

City of Sault Ste. Marie

**Sault Ste. Marie Solid Waste Environmental
Assessment
Socio-Economic Impact Assessment
(Draft)**

Prepared by:

AECOM

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Project Number:

60117627

Date:

January, 2015

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January 23, 2015

Ms. Catherine Taddo, P. Eng.
Engineering Department
City of Sault Ste. Marie
99 Foster Drive, 5th Floor
Sault Ste. Marie, ON P6A 5N1

Dear Ms. Taddo:

Project No: 60117627

**Regarding: Sault Ste. Marie Solid Waste Environmental
Socio-Economic Impact Assessment**

We are pleased to submit our Socio-Economic Impact Assessment Report which has been prepared to support a proposed expansion of the existing municipal landfill located on Fifth Line.

The socio-economic impact assessment examines and evaluates different factors which may affect the day-to-day lives of local people in the vicinity of the site.

We look forward to receiving your comments.

Sincerely,
AECOM Canada Ltd.



Rick Talvitie, P. Eng.
Manager, Northern Ontario

RT:nm
Encl.

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Revision #	Revised By	Date	Issue / Revision Description
0	R. Talvitie	Jan. 23, 2015	Draft for City Review

AECOM Signatures

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1. Introduction and Project Description

This document presents the findings of the socio-economic impact assessment as part of the Environmental Assessment (EA) of the proposed expansion of the City of Sault Ste. Marie's landfill located on Fifth Line. The proposed project includes an expansion of the disposal boundaries to the north and west and a moderate increase in the height of the waste. Landfill mining is also proposed within the western portion of the existing disposal footprint to facilitate the construction of a liner to enhance environmental management at the site. The mining process involves excavation of waste within the existing disposal footprint, removing fines and recyclables, transferring the residual waste to a new lined cell and lining the mined area to accommodate future waste disposal. The planned expansion will be accommodated within existing City owned lands.

The socio-economic impact assessment examines and evaluates a number of different factors which may affect the day to day lives of local people. Factors considered include:

- Nuisance effects including increased levels of noise, dust or odour (if at all);
- Increased traffic flow (if any);
- Increased volume of heavy vehicles (if any);
- Resultant effects on the use and enjoyment of personal property and recreation facilities (particularly outdoor spaces); and
- Economic effects on local businesses.

This socio-economic impact assessment concentrates on identifying and analyzing any effects on the socio-economic environment arising from the proposed project. This report will document the existing socio-economic environment which includes features such as schools, health care facilities, residences, businesses and recreation facilities and will identify and address key interactions between the community, socio-economic features and the proposed project.

2. Report Structure

Following on from this introductory section the report takes on the following format:

- Methodology and approach to the study;
- Study area and summary of existing environment – a summary of the existing socio-economic environment is presented based on secondary and primary sources.
- Evaluation of potential effects – potential effects on the socio-economic environment are evaluated and presented based on data gathering and findings from other disciplines (e.g. air quality, noise and odour).
- Conclusions and recommendations.

3. Methodology and Approach

The purpose of this report is to present the baseline socio economic conditions within the study area as well as an assessment of the potential effects on the socio-economic environment from both construction activities and the operation of the landfill. The following approach was taken to describe and evaluate the socio-economic conditions:

- Review the project description;
- Develop a description of the existing environment, including an evaluation of current community satisfaction;
- Evaluate potential nuisance effects from the proposed expansion, including findings from other disciplines (e.g. noise, air quality, etc.) and predicted community issues.

- Summarize the overall evaluation of socio-economic impacts.

This report considers both the direct and indirect effects of the proposed project on the socio-economic environment.

3.1 Issues to be addressed by this study

The following is a list of criteria that are to be principally addressed in this report as per the terms of reference:

- Displacement of residents from houses (voluntary or compulsory);
- Disruption to use and enjoyment of residential properties;
- Disruption to use and enjoyment of public facilities and institutions;
- Nuisance associated with vermin and wildlife;
- Changes to community character/cohesion;
- Loss/disruption of recreational resources; and
- Disruption to businesses and commercial activity.

This report will look at these effects both pre and post construction activities.

4. Study Area

The existing disposal footprint, proposed expanded footprint and the one and two kilometre buffer areas are included in Figure 1.

The Figure also includes the inventoried commercial properties in the site vicinity.

5. Existing Socio-Economic Environment

5.1 Introduction

This section presents an in-depth look at the existing environment within the 1 km and 2 km study areas noted in Section 4. We present a profile of the community in terms of both its social and economic composition. This includes detailing residences, business operations and social features such as schools, hospitals, recreation centres and churches.

5.2 Methodology

In order to inventory the existing conditions a number of primary and secondary sources were used:

- Secondary source information collection and review:
 - Most recent aerial mapping and street level mapping of the study area;
 - Local and municipal websites (e.g., City of Sault Ste. Marie);
 - Census data from Statistics Canada; and
 - Local business directories and business websites.
- Primary source information gathering:
 - Windshield survey of study area (described below);
 - Residents' survey; and

- o Businesses survey.

To determine the existing socio-economic conditions a number of steps were undertaken. These are described below:

5.2.1 Process Undertaken

Secondary Information Gathering: To gather information relevant to the study area, secondary source information was collected and reviewed. This was done using aerial mapping, street views of the roads within the study area (using Google Earth) and recording all businesses or social features either adjacent to the road or at access and egress points. Further desktop research was conducted to gather descriptive information on the identified features using company websites, business directories and so forth.

Field Investigations: In order to confirm and update secondary source data, a windshield survey of the study area was undertaken. To do this, staff drove through the study area and documented all social features (e.g. schools, recreation facilities, churches etc), businesses and residences within the study area so that an overall picture of the area and its features could be ascertained.

Residents' Surveys: A self-completion survey was hand delivered to all residences within 1 km of the landfill site. Residents were able to return the survey by mail or complete it online. This survey covered aspects such as current use and enjoyment of private property (including issues related to the existing landfill), satisfaction with living in the community and concerns related to the construction and future operation of the landfill. A copy of the survey can be found in Appendix A.

Business Surveys: Ten businesses were identified for interview to determine current business operations and evaluate potential effects from both construction and operations phases of the Project. These interviews were conducted by telephone and a copy of the survey can be found in Appendix B.

Note that the findings of both surveys have been used in the baseline conditions and effects assessment.

5.3 Overview of Existing Socio-Economic Environment

The City of Sault Ste. Marie Landfill is located in the northern portion of the city on the north side of Fifth Line East in an area primarily zoned as Rural Area and Rural Aggregate Extraction. The existing landfill site is situated between two gravel pits owned by Pioneer Construction Inc. and Ellwood Robinson Ltd. and opposite a campground on the south side of Fifth Line East. Residential properties in the vicinity of the site are generally situated on large plots and the study area is not densely populated with homes. The area features a large amount of green, open space and aggregate resource extraction.

5.3.1 Community Profile

The City of Sault Ste. Marie has a population of approximately 75,000 (Statistics Canada, 2011), a population that has showed little change since 2006 (0.3% change). It has a fairly equal split of male and female residents (48% compared to 52% respectively) and a median age of 45.7 years which is slightly higher than the median age for Ontario as a whole (40.4 years). The predominant housing structure in Sault Ste. Marie is single detached homes which accounts for 65% of all homes (higher than the average for all of Ontario).

