigator finding that a meeting or part of a meeting that was the subject of an investigation by that person appears to have been closed to the public contrary to section 239 of the *Municipal Act, 2001* or to this procedure by-law, Council must pass a resolution stating how it intends to address the report.

# 7. Special Meetings

# 7.1 Calling

A special meeting of Council may be called in one of the two following ways:

- a) the head of Council may at any time summon a special meeting; or
- b) upon receipt of a petition of the majority of the members of Council, the City Clerk shall summon a special meeting for the purpose and at the time and place mentioned in the petition.

# 7.2 Notice to Members of Council

Notice of special meetings setting forth the matter or matters to be considered shall be given to all members of Council either:

- a) by email or delivery to each member of Council at their home or place of business not less than six hours in advance of the time fixed for the meeting; or
- b) by such other manner as the head of Council shall direct.

# 7.3 Notice to the Public

Notice of special meetings shall be posted to the City's website and distributed to the media electronically as soon as possible.

# 7.4 Full Explanation in Notice

Council shall not consider or decide on any matter at a special meeting unless it has been fully explained in the notice calling the meeting. This provision may be waived upon consent of all of the members of Council present, which shall be recorded in the Minutes.

### 7.5 *Emergency Meetings*

On urgent and extraordinary occasions, with the verbal consent of two-thirds of the members of Council present, an emergency meeting may be held and in this case the notice provisions of subsection 6.2 and 6.3 do not apply.

# RULES OF CONDUCT AND DEBATE

# 8. Rules of Procedure

8.1 Head of Council Presides

The head of Council shall preserve order and decorum, and decide questions of order, subject to an appeal to Council.

### 8.2 Address the Chair

Any member desiring to speak shall, when seated, so signify a desire by fully extending their arm until the attention of the head of Council has been received and, upon being recognized by the head of the Council, shall address the Chair.

When a member is speaking, no other member shall hold discourse which may interrupt the member speaking nor interrupt them except to raise a point of order.

8.3 Two Members Recognized

When two or more members signify their intention to speak in accordance with section 7.2, the head of Council shall recognize the member who first signified an intention and shall note and next recognize other members who have so signified their intention in the order in which they have signified their intention. The decision of the head of Council is final.

### 8.4 Disrespectful or Irrelevant Speech

No charge shall be made involving the character or conduct or language of a member of Council unless such member is present to reply or unless due notice has been given to that member to be present to defend themself.

- 8.5 *Questions That Shall Not be Put* A member shall not:
  - a) put a question that contains epithets;
  - b) put a question that publishes the names of persons, or contains statements not strictly necessary to render the question intelligible, or contains charges which the member who asks the question is not prepared to substantiate; or
  - c) renew a question when it has been fully answered.
- 8.6 Points of Order

Whenever any point of order or matter of urgency arises it shall be immediately taken into consideration by the head of Council.

8.7 Rulings on Points of Order

When the head of Council is called upon to decide a point of order or procedure, the point shall be stated without unnecessary comment, and they shall state the rule or authority applicable to the case.

#### 8.8 Privilege, Point of Order – Members Called to Order – Appeal

A member who desires to address Council upon a matter that concerns the rights or privileges of Council collectively, or of themself as a member thereof, shall be permitted to raise such matter of privilege. A matter of privilege shall take precedence over other matters. While the head of Council is ruling on the point of privilege, no one shall be considered to be in possession of the floor.

8.9 Violation of Rules of Procedure

A member who desires to call attention to a violation of the rules of procedure shall ask leave of the head of Council to raise a point of order. When leave is granted, the member shall state the point of order with a concise explanation following which the member shall remain seated until the head of Council has decided the point of order. The speaker in possession of the floor when the point of order or privilege was raised shall have the right to the floor when debate resumes.

### 8.10 *Member Called to Order*

A member called to order by the head of Council shall not speak again without the permission of the head of Council unless to appeal the ruling of the head of Council.

### 8.11 Appeal to Council – Privilege, Point of Order

The decision of the head of Council on a matter of privilege or point of order shall be final, subject to an immediate appeal by a member of Council.

#### 8.12 On Appeal – Head of Council to Provide Reasons

If the decision is appealed, the head of Council shall give concise reasons for their ruling and Council shall decide the question without debate. The decision of Council is final.

### 8.13 Motions Out of Order

Whenever the head of Council is of the opinion that any motion offered to Council is contrary to the provisions of this by-law, the head of Council shall advise the members thereof immediately and quote the rule or authority applicable. Argument or comment shall not be permitted. Unless the ruling of the Chair is appealed to Council the motion shall not be put.

### 8.14 Conduct of Members

A member shall not:

- a) disobey the provisions of this by-law or decision of the head of Council or Council on questions of order or practice or upon the interpretation of the rules of procedure; or
- b) breach parliamentary decorum.