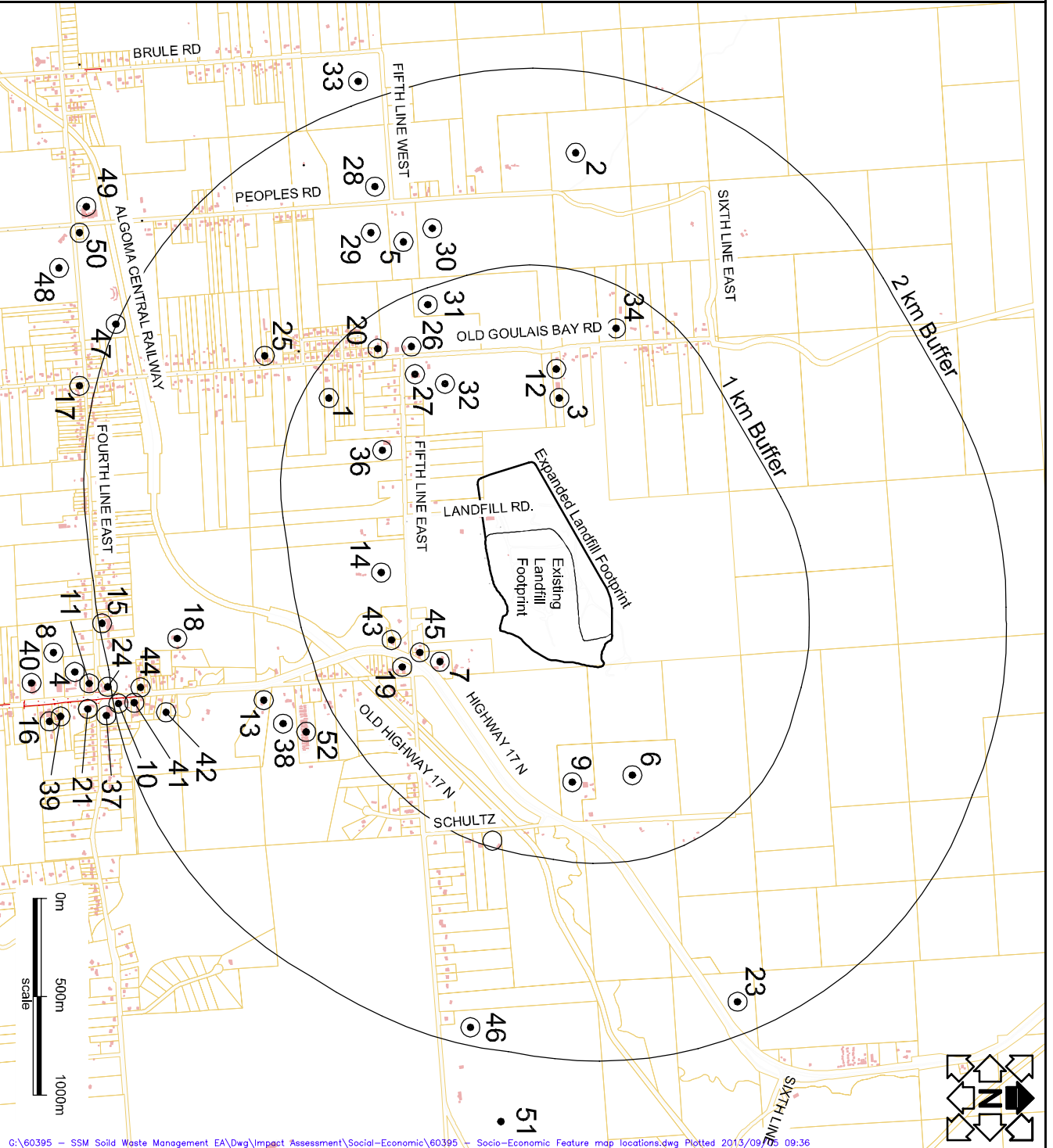
5.4 Existing Conditions Analysis

5.4.1 Summary of Socio-Economic Features

The study team undertook a field survey of existing conditions in July 2013. This included detailing all businesses, residences, social features, and outdoor recreation areas/open spaces within the 1 km and 2 km study areas around the existing site. The survey showed that the area is not commercialized; and the primary businesses are the large gravel/sand pits which cover large areas within the study areas. There are a handful of stores and commercial businesses as well as some home-based businesses. However, significant portions of the study area remain largely unspoiled by development. There are also a number of churches and cemeteries as well as one school in the study area and a conservation area (Hiawatha Highlands). The field exercise showed that there are approximately 177 residences within 1km of the site.

A complete inventory of businesses and social features is provided below, the reference number is shown on the map in Figure 1.

Feature #	Name
1	744 Auto
2	A.J. Postiano Peaing
3	Algoma Energy Solutions
4	Ambassador Motel
5	Andre's Auto Recyclers
6	Brandes Gravel Pit
7	Caswell Concrete products
8	Construction Equipment Co.
9	Elwood Robinson Limited
10	Esso Gas Station
11	Eternal Monuments
12	HET Heavy Equipment Technicians
13	Home on the Range Practice Facility
14	KOA Campground
15	Keshin Engineering Corporation
16	Lakeway Truck Centre
17	Maple View Inn
18	Maplewood Golf Course
19	Martin's trailers and Accessories
20	Maxoverdok computers
21	Monster Muffler
22	OMNI Global Ltd
23	Palmer Construction Group Inc
24	Perry's Great Northern Gun & Bow shop
25	Pet Pleasure Resort
26	Pioneer Construction
27	Pioneer Construction Test Lab
28	Pioneer Construction Young Pit
29	Pioneer Construction McMillan Pit
30	Pioneer Construction City Pit
31	Pioneer Construction McQueen Pit
32	Pioneer Construction ? Pit
33	Pioneer Construction ? Pit
34	Possamai Construction & Aggregate
35	PUC Services Inc
36	Red Star Electric Contractors
37	Rilunti Banquet Hall
38	Root River Golf Club
39	Sims Custom Countertops
40	Toronto CAT
41	Trading Post And Frontier Village
42	Unidentified Quarry
43	WILHAM Warren Hill's Asphalt Maintenance
44	Woody's Wheels
45	Vacant Commercial Property for Sale
46	Sault Ste. Marie Region Conservation Authority
47	Holy Sepulchre Cemetery
48	Greenwood Cemetery
49	Greenwood Public School
50	East Korah Maxwell United Church
51	Hiawatha Highlands
52	Root River Trailer Park



Sault Ste. Marie Municipal Landfill Site
Socio-Economic Features

Figure 1



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Table 1 – Socio-Economic Features Inventory

	Feature Number	Name	General Description
Business and Industrial Locations	1	744 Auto	Auto mechanic
	2	A. J. Positano Paving	Paving contractors – paving for residential customers
	3	Algoma Energy Solutions	Renewable energy system design and installation
	4	Ambassador Motel	Overnight accommodations
	5	Andre's Auto Recyclers	Car Wreck yard
	6	Brandes Gravel Pit	Gravel pit
	7	Caswell Concrete products	Concrete supplies
	8	Construction Equipment Co.	Retailer of new, used and rental construction supplies
	9	Ellwood Robinson Limited	Contractor - build and maintain highways and roads
	10	Esso Gas Station	Gas station and shop
	11	Eternal Monuments	Monuments and Tombstone manufacturers
	12	HET Heavy Equipment Technicians	Contractors' equipment and supplies
	13	Home on the Range Practice Facility	Golf driving range
	14	KOA Campground	Campground for tents and RVs. Also provides cabin accommodation. Facilities include hiking and biking trails, children's play areas, dog agility, dog salon, mini golf, outdoor swimming pool.
	15	Kresin Engineering Corporation	Consulting engineers
	16	Lakeway Truck Centre	Sales of new and used trucks
	17	Maple View Inn	Hotel
	18	Maplewood Golf Course	Golf course with restaurant
	19	Martin's trailers and Accessories	RV rentals and sales
	20	Maxoverclock computers	Online computer sales
	21	Monster Muffler	Muffler and exhaust sales and repairs
	22	OMNI Global Ltd	Topsoil and gravel disposal
	23	Palmer Construction Group Inc	Contractor – Residential, commercial and municipal grading and paving projects, sewer and watermain construction
	24	Perry's Great Northern Gun & Bow Shop	Gun and bow retailer
	25	Pet Pleasure Resort	Dog walking and boarding kennels
	26	Pioneer Construction	Aggregate Extraction and Contractor Operations
	27	Pioneer Construction Test Lab	
	28	Pioneer Construction Young Pit	
	29	Pioneer Construction McMillan Pit	
	30	Pioneer Construction City Pit	
	31	Pioneer Construction McQueen Pit	
	32	Pioneer Construction Pit	
	33	Pioneer Construction Pit	

	Feature Number	Name	General Description
	34	Possamai Construction & Aggregate	Contractor and aggregate sales
	35	PUC Services Inc	Utility services company operating as a wholly owned private company of the Corporation of the City of Sault Ste. Marie.
	36	Red Star Electric Contractors	Contractor - Provides electrical contracting services to commercial, industrial, institutional and residential customers.
	37	Grand Gardens North Banquet Hall	Banquet hall services
	38	Root River Golf Club	Golf club featuring Barsanti's restaurant
	39	Sims Custom Countertops	Residential kitchen counters and cabinets
	40	Toromont CAT	Construction Equipment rental and sales
	41	Trading Post And Frontier Village	Village of shops and restaurants associated with the 19th Century. Includes Chippewa Trading Post, The Big Moose Ice Cream Parlour, The Sweet Tooth Fudge Factory, Frenchies Fries, Wild West Pasta and Pizzeria, The Totem Pole, Rain, The Artist Alcove, Jack's Chicken, Miss Lily Olde Time Photos.
	42	Unidentified Quarry	Located at the west side of Great Northern Road
	43	WHAM Warren Hull's Asphalt Maintenance	Contractor - Asphalt and asphalt maintenance and products
	44	Woody's Wheels	Haul trailers, enclosed or open trailers
	45	Vacant Commercial Property For Sale	Empty building
Social Features	46	Sault Ste. Marie Region Conservation Authority	Conservation Lands and offices
	47	Holy Sepulchre Cemetery	Cemetery owned by the City of Sault Ste. Marie
	48	Greenwood Cemetery	Cemetery owned by the City of Sault Ste. Marie
	49	Greenwood Public School	Public school, Kindergarten to Grade 8. Managed by Algoma District School Board
	50	East Korah Maxwell United Church	United Church of Canada
	51	Hiawatha Highlands	Hiking, biking, snowshoeing and Nordic skiing trails
	52	Root River Trailer Park	Mobile homes.

5.5 Residential and Business Survey Findings

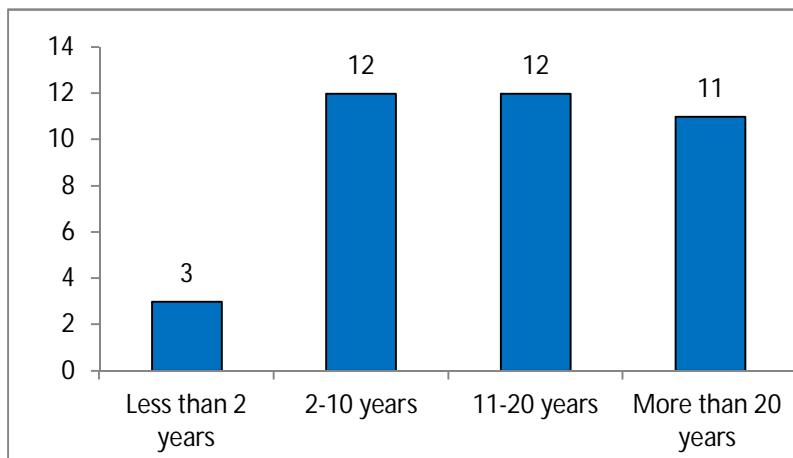
Surveys were conducted with local residents and included questions to establish their current level of satisfaction with living in the community as well as questions on potential effects (detailed in Section 6 of this report). The survey was hand delivered or mailed to 177 residences within 1 km of the site consisting of approximately 152 homeowners and 25 tenants. The survey asked a number of questions related to the existing environment in the community including, use and enjoyment of private property, community issues and likes and dislikes about their community. In total, 39 surveys were completed (either partially or fully), either online or by postal return. A copy of the survey can be found in Appendix A.

Interviews with local businesses located within 1 km of the site were also conducted by telephone. Ten businesses were identified for interview however only seven were available to complete the survey. The business interview questions concentrated on the potential effects on business activity from the landfill such as effects on outdoor components and changes in the number of patrons as a result of the potential for increased nuisance effects associated with the proposed expansion.

Residents' Profile

Respondents were asked to state how long they had lived at their current address. As Figure 2 below shows, over half of respondents had lived at their current address for more than 11 years while only three respondents had lived there for less than two years. This shows that this is an established neighbourhood and people generally have a strong connection to the area.

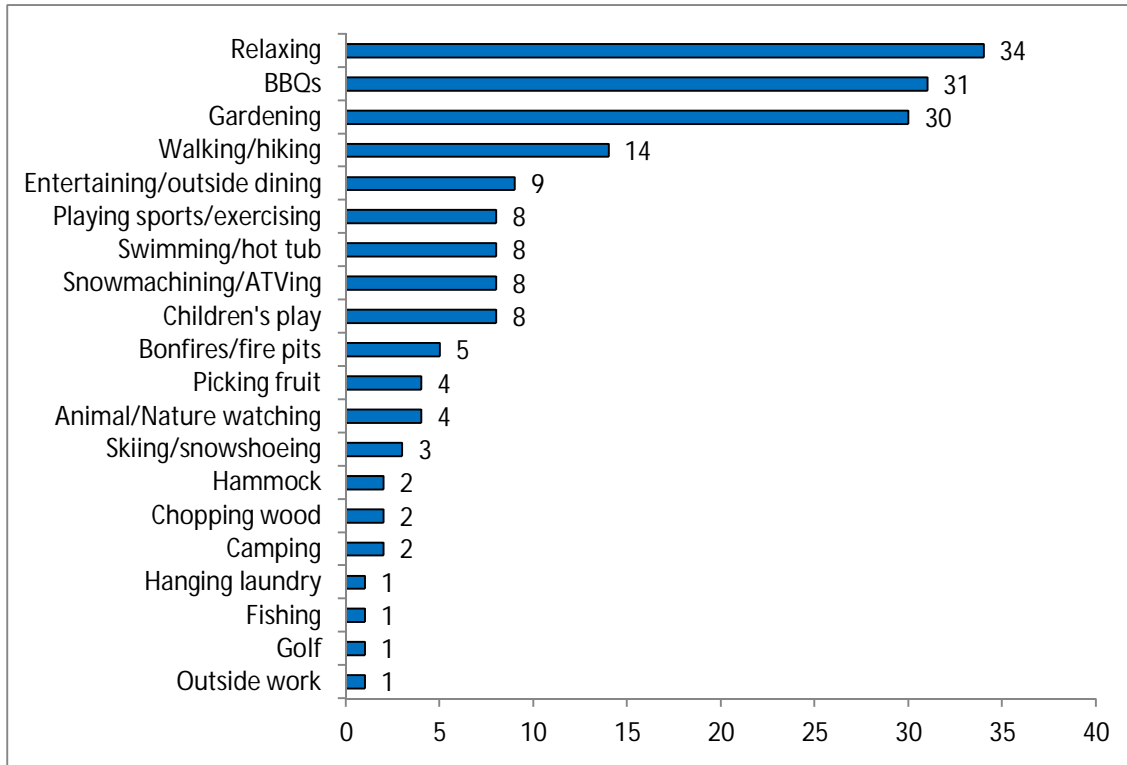
Figure 2 – Length of time at current address



Base= 38

Figure 3 below shows the way that people currently use and enjoy the outdoor space at their property. Respondents gave a variety of responses with the most common responses being relaxing (34 respondents), barbequing and gardening (31 and 30 responses respectively). The rural nature of the area can be seen from the number of respondents who said that they used their land for walking/hiking, skiing and sports.

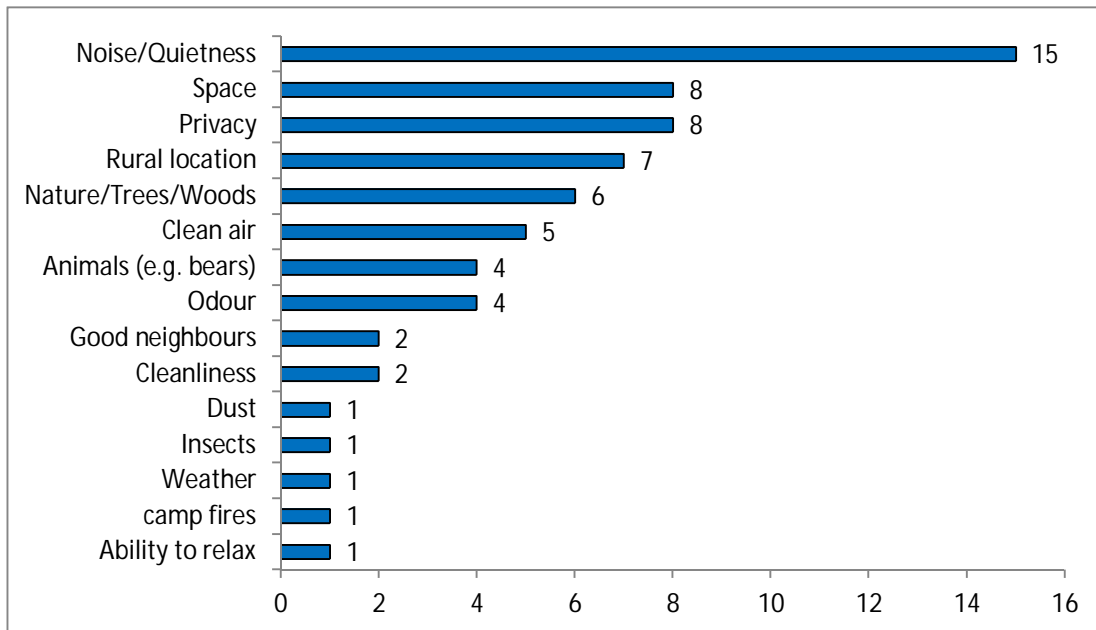
Figure 3 – Use of Outdoor Spaces



Base=38

Respondents were asked to list up to three things they felt influenced their use and enjoyment of outdoor space for the activities already mentioned. The most common response was that noise or quietness (15 respondents) influenced their enjoyment of outdoor space while the amount of space and privacy at their property (both 8 respondents each) and the rural location (7 respondents) were also commonly mentioned.