### 8.15 Member Who Persists In Breach

A member who persists in a breach of the foregoing subsection, after having been called to order by the head of Council, shall leave their seat for the duration of the meeting, but in case of apology being made by the offender, they may, by resolution of Council, be permitted forthwith to resume their seat.

### 8.16 Question Read

Any member may require the question under discussion to be re-read for clarification at any time during debate but not so as to interrupt a member while speaking.

### 8.17 Speak Once – Reply

A member shall not speak more than once on a matter without leave of Council except:

- a) in explanation of a material part of the speech which may have been misunderstood; or
- b) in reply after everyone else wishing to speak has spoken, provided that member is the mover or seconder of the motion.

### 8.18 Length of Speech

No member shall, without leave of Council, speak to any question, or in reply, for longer than five minutes.

### 8.19 Close Debate

A motion to close debate takes precedence over any amendment or debate of the motion to which it applies. Debate ceases until the motion to close debate is decided.

### 8.20 Member Leaving Chamber

In the event that a member intends to leave the Chamber and not return, prior to adjournment of a meeting, where practicable, they shall so state (including the time at which the member expects to leave) at the beginning of the meeting, or as soon as they become aware of the fact.

The City Clerk shall record such statement in the minutes of the meeting.

### 8.21 Questions

When questions are called for on the Agenda, or a specific item is under discussion, inquiries may be made of the head of Council, or through the head of Council to any Council member or staff person concerning any related matter connected with the business of the City, but no argument or opinion is to be offered, or facts stated, except as may be necessary to provide an explanation. Likewise, in answering any such question a member is not to debate the matter.

### 8.22 Language

No member shall use offensive words or unparliamentary language.

### 8.23 Expulsion from Meeting

The head of Council may expel or exclude from any meeting any person who has been guilty of improper conduct at the meeting.

#### 8.24 Confidentiality

A member shall not disclose or release by any means to any member of the public any confidential information acquired by virtue of their office in either oral or written form, except when required by law or authorized by Council to do so.

Where a matter has been discussed in closed session and where the matter remains confidential, a member shall not disclose the content of the matter or the substance of the deliberations of the closed session.

Electronic closed sessions are confidential and no one other than the member should be able to hear the discussion.

A violation of this section of the procedure by-law is a breach of the Code of Conduct for Council and Local Boards.

# **RESOLUTIONS AND MOTIONS**

### 9. Rules of Procedure

### 9.1 *Form*

All motions and resolutions shall be in writing. The operative clause shall commence with the words "Resolved that", and shall be moved and seconded.

### 9.2 Withdrawal

After a motion is read by the City Clerk, it shall be deemed to be in possession of Council, and it may only be withdrawn before decision or amendment with the permission of a majority of the members of Council present. Such motion, if read, shall appear in the Council Minutes.

### 9.3 Reading

Every motion, once seconded, shall be received and read by the City Clerk except in the cases provided for by the rules of procedure, provided; however, that in motions that have been distributed with or printed in the Agenda, recitals need not be read.

### 9.4 No Debate Until Read

No member shall speak to any motion until it is first read by the City Clerk. The mover is entitled to speak both first and last thereon if the member so elects.

### 9.5 No Debate After Question Put

After any question is finally put by the head of Council or other presiding officer, no member shall speak to the question, nor shall any other motion be made until after the result is declared. The decision of the head of Council or other presiding officer as to whether the question has been finally put shall be conclusive. When any decision is called for, members shall remain in their respective seats until the head of Council or other presiding officer has declared the result of the vote.

### 9.6 Notice of Motion

A member who wishes to introduce a motion, either on the Agenda or at the regular meeting, that is of a substantive nature must introduce the motion as a Notice of Motion.

The member who hands a written Notice of Motion to the City Clerk to be read at any regular Council meeting need not necessarily be seated during the reading of said notice.

### 9.7 Finality of Vote

Subject to a motion to reconsider, a motion once decided by Council may not be introduced again for twelve months; nor shall a motion that has been defeated be introduced as an amendment.

9.8 *Relevance of Debate* 

On all motions, discussion must be relevant to the subject under consideration.

# 9.9 Order of Precedence

The following is the order of precedence for motions from lowest to highest:

- a) Main motion
- b) Postpone Indefinitely
- c) Amend
- d) Refer
- e) Postpone to a Certain Time
- f) Limit or Extend Debate
- g) Close Debate
- h) Postpone Temporarily
- i) Raise a Question of Privilege Individual
- j) Raise a Question of Privilege Assembly
- k) Recess
- I) Adjourn (after time set to conclude a meeting)
- m) Fix the Time for a Continued Meeting

# 9.10 Presiding Officer to Determine if Motions are in Order

It shall be the duty of the head of Council or other presiding officer to determine what motions or amendments are in order (subject to an appeal to Council) and decline to put any motion before Council which the head of Council or other presiding officer deems to be clearly out of order or contrary to law.