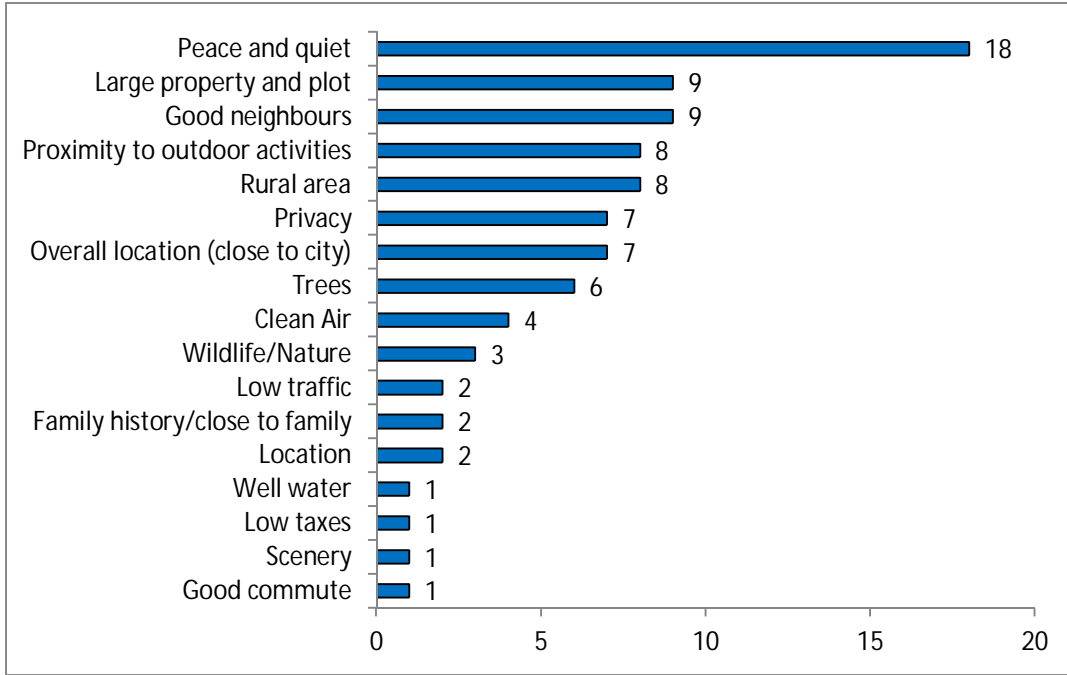
Figure 4 – Factors Influencing Use and Enjoyment of Outdoor Space



Base=28

Respondents were asked to list three things they most liked about living in their neighbourhood. As Figure 5 below shows, peace and quiet was deemed the aspect of the community that people most liked (18 respondents). Having a large plot and good neighbours were also felt to be important (9 respondents each).

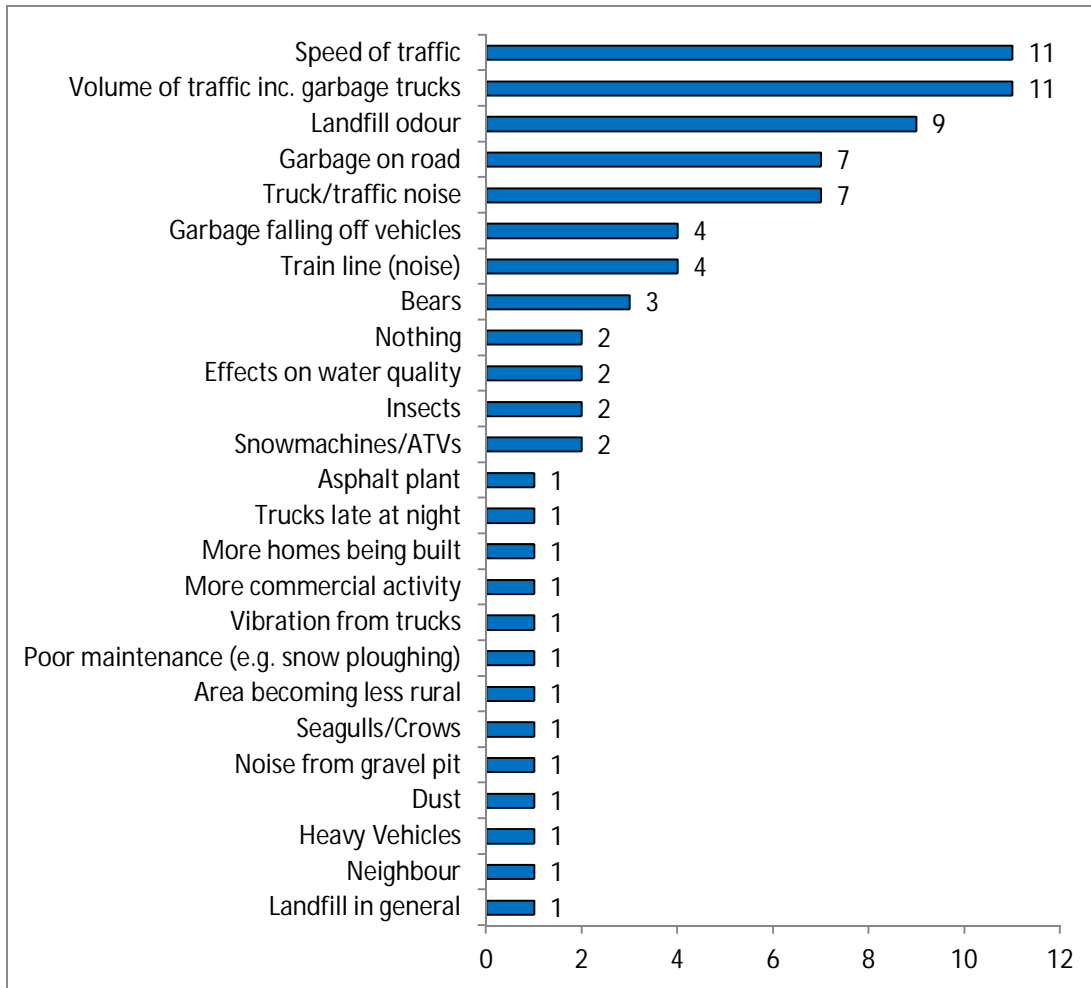
Figure 5 – Aspects of the Community Most Liked



Base=28

When asked to list up to three things that they most disliked about living in the community, the most common responses were related to the speed and volume of traffic (particularly on Fifth Line East and Old Goulais Bay Road) (both 11 respondents each). Other dislikes about living in the community included odour from the landfill (9 respondents), garbage on the road and truck/traffic noise (both 7 respondents).