### 10. Motion to Amend

10.1 Order of Precedence

A motion to amend takes precedence over a motion to postpone indefinitely or a main motion.

10.2 Debatable

A motion to amend is debatable.

10.3 One Amendment Permitted at One Time Not more than one amendment to the main motion, nor more than one amendment to an amendment shall be permitted at one time.

### 10.4 Notice of Amendment

It shall not be necessary to give notice of intention to move an amendment but an amendment may be moved only when the motion it is sought to amend is before Council.

### 10.5 Amendment to Amendment

In case of an amendment to an amendment, the amendment to the main motion cannot be withdrawn until the amendment to the amendment has been withdrawn, defeated or carried.

#### 10.6 Similar in Import

An amendment must be similar in import to the question which it is proposed to amend, but with sufficient variance to constitute a new question.

### 11. Motion to Refer

### 11.1 Order of Precedence

A motion to refer takes precedence over a motion to amend, a motion to postpone indefinitely, or a main motion.

### 11.2 Debate

A motion to refer is only debatable as to reasons for referral.

### 11.3 Direction to Body Being Referred

A motion to refer shall include direction as to the body or official to which it is being referred.

### **12. Motion to Postpone**

### 12.1 Must Include Reason

A motion to postpone must include a reason for the postponement.

### 12.2 Debate

A motion to postpone is not debatable except:

- a) that the mover of the motion shall be entitled to give a brief explanation of the mover's reasons for postponement; and
- b) either the mover or the seconder of the motion which is the subject of the motion to postpone may speak against the motion to postpone;

One member of Council may speak for or against the postponement and shall be limited to two minutes.

### **13. Motion to Postpone Indefinitely**

#### 13.1 Defined

A motion to postpone indefinitely delays a decision to an indeterminate time beyond the current meeting.

#### 13.2 Order of Precedence

A motion to postpone indefinitely takes precedence over a main motion.

### 13.3 Debate

Debate on a motion to postpone indefinitely may only go into reasons why the motion should or should not be dealt with at the time. It may go into the merits of the underlying main motion but only in respect to delaying the decision.

# 14. Motion to Postpone to a Certain Time

### 14.1 Defined

A motion to postpone to a certain time shall state a date that is within three months of the motion to postpone. A postponement to a certain time beyond three months should be a motion to refer.

### 14.2 Order of Precedence

A motion to postpone to a certain time takes precedence over: a motion to refer; a motion to amend; a motion to postpone indefinitely; or a main motion.

### 14.3 Debate

Debate on a motion to postpone to a certain time may only go into reasons why the motion should or should not be postponed. It may go into the merits of the underlying main motion but only in respect to postponing a decision.

### **15. Motion to Postpone Temporarily**

### 15.1 Defined

A motion to postpone temporarily sets aside a motion for a short period of time, but no later than the end of the meeting. A motion that has been postponed temporarily may be taken up again through a motion to resume consideration.

### 15.2 Order of Precedence

A motion to postpone temporarily takes precedence over: a motion to close debate; a motion to limit or extend debate; a motion to postpone to a certain time; a motion to refer; a motion to amend; a motion to postpone indefinitely; or a main motion.

#### 16. Postponement or Referral – When Introduced

Notwithstanding any other provision of this by-law, a motion to postpone or refer a matter under consideration may only be read prior to the commencement of debate or at the completion of the debate.

#### **17. Motion to Limit or Extend Debate**

#### 17.1 Defined

A motion to limit or extend debate restricts or extends debate in some manner, such as by time or by number of speakers.

#### 17.2 Order of Precedence

A motion to limit or extend debate takes precedence over: a motion to postpone to a certain time; a motion to refer; a motion to amend; a motion to postpone indefinitely; or a main motion.

### 17.3 Debate

Debate on a motion to limit or extend debate is restricted to the form of limitation or extension of debate.

#### 17.4 Vote Required

Because a motion to limit or extend debate affects the rights of members of an assembly, a two-thirds vote of the members of Council present is required to pass.

#### **18. Motion to Close Debate**

#### 18.1 Defined

A motion to close debate stops all debate on a pending motion or series of consecutive pending motions and calls for an immediate vote.

#### 18.2 Order of Precedence

A motion to close debate takes precedence over all debatable motions.

#### 18.3 Debate

A motion to close debate is not debatable.

#### 18.4 Vote Required

Because a motion to close debate affects the rights of members of an assembly, a two-thirds vote of the members of Council present is required to pass.

### 19. Motion to Raise a Question of Privilege

#### 19.1 Defined

A motion to raise a question of privilege can apply to either the assembly or to an individual.

#### 19.2 Order of Precedence

A motion to raise a question of privilege takes precedence over the pending business and yields only to a motion to recess, a privileged motion to adjourn, or a motion to fix the time for a continued meeting. Raising a question of privilege affecting the meeting takes precedence over one affecting the individual.

#### 19.3 Debate

The raising of a question of privilege is not debatable.

#### 19.4 Vote Required

The raising of a question of privilege is ruled on by the head of Council or presiding officer.

#### 20. Motion to Recess

#### 20.1 Defined

If a motion to recess is made while other motions are pending, the recess, if adopted, must take place immediately. If the motion is made when no other motion is pending, it may be used to set the time for a future recess.

#### 20.2 Order of Precedence

A motion to recess takes precedence over all motions except the privileged motion to adjourn or to fix the time for a continued meeting.

### 20.3 Debate

Debate on a motion to recess is restricted to the length of time of the recess or to the time set for re-assembly or the time set for a future recess.

### 21. Motion to Adjourn

### 21.1 Defined

The purpose of the motion to adjourn is to conclude the meeting. The motion to adjourn is always privileged when made after the time set to conclude the meeting. If made before the time set to conclude, it is made only as a main motion.

### 21.2 Order of Precedence

The privileged motion to adjourn takes precedence over all motions except a motion to fix the time for a continued meeting.

### 21.3 Debate

The privileged motion to adjourn is not debatable.

### 21.4 When in Order

A motion to adjourn shall be out of order:

- a) when a member is in possession of the floor; or
- b) when it has been decided that the vote be now taken; or
- c) during the taking of a vote.

### 22. Motion to Reconsider

22.1 Defined

After a motion has been decided upon and at the same meeting any member who voted with the prevailing side may, in writing, move for reconsideration.

22.2 Debate

Debate on a motion to reconsider must be confined to reasons for or against reconsideration.

#### 22.3 Who May Move - Subsequent Meeting

If a motion for reconsideration is moved and seconded at a subsequent meeting it shall be so moved by a member who voted with the prevailing side and shall be seconded either by a member who voted on the prevailing side or by a member who was absent at the time the matter proposed for reconsideration was originally voted on.

#### 22.4 Notice of Motion Required

A motion to reconsider shall be preceded by a Notice of Motion.

22.5 No Reconsideration of Amendment After Main Motion Disposed of A motion to reconsider an amendment after the original motion to which the

amendment was proposed has been considered and disposed of is out of order.

### 22.6 Order of Business

If a motion to reconsider is decided in the affirmative, such reconsideration shall become the next order of business unless the motion calls for a future definite date. Debate on the question to be reconsidered may proceed as though it had never previously been voted on.

### 22.7 By-laws

When a by-law has been defeated at any stage of the order of procedure it shall be subject to a motion to reconsider and the foregoing rules shall apply thereto.

### VOTING

### 23. Recorded Votes

### 23.1 Requested

If a member present at a meeting at the time of a vote requests immediately before or after the taking of the vote that the vote be recorded, each member present, except a member who is disqualified from voting by any Act, shall announce their vote openly and the City Clerk shall record each vote.

### 23.2 Mandatory

Any vote on a resolution or by-law which is required to be passed by a majority greater than a simple majority of the members of the Council shall be recorded.

### 23.3 Electronic Voting

When the City Clerk opens the vote every member of Council present shall vote electronically unless they have declared a conflict of interest. The electronic vote is the official vote. The result of an electronic recorded vote will be read orally.

Exception: Voting on the following Agenda items may take place by show of hands:

- 2. Adoption of Minutes
- 5. Approve Agenda

7. Communications and Routine Reports of City Departments, Boards and Committees – Consent Agenda

- 8.8 Appointments to Boards and Committees
- 12. Consideration and Passing of By-laws (on consent)
- 14. Closed Session
- 15. Adjournment

#### 23.4 Disagreement as to Result

Any member who disagrees with the announcement made by the head of Council of the result of the vote shall immediately object to the head of Council's declaration and the vote shall be retaken by the City Clerk.

23.5 All Members to Vote

Every member present when a question is put on a recorded vote shall vote thereon.

23.6 Refusal to Vote

Any member who refuses to vote on a recorded vote shall be recorded as voting in the negative.

23.7 Severability of Question

When the question under consideration contains distinct propositions, upon the request of any member the vote upon each proposition may be taken separately.

# ORDER OF PROCEDURE

### 24. Agenda

24.1 Agenda Review Task Force

An Agenda Review Task Force composed of the head of Council, Chief Administrative Officer and the City Clerk shall be charged with the responsibility of deciding the subject matters and items to appear on the Council Agenda, as well as any presentations and delegations to be heard by Council.

### 24.2 Correspondence Agenda

Correspondence Agendas are published as necessary containing general correspondence. If, after having received an item on the correspondence Agenda, a Council member wishes the matter placed on a regular Agenda they may make that request to the Agenda Review Task Force.