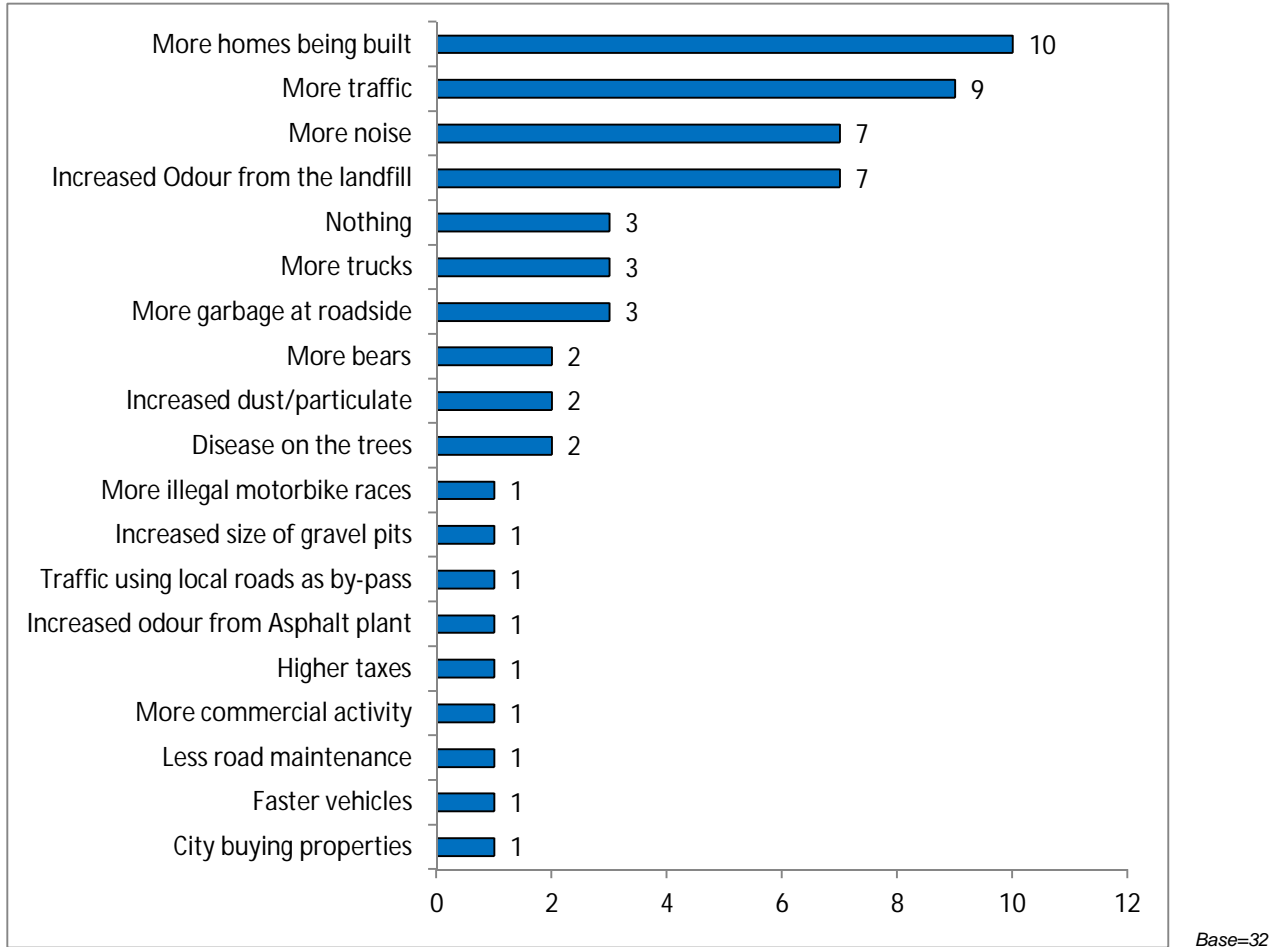
Figure 6 – Dislikes About the Community



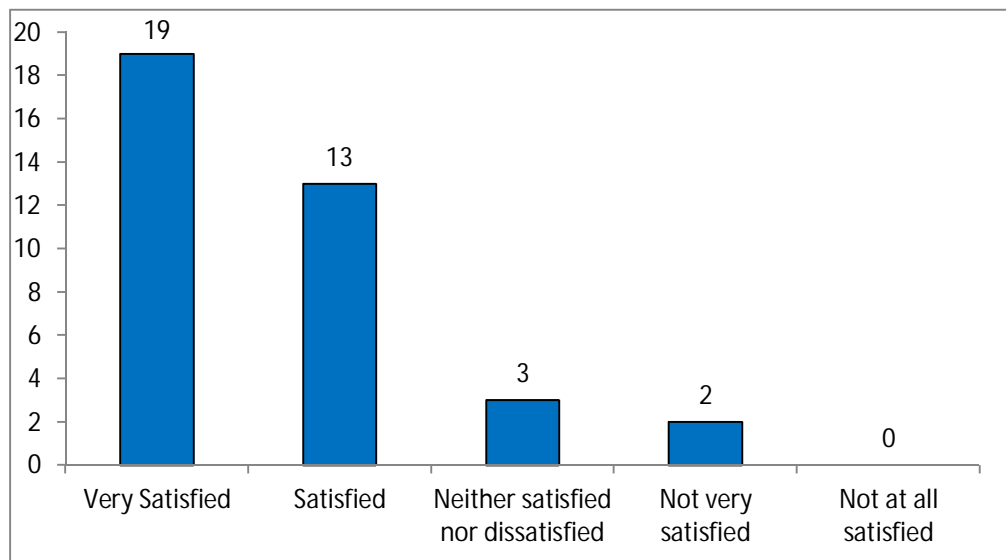
Base=37

To understand how the community has changed (if at all), respondents were asked to list up to three ways they felt that the community had changed in the last five years. The most commonly mentioned difference was an increased number of new homes being built (10 respondents) while more traffic (9 respondents) and more noise and increased odour from the landfill (both 7 respondents each) were the next most noticeable changes. Figure 7 below shows the breakdown of responses.

Figure 7 – Changes in the Community



Finally, respondents were asked about their current level of satisfaction with living in their community. As Figure 8 below shows, the majority of people (32 out of 37) said that they were either satisfied or very satisfied with living in their community.

Figure 8 – Satisfaction with Living in the Community

Base=37

5.6 Issues with the landfill to date

The residents' survey showed a small number of issues with the landfill – primarily trucks, odour and garbage on the road. Official odour complaints lodged with the City of Sault Ste. Marie were made available and show that over the period from 2009 to 2013, 52 complaints (average of 10/year) regarding odour had been made to the City. The highest number of complaints were registered in 2010 when 17 complaints were lodged relating to a sewage-like odour.

An increased number of odour complaints were received in 2010 in conjunction with the landfill gas management construction project. Prior to initiating construction, notices were mailed to property owners in the vicinity of the site to inform them of the proposed landfill gas construction project and the potential for off-site odours despite the planned mitigation efforts. The mitigation strategies employed included application of daily cover following trenching operations and application of odour control products to exposed wastes. The active landfill gas collection system became operational on a part time basis in early December, 2010 and became fully operational the last week of January, 2011.

5.7 Summary of Baseline Environment

As the preceding information shows, the area surrounding the landfill site is primarily a mixture of larger rural residential lots with large areas of open space, outdoor recreation areas and industrial sites (contractor's yards, gravel and aggregate pits). Within 1 km there are approximately 177 homes, the majority of which are located on large plots and have been there for some time. The peace and quiet and rural nature of the area were shown to be valuable assets to people living in the community. The residents' survey showed that almost all local residents are satisfied with living in the community, there are some issues noted that are related to the landfill – notably odour and noise as well as garbage on the roads and heavy vehicle traffic.

6. Evaluation of Potential Effects on the Socio-Economic Environment

6.1 Introduction

This section of the report presents a summary of potential effects, mitigation measures and residual effects that may be felt on the socio-economic environment as a result of the landfill expansion.

6.1.1 Approach to Effects Assessment

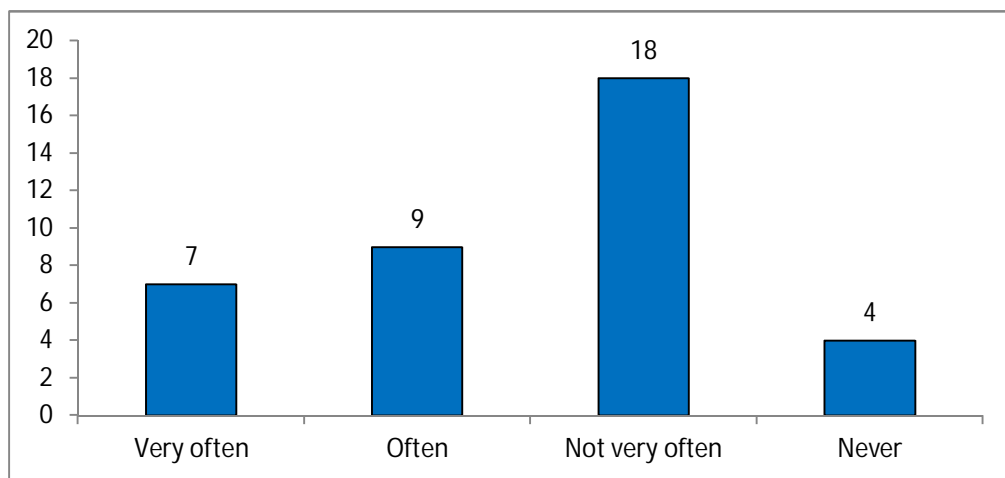
Effects on the socio-economic environment are largely measured in a qualitative manner (perceptions, anticipated changes in behaviour etc.); however quantitative findings from other disciplines are also used. For example, nuisance effects have a significant effect on quality of life for many community members. Nuisance factors include noise, odour, air quality and traffic. As such, this report will evaluate the findings from these disciplines to determine whether or not there is likely to be any change in the baseline socio-economic environment as a consequence of changes in the magnitude of these nuisance effects.

6.1.2 Residents' Survey Findings

The residential survey asked a number of questions relating to potential changes in satisfaction or usage of outdoor spaces.

Figure 9 below shows the extent to which local people thought about living near the landfill; 22 respondents out of 38 said that they never or not very often think about the landfill and only seven respondents thought about it very often.

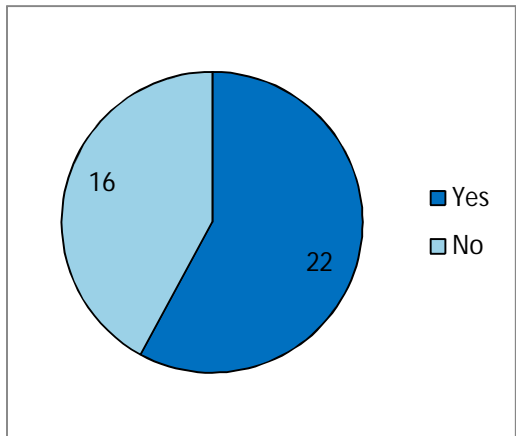
Figure 9 – Frequency of Thinking about Living near the Landfill



Base=38

When asked if the landfill affected their use and enjoyment of their property, 22 respondents said that it did affect the use and enjoyment of their property and 16 said that it did not.

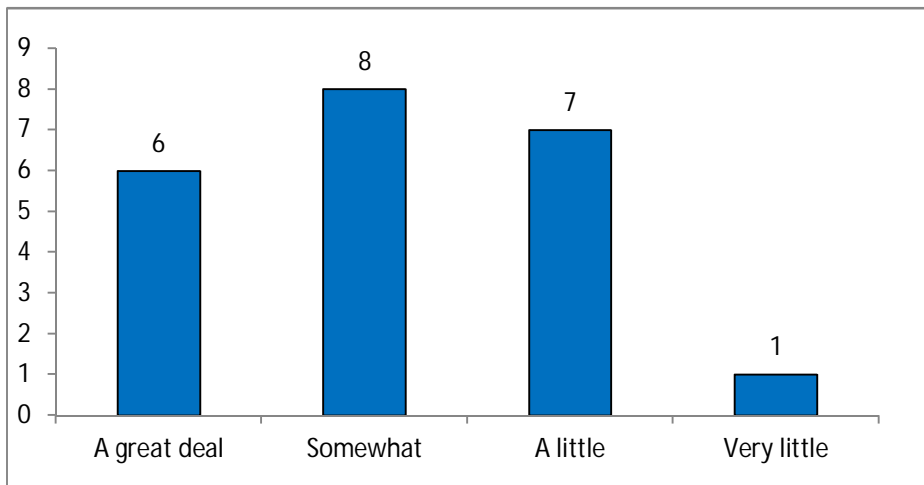
Figure 10 Does the Landfill Affect Use and Enjoyment of Property?