Correspondence Agendas are to be published on the City website.

### 24.3 Agenda

The City Clerk shall prepare a Council Agenda in the following form and order:

- 1. Land Acknowledgement
- 2. Adoption of Minutes
- 3. Questions and information Arising Out of Minutes and Not Otherwise on Agenda
- 4. Declaration of Pecuniary Interest
- 5. Approve Agenda as presented (and any Addenda)
- 6. Presentations

### PART ONE – CONSENT

7. Communications and Routine Reports of City Departments; Boards and Committees

### PART TWO – REGULAR

- 8. Reports of City Departments; Boards and Committees
- 9. Unfinished Business, Notices of Motion and Resolutions Placed on Agenda by Members of Council

- 10. Committee of the Whole for the purpose of such matters as are referred to it by Council by resolution
- 11. Adoption of Report of the Committee of the Whole, if any
- 12. Consideration and passing of By-laws (Consent)
- 13. Questions By, New Business From, or Addresses by Members of Council Concerning Matters not Otherwise on Agenda
- 14. Closed session (if applicable)
- 15. Adjournment

This format applies to Council Agendas. It is not intended to apply to Agendas of boards and committees of Council.

24.4 Deviation from Order of Business

The business of Council shall be considered in the order set forth on the Agenda, provided however, that the head of Council may vary the order of business to better deal with matters before the Council if the circumstances make it advisable to so vary the order.

Notwithstanding the above, planning applications shall be heard at 5 p.m. following Approve Agenda as presented (and any Addenda).

24.5 Consent Agenda

The City Clerk shall prepare one motion to approve all items on a Consent section of the Agenda. Prior to voting on the motion, members may ask questions regarding any item on a Consent section of the Agenda. Any member who wishes to debate and have a separate vote on an item on a Consent section of the Agenda shall advise the head of Council and the City Clerk, following which the item shall be excepted from the Consent motion; the Consent motion voted on; and the excepted item voted on separately.

In the event that a member of Council declares a conflict of interest on an item that is included in the consent motion, that item shall be removed from consent and dealt with separately.

#### 24.6 Delivery of Agenda to Council

On the Wednesday preceding each regular meeting of the Council, the City Clerk shall cause to be delivered to each member of Council electronically a full Agenda package.

#### 24.7 Release of Agenda to Public

The Council Agenda shall be released to the public no later than the end of business day on the Thursday preceding each regular meeting of Council.

#### 24.8 Motions and By-laws on Agenda

The City Clerk, with the assistance of other City officials, shall be responsible for the proper presentation of motions and by-laws to the Council.

#### 24.9 Movers/Seconders

Before the Agenda is prepared the City Clerk shall assign to each motion or bylaw a mover and seconder to expedite the consideration of such matters by Council, provided any such designation shall be shown on the Agenda, subject to the discretion of the City Clerk, based on the following formula:

| Month of Meeting | Mover shall be one of the members from: | Seconder shall be one of the members from: |
|------------------|-----------------------------------------|--------------------------------------------|
| January          | Ward 1                                  | Ward 5                                     |
| February         | Ward 2                                  | Ward 4                                     |
| March            | Ward 3                                  | Ward 1                                     |
| April            | Ward 5                                  | Ward 2                                     |
| Мау              | Ward 4                                  | Ward 3                                     |
| June             | Ward 1                                  | Ward 5                                     |
| July             | Ward 2                                  | Ward 4                                     |
| August           | Ward 3                                  | Ward 1                                     |
| September        | Ward 5                                  | Ward 2                                     |
| October          | Ward 4                                  | Ward 3                                     |
| November         | Ward 2                                  | Ward 5                                     |
| December         | Ward 3                                  | Ward 1                                     |

The use of the above formula by the City Clerk is subject to the following exceptions:

- a) Any person so assigned as mover or seconder may notify the City Clerk that they do not wish to move or second such motion or by-law and the City Clerk shall then remove such name and attempt to find an alternate member who is willing to so act.
- b) A member may ask to be shown as mover or seconder of any matter expected to come before the Council.

# 24.10 Addendum

The City Clerk may prepare an Addendum to the Agenda to deal with urgent matters or to provide supplementary information to items of business listed on the Agenda.

### 25. Petitions

The following requirements apply to every petition submitted to Council:

- a) The petition must be addressed to Council and request a particular action within the authority of Council;
- b) The petition must be legible, typewritten or printed in ink;
- c) The petition must be appropriate and not contain improper language;
- d) The petition shall state that signatories should be aware that their personal information will be shared publicly;

- e) Each signatory must print and sign their own name. A paper petition must contain original signatures only, written directly on the petition; and
- f) For electronic submissions, each signatory must provide their name, address, and a valid email address.

The City Clerk shall list petitions that comply with this section on the Correspondence Agenda.

A member of Council may request that a petition appearing on a Correspondence Agenda be placed on a Regular Council Agenda where the member of Council then may be permitted three minutes to present the petition and may move that it be referred to staff for a report to Council. A seconder is required.

The subject matter of a petition may not be debated.

### 26. Proclamations

26.1 Requests

An organization or community group may request a Proclamation from the Mayor through the office of the Mayor.

### 26.2 Approved Proclamations

If approved by the Mayor, proclamations will be made by the Mayor and communicated by the Mayor's office through various media.

### 27. Presentations

### 27.1 Request in Writing

An organization or community group wishing to appear before Council to make a presentation on items relevant to the business of Council must make the request in writing to the City Clerk giving details of the matter to be spoken to at least one week prior to the Council meeting.

#### 27.2 Review of Request

The request is decided by the Agenda Review Task Force. The City Clerk will advise the presenter of the Agenda Review Task Force's decision. If approved, the presentation will be listed on the Council Agenda.

### 27.3 Appeal

If a person is not permitted to appear before Council by the Agenda Review Task Force, that person may appeal to members of Council to consider the matter. Such a request should be made in writing to the City Clerk indicating the subject matter of the presentation by noon on the day of the Council meeting, including any presentation materials.

The request will be forwarded to members of Council by the City Clerk. If a motion is made, seconded and confirmed by majority vote to hear the delegation, the person may be permitted to address Council.

### 27.4 Length of Presentation

The maximum length of time for a presentation to Council is three minutes.

### 28. Delegations

#### 28.1 Request in Writing

Any person may, either on their own behalf or as a representative of an organization or group, request to appear at an open meeting of Council with respect to any item on the Agenda for that meeting except Agenda item 6 (Presentations), reports for the information of Council, or Agenda item 9. Unfinished Business, Notices of Motion and Resolutions Placed on Agenda by Members of Council.

Such a request must be made to the City Clerk before 11 a.m. on the day of the Council meeting.

Written submissions received by the City Clerk regarding an item on the Agenda may be added by way of Addendum to the Agenda.

### 28.2 Limitations

A delegation must provide new information to Council, must not be a repeat of a delegation heard in the previous six months, must not relate to litigation or pending litigation, and must not contain inappropriate or insulting language. The relevance of new information will be decided by the Agenda Review Task Force

### 28.3 Where Public Meeting / Hearing

A request to make a delegation may be declined where there has been or will be at least one public meeting at which the public has been provided the opportunity to make representations.

### 28.4 Agenda Review Task Force May Decline

The Agenda Review Task Force may, upon review of proposed delegation materials, decline a request to present if the material is deemed defamatory, inappropriate or outside the jurisdiction of Council.

### 28.5 Appeal

If a person is not permitted to appear before Council by the Agenda Review Task Force, that person may appeal to members of Council to consider the matter. Such a request should be made in writing to the City Clerk by 3 p.m. on the day of the Council meeting.

The request will be forwarded to members of Council by the City Clerk. If a motion is made, seconded and confirmed by majority vote to hear the delegation, the person may be permitted to address Council.

### 28.6 Length of Delegation

The maximum length of time for a delegation to Council is three minutes.

#### 28.7 Where More Than One Delegation on Same Matter

When a matter is being considered concerning which one or more persons or delegations are addressing Council, the following procedure shall be adhered to:

a) Explanation of matter in question by head of the Council.

- b) Address to Council by delegation(s) supporting action taken by Council, or action which the Council has been asked to take.
- c) Questions by members of Council to such delegation(s) for purposes of information only.
- d) Address to Council by delegation(s) opposing such action.
- e) Question by members of Council to such delegation(s) for purposes of information only.
- f) Reply by delegation(s) referred to in item b above.
- g) Questions by members of Council to any delegation or official for purposes of information only.
- h) Regular debate.
- i) Putting of question and vote.

The head of Council may permit deviations from the rules of procedure set forth above where in their opinion it is in the interests of the better consideration of the matter so to do.

28.8 Dispute as to Whether Delegation is Supporting or Opposed

Any dispute as to whether a delegation or person comes within subclause b) or subclause d) of subsection 27.6 shall be determined by the head of Council, whose decision is final.

28.9 Re-Address

If a speaker for any delegation referred to in the above requests an opportunity to re-address Council the speaker may, with the approval of the head of Council address Council on the matters already raised. Such re-address shall be limited to two minutes.

28.10 Opportunity to be Heard Where Notice Not Given

Notwithstanding the failure of any person, persons or delegation to give the notice required under subsection 27.1 and 27.4 hereof, Council may hear any person or persons or delegation without notice upon a motion to suspend the rules of procedure passed by two-thirds of the members present.