Base=38

Those who said that the landfill did affect their use and enjoyment of outdoor space were asked to what extent it affected it and in what way. As Figure 11 shows, 14 respondents out of 22 said that the landfill affected their use and enjoyment of outdoor space somewhat or a great deal.

Figure 11 Extent to which the Landfill Affects Use and Enjoyment of Property



Base=22

When asked in what way their use and enjoyment of outdoor space was affected (either positively or negatively) 17 respondents mentioned odour, nine respondents said there were more bears and six respondents said traffic levels were an issue. With respect to positive effects, only a few responses were given including easy access to drop off garbage and two respondents who felt that bears were a positive asset.

Respondents were asked if they had considered moving from their address in the past five years. Only ten respondents said that they had considered this. Of those who said that they had considered moving, the majority

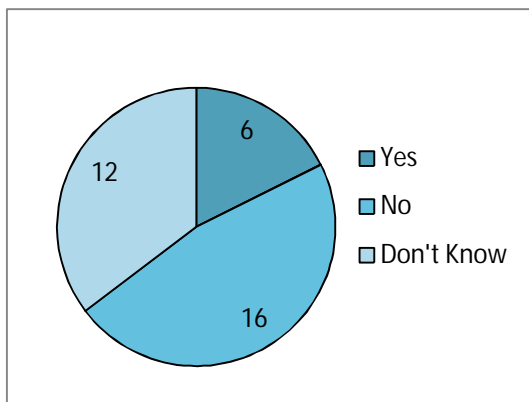
had reasons that could be attributed to the landfill – odour, noise and traffic were mentioned by several residents. Reasons for staying, despite these issues, include a love for the area and their property/plot.

Potential Effects from Construction Activity

Residents were asked a series of questions on the effects they thought construction would have on living in the area. When asked if construction would affect their use and enjoyment of personal property, 13 respondents out of 34 said that they thought it would while 12 said that it would not and a further nine respondents did not know. Reasons given for expecting an effect from the construction included well water contamination, effects on wildlife, tax increases and increased odour, noise and traffic.

Respondents were asked if they would do anything differently on their property due to construction. As shown on Figure 12 below, only six respondents said that they would do anything differently as a result of the construction work. Anticipated changes included staying indoors and not entertaining during construction hours.

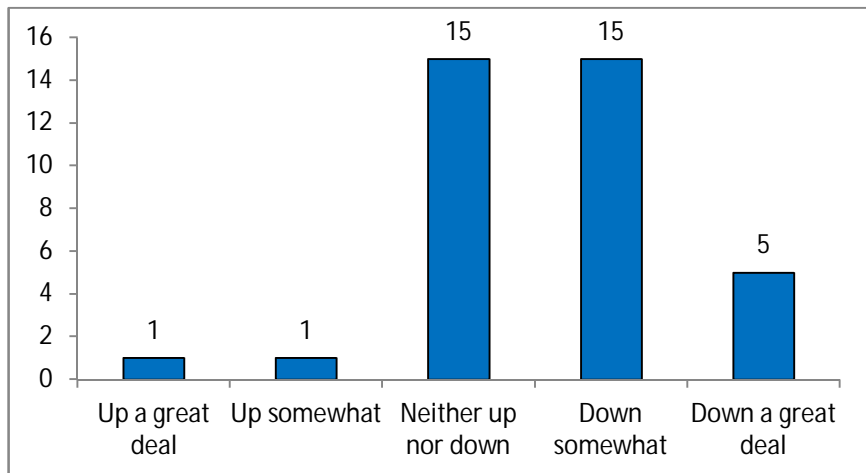
Figure 12 Changes in usage of Outdoor Space due to Construction



Base=34

Figure 13 below shows the anticipated change in satisfaction with living in the community as a result of the construction work. The majority (30 out of 37) of respondents felt that construction would either not change their level of satisfaction or it would go down somewhat.

Figure 13- Changes in Satisfaction due to Construction



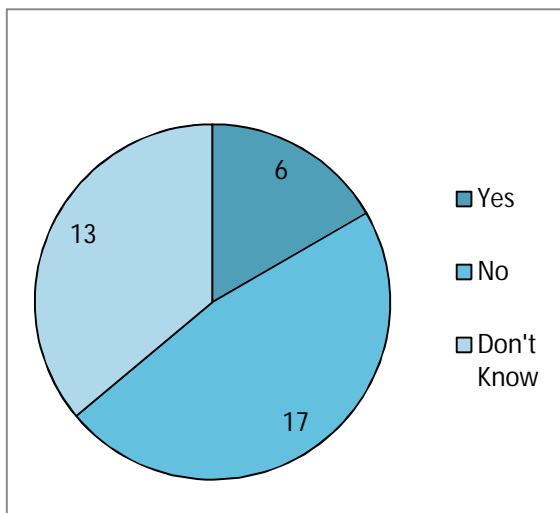
Base=37

When asked if they anticipated moving from their current address due to construction works only three respondents said that they would consider this. All of these respondents also said that they thought their satisfaction with living in the community would go down a great deal as a consequence of the construction work.

Operations Phase

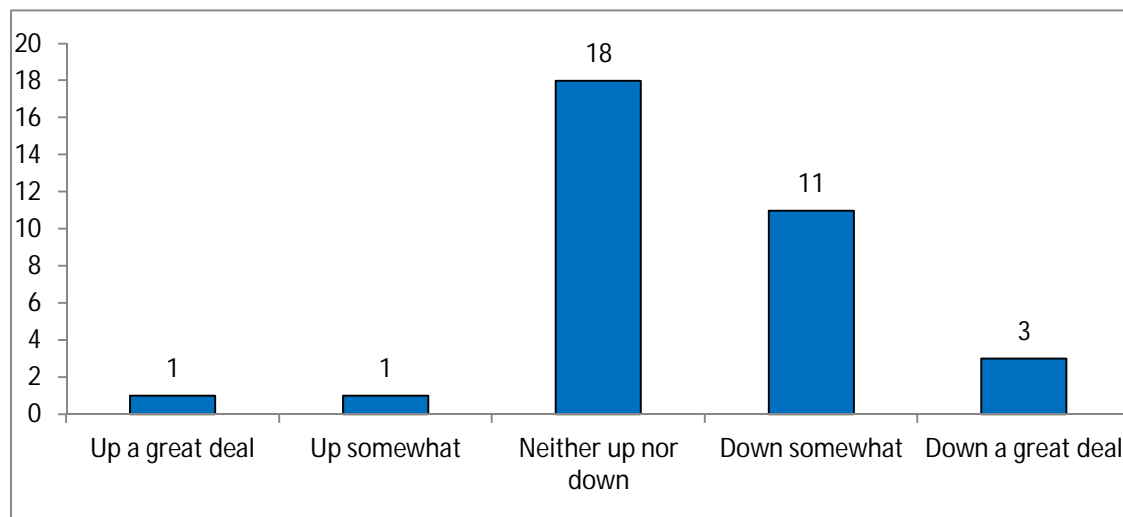
The final section of the residents' survey asked respondents to think about when the landfill would be operational. When asked if they thought their use and enjoyment of personal property would change as a result of operations at the expanded landfill six respondents said that they thought it would (see Figure 14 below). Similarly, only three respondents said that they thought they would do anything differently as a result of the expanded landfill. Reasons for doing anything differently were related to odour levels.

Figure 14 Use and Enjoyment of Property during Operations



Base=36

Respondents were asked if they thought their satisfaction with living in the community would change as a result of the expanded, operational landfill. As Figure 15 below shows, over half of respondents said that they thought their level of satisfaction would not change (or would go up) as a consequence while 14 respondents said that it would go down somewhat or a great deal.

Figure 15 Anticipated Satisfaction with Community During Operations Phase

Base=34

Only two respondents said that they thought the expanded landfill site would cause them to consider moving from the area once it was operational. These respondents also felt that the landfill expansion would result in a significant decrease in satisfaction with living in the community both during construction and operations.

Finally, respondents were asked three questions which they answered in their own words. The questions and a summary of responses is presented below:

- **What suggestions would you like to pass on to the City of Sault Ste. Marie to ensure your ongoing use and enjoyment of your property?**
 - Reduce level of odour;
 - Stricter enforcement on dropped loads en route to the landfill;
 - Reduce noise levels;
 - Limit access routes to the site – restrict traffic (particularly trucks) on Fifth Line and Old Goulais Bay Road;
 - Implement land use mining to ensure liner is underneath existing landfill;
 - Strict wildlife control;
 - Move the landfill out of town away from residential areas;
 - Compensate residents if property values are affected;
 - Tighter restrictions and sanctions on speeding traffic.
- **What suggestions or considerations can you offer to the City of Sault Ste. Marie to ensure that you are satisfied with living in this neighbourhood?**
 - Increased communications regarding the landfill project;
 - Ensure safety of water quality;
 - Limitations on truck traffic;
 - Keep the roadsides clear of garbage;
 - Limit the number of new subdivisions;
 - Cap the landfill to avoid odour;
 - Do not increase property taxes.
- **What other concerns or questions do you have regarding the proposed project for the Landfill that you would like addressed?**
 - Stricter deterrence of bears;

- How will noise and odour be controlled?
- Will there be blasting?
- Will there be road closures?
- Will there be leaching? Concerns over well water quality.
- Will the landfill encroach on my property?
- Implement a study into monitoring of technological changes being made to high heat processes to reduce residual waste in landfills.
- How will water and air quality be monitored? Potential health concerns.

6.1.3 Business Survey Findings

Interviews were conducted with seven (7) businesses within 1 km of the landfill site. These businesses were selected for interview based on the type of service(s) they provided and also the presence of an outdoor component which may be affected by nuisance effects from the landfill.

All of the businesses stated that they owned the property and land it was on and all seven were well established businesses being in operation for at least 10 years. The table below shows the businesses interviewed and the nature of their businesses.

Name of Business	Services Provided
Root River Golf Club	Recreational facility, (golf course) and restaurant
Perry's Great Northern Gun and bow Shop	Retailer of hunting and shooting goods
KOA Campground	Campground with outdoor recreation facilities
Trading Post and Frontier Village	<ul style="list-style-type: none"> • Gas station • Grocery store • Bait and tackle shop • Hunting goods • Ice cream and candy shop • Clothing • Restaurant • Tourist attraction (frontier village)
Ambassador Motel	Motel
Martin's Trailers and Accessories	Sales and service of RVs and trailers
Pet Pleasure Resort	Pet boarding

When asked what things they liked about their business location, common answers included the proximity to nature and to customers and the proximity to the highway and the city. Things that business operators disliked about the area included traffic, garbage trucks, noise and odour from the landfill and poor road maintenance.

Respondents were asked about changes in the community since their business had been in operation. Positive changes included an increase in passing traffic resulting in more customers, while negative aspects included the economic downturn and decreasing number of American tourists. The loss of St. Mary's Paper was also mentioned as a negative factor affecting the community in recent time as well as increased development resulting in a loss of natural environment.

Most of the businesses we interviewed had an outdoor component that may be affected by factors such as noise or odour. Odour was mentioned by a number of respondents as an issue that affects the outdoor activity at their business.

Only one of the businesses interviewed said that they had considered moving from their current location, this was due to odour from the landfill which many customers had complained about.

Five of the seven respondents said that they were not very familiar with the current landfill site while two respondents said that they were somewhat familiar with it. Over half of respondents (four out of seven) said that their

business operations were affected by the landfill. Ways in which they had been affected included increased odour, noise and bears. No respondents felt that there were things that they could not do on their business site as a result of the landfill however some respondents did comment that there had been customer complaints about odour.

Respondents were generally not very familiar with the expansion plans at the landfill site with six out of seven respondents saying that they knew nothing or very little. Two respondents said that they felt the expansion would affect their business operations, these effects included increased complaints from odour and detracting customers as well as devaluing the property.

When asked if they thought the expansion project would change their community, three respondents said that it would. When asked in what way, answers were generally positive - including more jobs, improved facilities and a sign that the community is growing and the City is responding to this change.

Only two business owners said that their satisfaction with the area as a place to do business would change as a result of the landfill expansion. These respondents felt that their satisfaction would go down somewhat or a great deal. Only one business owner thought that they might move their business from the community as a result of the expansion.

Respondents were asked what could be done to minimize adverse effects on their business. The most common response was to reduce or eliminate odour as well as remove garbage from the street and ensure truck traffic is not coming through the city.

Key concerns related to the landfill expansion were traffic (including trucks) and the capacity for existing roads to accommodate this traffic, odour and increased bears coming onto business properties.

6.2 Analysis of Effects

Table 2 shows the assessment of potential effects; conclusions are based on survey findings (residential and business) and findings from other disciplines (odour and noise).

Table 2 – Analysis of Socio-Economic Effects

Criteria	Description of Potential Effects	Analysis of Effects	Mitigation Measures	Residual Effects
Displacement of residents from houses (voluntary or compulsory)	Residents may feel inclined to leave the community as a result of construction and/or operations of the landfill. There may also be a need to acquire land for the expansion.	Residential surveys suggest very few residents will move from the area as a result of the landfill. No land acquisition is planned at this time.	N/A	None anticipated
Disruption to use and enjoyment of residential properties	Nuisance effects from both construction and operations at the landfill may disrupt the extent people can use and enjoy their property (both inside and outside).	<p>Disturbance of use and enjoyment of outdoor space on their property was a current and potential issue for a large number of residents who completed the survey (12 respondents out of 24 said that noise affected their enjoyment of outdoor activities and 5 out of 24 said poor air quality affected it). Major concerns included noise, odour and traffic. In addition there is a perception that private well water quality may be adversely impacted due to the presence of the landfill site.</p> <p>The City has historically experienced population decline and more recently the population has stabilized. For the purposes of this EA modest future growth has been considered and daily waste acceptance rates will not increase significantly. The planned cell construction activities will occur periodically over the operating life of the facility and will result in some additional activity and related noise during the periods of construction. The proposed site operations are expected to generally remain unchanged relative to existing waste deposition and management activities at the site and should not result in any additional noise. Furthermore, the odour profile (Frequency, Intensity, Duration, Offensiveness and Location) of the Site's operations is expected to be improved with the implementation of the planned best practices approach to odour management together with the construction of a biosolids management /processing facility and staged expansion of the landfill gas collection system. It is expected that the Site's planned enhanced odour management program would be able to effectively manage odour impacts associated with these activities.</p>	<p>Best practices Odour Management Plan.</p> <p>Construction of a Biosolids Management and Processing facility.</p> <p>Staged expansion of the landfill gas collection system.</p> <p>On-going engagement with the public.</p> <p>2.5m perimeter berm to shield noise generating activities at the composting pad.</p> <p>Consideration may be given to extending the potable water distribution system easterly along Fifth Line to west of Highway 17 and the City will undertake a routine sampling and analysis program for private wells in close proximity to the site.</p>	None anticipated

Criteria	Description of Potential Effects	Analysis of Effects	Mitigation Measures	Residual Effects
		<p>The results of the noise analysis indicates that for the worst-case operational scenario, with the implementation of the noise mitigation measures proposed in the Noise Impact Assessment report, the predicted receptor sound levels will be below the MOE's daytime criterion of 50 dBA for all the nearby noise receptors.</p> <p>Traffic volumes are generally moderate and no significant increases in landfill related traffic levels (including heavy vehicles) are anticipated.</p> <p>Groundwater flow from the landfill is well understood through the extensive monitoring well network that has been established within and surrounding the site. The Municipal water distribution system has been extended along Fifth Line from Old Goulais Bay Road to the landfill site. There is no evidence of impacts to area private wells.</p> <p>Overall, no significant increase in nuisance effects are expected from noise, odour or traffic.</p>		
Disruption to use and enjoyment of public facilities and institutions	<p>Nuisance effects from both construction and operations at the landfill may disrupt the extent people can use and enjoy public indoor and outdoor recreation facilities.</p>	<p>The City has historically experienced population decline and more recently the population has stabilized. For the purposes of this EA modest future growth has been considered and daily waste acceptance rates will not increase significantly. The planned cell construction activities will occur periodically over the operating life of the facility and will result in some additional activity and related noise during the periods of construction. The proposed site operations are expected to generally remain unchanged relative to existing waste deposition and management activities at the site and should not result in any additional noise. Furthermore the odour profile (Frequency, Intensity, Duration, Offensiveness and Location) of the Site's operations is expected to be improved with the implementation of the planned best practices approach to odour management together with the construction of a biosolids management /processing facility and staged expansion of the landfill gas collection system. It is expected that the Site's planned enhanced odour management program would be able to effectively manage odour impacts associated with these activities.</p>	<p>Best practices Odour Management Plan. Construction of a Biosolids Management and Processing facility. Staged expansion of the landfill gas collection system. On-going engagement with the public. 2.5m perimeter berm to shield noise generating activities at the composting pad.</p>	<p>None anticipated</p>

Criteria	Description of Potential Effects	Analysis of Effects	Mitigation Measures	Residual Effects
		<p>The results of the noise analysis indicates that for the worst-case operational scenario, with the implementation of the noise mitigation measures proposed in the Noise Impact Assessment report, the predicted receptor sound levels will be below the MOE's daytime criterion of 50 dBA for all the nearby noise receptors.</p> <p>Traffic volumes are generally moderate and no significant increases in landfill related traffic levels (including heavy vehicles) are anticipated.</p> <p>Overall, no significant increase in nuisance effects are expected from noise, odour or traffic.</p>		
Nuisance associated with vermin and wildlife	Nuisance effects may arise from expanded landfill operations due to increased vermin and wildlife (rats, gulls, bears etc.)	Concerns regarding increased numbers of bears were raised by some residents (5 out of 24 respondents) and also by 2 of 7 businesses we spoke to.	A vermin management plan will be developed and detailed in the Design and Operations report.	None anticipated
Changes to community character/cohesion	The presence of the landfill may have an effect on the character of the community and its cohesion due to changes in behaviour and attitude.	The existing Community has adapted to the landfill operations and there was little evidence from the residents' survey to suggest that people's satisfaction with the community would change as a consequence of the landfill expansion.	Ongoing engagement with the public to continue with the City's process of continual improvement. The City will continue to coordinate and engage with an Environmental Monitoring Committee to assist with Community outreach and to obtain property owner feedback with the ultimate goal of continual improvement.	None anticipated
Loss/disruption of recreational resources	The expansion of the landfill may result in a loss of recreation facilities either due to land acquisition or indirectly through loss of business.	<p>Results from business surveys suggest that there may be a decrease in the use of outdoor recreation areas if odour levels are to increase as a result of the expansion.</p> <p>The City has historically experienced population decline and more recently the population has stabilized. For the purposes of this EA modest future growth</p>	Best practices Odour Management Plan. Construction of a Biosolids Management and Processing facility. Staged expansion of the	None anticipated