# 28.11 Statutory Public Meetings

Procedures regarding delegations are not intended to apply to statutory public meetings (e.g. *Planning Act*)

28.12Rules on Website

The rules for a person or a delegation wishing to appear before Council shall be posted on the municipal website.

# 29. By-laws

### 29.1 Amending By-laws

An amendment to a by-law must strictly relate to the subject matter of the by-law.

# 29.2 Three Readings

Every by-law shall receive three readings before it is finally passed, which three readings may be given at one meeting. It is permissible on a motion for the final passing of a by-law to move that the third reading be postponed indefinitely or be postponed to a certain time.

29.3 Regulatory By-laws

Prior to adoption of a regulatory by-law, public consultation shall be required by providing public notice of intention to pass the by-law.

# COMMITTEE OF THE WHOLE

### **30.** Rules of Procedure

### 30.1 Rules of Order

The rules of procedure shall be observed in Committee of the Whole, so far as may be applicable, except that:

- a) Each motion shall be written and moved, but no motion shall require a seconder;
- b) Motions relating to the matter under consideration shall be put in the order in which they are proposed;
- c) No vote shall be recorded;
- d) There shall be no motion for the previous question;
- e) No motion for adjournment is allowed;
- f) No member shall speak longer than five minutes on any one question;
- g) In taking the yeas and nays, the names of the members shall not be recorded, nor shall the number of times speaking on any question be limited.

### 30.2 Questions of Order

Questions of order arising in Committee of the Whole shall be decided by the Chair, subject to an appeal to the whole Committee. If no such appeal is made the decision of the Chair shall be final.

### 30.3 Adjournment of Committee Proceedings

On motion in Committee of the Whole to rise and report, the question shall be decided without debate.

### a) No Action Be Taken

A motion in Committee of the Whole that "no action be taken" shall always be in order and shall take precedence over any other motion. No debate shall be allowed on a motion that no action be taken. On an affirmative vote, the subject referred to the Committee shall be considered as disposed of in the negative.

b) Rise Without Reporting

Subject to subsection a) above, a motion in Committee of the Whole to rise without reporting shall always be in order and shall take precedence over any other motion. No debate shall be allowed on a motion to rise without reporting but no member shall speak more than once. On an affirmative vote the subject referred to the Committee shall be considered as undisposed of, the head of the Council shall resume the chair and proceed with the next order of business. On motion duly passed during any subsequent regular meeting of Council, any by-law or other item of business left undecided by a motion to rise without reporting may be again considered in the Committee of the Whole.

30.4 Chair Votes

The Chair of the Committee of the Whole may vote on any question. In the event of an equality of votes the question being voted upon shall be deemed to have been decided in the negative.

30.5 Debate from Chair

The Chair of the Committee of the Whole may state relevant facts as well as their position on any matter and debate the question before the Committee without leaving the Chair.

30.6 Report of Committee of the Whole

The proceedings and findings of the Committee of the Whole may be reported by the Chair to Council as soon as the Committee rises and shall be received forthwith. A motion for the concurrence of Council in the report of the Committee or a motion adopting the report of the Committee and dealing with the subject matter thereof shall be in order.

### COMMITTEES

### 31. Rules Applying to all Committees

### 31.1 Definition

Committees of Council include:

- a) Advisory and other committees or boards whose members are appointed by Council for an ongoing purpose;
- b) Special committees appointed by Council or the head of Council at any time as is deemed necessary for the consideration of special matters.

Task forces composed of a majority of staff members are not intended to be subject to the provisions of this by-law.

31.2 Mayor Ex Officio

The head of Council is an ex officio member of every committee of Council or task force struck by Council but shall not be counted in the formation of a quorum.

31.3 Quorum (Boards and Committees)

A committee shall not consider any business if a quorum is not present. A quorum for a board or committee is a majority of the members.

31.4 Notice

Not less than 24 hours notice of a meeting shall be given to the members of any committee and wherever possible an Agenda shall be provided to the members in advance of the meeting.

### 31.5 Secretary

A secretary shall be appointed for each committee who shall:

- a) Keep the minutes of the meetings of the committee;
- b) Give notice of meetings;
- c) Post a copy of all minutes to the municipal website;
- d) Perform such other clerical functions as may be required.

### 31.6 Application of Legislation

Boards and committees of Council are subject to the provisions of this by-law, the *Municipal Act, 2001,* and the *Municipal Conflict of Interest Act.* 

### 31.7 Absence of Board or Committee Members

Where a member of a board or committee of Council is absent from meetings for three successive months without being authorized to do so by a resolution of the board or committee, the board or committee may request that Council declare the seat vacant.

### 31.8 Refusal to Call Meetings, etc.

- a) Should the Chair of any committee neglect or refuse to call meetings of a committee at such times or with such frequency as the proper dispatch of the committee's business requires; or do the business of the committee without the knowledge or consent of its members, or contrary to their wishes or sanction, the committee may report such neglect, refusal or action to Council, which may remove such Chair from office and appoint another member of the committee in their place.
- b) Should any member of a committee refuse or neglect to attend the regular or special meetings thereof, the Chair may report such neglect or refusal to Council, which may remove such member from the committee and appoint another member in their place.

### 31.9 Chair Votes

The Chair of a committee may vote on any question before the committee and in the event of an equality of votes the question being voted on shall be deemed to have been defeated.

### 31.10*Committee Appointments*

Appointments to boards and committees having the same term as the term of Council shall expire at the end of the term of Council or until such time as successors are appointed.

Council will meet in open session, either at a regular meeting or special meeting called for that purpose to make appointments to boards and committees.

Appointments are not limited to eligible electors only, except where provided otherwise by statute.

No citizen shall be appointed to more than five boards or committees.

No City employee shall be appointed as a voting member of any board or committee of Council (excluding task forces).

### Nominating Task Force

A Nominating Task Force, consisting of three members of Council and six members of City staff shall consider all citizen applications with reference to particular skills required by various boards and committees. The Nominating Task Force shall provide a slate of recommended citizen applicants to Council for its consideration.

When considering citizen appointments to a particular board or committee, members of Council shall consider the recommended slate of applicants recommended by the Nominating Task Force. Council shall nominate members of Council for consideration of appointments requiring a member of Council.

### Where Number of Applicants Exceeds Positions

Where the number of applicants exceeds the number of positions available, the following procedure shall be followed, for as many voting rounds as necessary:

- a) Each member may cast a vote for each position available;
- b) Applicants receiving a majority vote of members present shall be recommended for appointment;
- c) Applicants receiving no votes shall be excluded from further consideration;
- d) In addition to those applicants receiving no votes, applicants receiving the least amount of votes shall be excluded from further consideration, unless this would result in insufficient applicants to fill the positions available;
- e) If two or more applicants are tied with the least number of votes and their exclusion would result in insufficient applicants to fill the positions available:
  - i. Council shall decide by majority vote which of the tied applicants shall remain eligible for further consideration; however
  - ii. If the vote still results in too few applicants to fill the remaining position(s), then the City Clerk shall choose the person(s) to remain eligible by lot;
- f) If it becomes apparent by reason of an equality of votes that no applicant can achieve sufficient votes to be appointed, then the City Clerk shall make the selection by lot.

Method – Simultaneous Recorded Vote

- g) Each member present, unless otherwise prohibited by statute or this by-law, shall (on a sheet of paper provided by the City Clerk) simultaneously indicate the names of the applicant they are voting for and sign the same. In an electronic meeting the sheets shall be displayed on the members' screens simultaneously;
- h) The City Clerk shall:
  - i. announce the name and vote of each member and the vote result; and

ii. record the result, including how each member voted.

### 31.11Police Record Checks

Members of boards and committees of Council that have direct contact with vulnerable individuals or handle cash may be required to provide a clear police record check.

# 32. Special Committees

#### 32.1 Appointment

Special committees of Council may be appointed by the Council or head of Council at any time as is deemed necessary for the consideration of special matters.

### Jurisdiction

A resolution establishing a special committee shall set forth the terms of reference of the committee and such other provisions as the Council shall deem proper.

### 32.2 Chair

Unless specified in the resolution establishing a special committee, the special committee members shall select the committee Chair at the initial meeting of the committee.

### 32.3 Membership

Where the resolution establishing a special committee does not appoint members thereto the head of Council shall appoint them.

### 32.4 Meetings

Special committees shall meet at such time and place as the Chair or committee shall determine. No special committee shall meet while the Council is in session.

#### 32.5 Report in Writing

Each special committee shall diligently pursue its duties and shall report to the Council on matters and questions referred to it. A final or interim report of a special committee must be made in writing and be signed by the Chair.

#### 32.6 Confined to Matters Referred

Special committees may consider and report on such matters only as have been referred to them by the Council or the head of Council.

### 32.7 Refusal to Give Due Attention

Should any special committee neglect or refuse to give due attention to any matter before it the Council may by resolution discharge such committee and appoint another in its place.

### 32.8 Dissolution

When a special committee has completed its work and made its report it dissolves automatically.

### 32.9 Attendance by Members of Council

Members of the Council may attend the meetings of special committees, but shall not be allowed to vote; nor shall they be allowed to take part in any discussion or debate except by the permission of the majority of the members of the committee.

### 32.10Repeal

By-law 2023-100 is hereby repealed.

# 32.11Effect

This by-law comes into force on the day of its final passing.

PASSED in open Council this 7<sup>th</sup> day of April, 2025.

Mayor Matthew Shoemaker

City Clerk Rachel Tyczinski

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