Criteria	Description of Potential Effects	Analysis of Effects	Mitigation Measures	Residual Effects
		<p>has been considered and daily waste acceptance rates will not increase significantly. The planned cell construction activities will occur periodically over the operating life of the facility and will result in some additional activity and related noise during the periods of construction. The proposed site operations are expected to generally remain unchanged relative to existing waste deposition and management activities at the site and should not result in any additional noise. Furthermore the odour profile (Frequency, Intensity, Duration, Offensiveness and Location) of the Site's operations is expected to be improved with the implementation of the planned best practices approach to odour management together with the construction of a biosolids management /processing facility and staged expansion of the landfill gas collection system. It is expected that the Site's planned enhanced odour management program would be able to effectively manage odour impacts associated with these activities.</p>	<p>landfill gas collection system.</p>	
<p>Disruption to businesses and commercial activity</p>	<p>Businesses in the area may also be affected by increased nuisance effects (e.g. noise, odour, traffic) particularly if they have an outdoor component. These effects can result in a down turn in business.</p>	<p>Business survey data suggests that businesses felt their operations could be affected by a downturn in customers related to increased nuisance effects such as noise or odour as well as traffic levels making routes to businesses dangerous and more difficult for customers.</p> <p>The City has historically experienced population decline and more recently the population has stabilized. For the purposes of this EA modest future growth has been considered and daily waste acceptance rates will not increase significantly. The planned cell construction activities will occur periodically over the operating life of the facility and will result in some additional activity and related noise during the periods of construction. The proposed site operations are expected to generally remain unchanged relative to existing waste deposition and management activities at the site and should not result in any additional noise. Furthermore the odour profile (Frequency, Intensity, Duration, Offensiveness and Location) of the Site's operations is expected to be improved with the implementation of the planned best practices approach to odour management together with the construction of a biosolids management /processing facility and staged expansion of the landfill gas collection system. It is expected that the Site's planned enhanced odour management program would be able to effectively manage odour impacts associated with these activities.</p>	<p>Best practices Odour Management Plan. Construction of a Biosolids Management and Processing facility. Staged expansion of the landfill gas collection system. On-going engagement with the public. 2.5m perimeter berm to shield noise generating activities at the composting pad.</p>	<p>None anticipated</p>

Criteria	Description of Potential Effects	Analysis of Effects	Mitigation Measures	Residual Effects
		<p>The results of the noise analysis indicates that for the worst-case operational scenario, with the implementation of the noise mitigation measures proposed in the Noise Impact Assessment report, the predicted receptor sound levels will be below the MOE's daytime criterion of 50 dBA for all the nearby noise receptors.</p> <p>Traffic volumes are generally moderate and no significant increases in landfill related traffic levels (including heavy vehicles) are anticipated.</p> <p>Overall, no significant increase in nuisance effects are expected from noise, odour or traffic.</p>		

6.3 Summary of Effects Assessment

The socio-economic effects assessment shows that while there are some concerns among residents and business owners, it is likely that these concerns can be effectively managed and mitigated through the measures identified in this report. Nuisance effects such as increased noise or odour are not anticipated to be significant or above acceptable standards provided the mitigation measures noted in this report and other impact assessment reports are implemented. Applicable monitoring programs and mitigation measures will be implemented to ensure that there are no increased effects (above the existing conditions) that will create nuisance effects for local people or businesses.

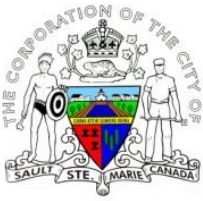
7. Conclusions

This report aimed to assess and understand the potential impacts on the socio-economic environment due to the proposed expansion of the Sault Ste. Marie Landfill. The socio-economic environment can be affected by a number of different issues such as increased, noise, odour and traffic which can have an adverse effect on factors such as use and enjoyment of personal property and outdoor spaces, recreation facilities and open spaces, community character and business operations. Through an analysis of findings from air quality, noise and traffic impact assessments, surveys with residents and surveys with businesses it has been possible to evaluate the impacts on the socio-economic environment. This analysis concludes that there will not be significant effects on the socio-economic environment relative to current levels provided the mitigation detailed herein and in other related reports are implemented. Appropriate mitigation and monitoring plans will be adopted to ensure that issues are not exacerbated by landfill construction or operations.

While some concerns do exist among local people with respect to vermin and odour, these are not expected to be exacerbated by the landfill expansion. Furthermore enhanced mitigation is proposed relative to current practices to further mitigate nuisance odours.

Appendix A

Residents' Surveys



City of Sault Ste. Marie Landfill Expansion Environmental Assessment

Site Neighbour Survey

Date	
Your Name (please print)	
Your Address (please print)	
Postal Code	

AECOM has been hired by the City of Sault Ste. Marie to conduct an Environmental Assessment to assess potential effects from the proposed expansion of the City of Sault Ste. Marie Landfill on Fifth Line. The EA process is a transparent decision-making process used to promote good environmental planning by assessing potential effects of certain activities or projects on the natural and human environment. As part of this study a socio-economic impact assessment is being conducted to examine how the landfill expansion may affect the day to day lives of local residents.

The purpose of this survey is to understand:

- The characteristics of your household;
- How you and members of your household use and enjoy your property;
- Your overall satisfaction with living in your neighbourhood;
- Your opinion on whether the existing landfill site and ongoing operations affects your current use and enjoyment of your property, and if so, how; and
- Whether the effects associated with an expanded landfill site may affect your current use and enjoyment of your property and overall satisfaction with your neighbourhood, and if so, how.

We would very much appreciate it if you, or a member of your household, could complete and return this survey using the pre-paid envelope enclosed. The survey is also available to complete online at this link:

<https://www.surveymonkey.com/s/SV9KM5T>

Please be assured that all information collected will be kept strictly confidential, no responses will be attributed to you personally and results reported in aggregate form.

Project background

The City of Sault Ste. Marie is undertaking a Waste Management Environmental Assessment to determine the preferred way to address future waste management needs within the City and surrounding area. The preferred waste management alternative was identified as increased waste diversion through reduction, reuse and recycling (i.e. 3Rs) and landfilling of residual waste. The City has significantly increased diversion over the last decade and remains committed to investigating, implementing and supporting programs to further increase waste diversion through 3Rs initiatives. Alternative disposal methods including export of

waste, and waste conversion through high heat processes were also considered and the EA study is now focusing on potential impacts of expanding the existing disposal site.

More information can be found on the EA webpage here:
http://www.cityssm.on.ca/Open_Page.aspx?ID=1097&deptid=1

Screening

Are you or any member of your household an employee of the City of Sault Ste. Marie?

- Yes (please do not continue survey) No (please continue survey)

If yes, thank you for your time but your responses cannot be included in this survey. If you answered "no" to the above question, please continue with the survey.

QUESTIONNAIRE

Firstly, a few questions about you.

1. How long have you lived at this address?
 Less than 2 years 11-20 years
 2-10 years More than 20 years
2. Was this property owned by another member of your family before you moved here?
 Yes No

3. If yes, how many years has it been owned by a member of your family?
 years

4. Do you own or rent this property?
 Own Rent

5. How many people live at this address? (please write in)

Adults (18 years or more)	
Children (Younger than 18 years)	

The following questions are about ways that you and the people in your household use their property for outdoor activities.

6. Please list or describe the main ways that you and other members of your household use your property for outdoor activities (e.g. gardening, BBQs, swimming, relaxing etc).
 - a. _____
 - b. _____
 - c. _____
 - d. _____

- e. _____
- f. _____
- g. _____
- h. _____

7. Is this property used for commercial farming or any other business operation?

- Yes (go to q8) No (go to q9)

a. If yes, please describe your business operation

a. Name of Business: _____

b. Type of Business (i.e., what are your products or services): _____

c. Types of Outdoor Activities Undertaken: _____

d. Number of Full-Time and Part-Time Employees: _____

e. Other Comments: _____

With an understanding of what kinds of activities you and your family undertake on your property, the following questions seek to understand the things that influence how you use or enjoy your property, the things you like and dislike about your neighbourhood, and how satisfied you are with living here.

8. What are the three things, in your opinion, that influence your use and enjoyment of your property for outdoor activities, for any of the purposes identified in question 6?

a. _____

b. _____

c. _____

9. What are the three things you most like about living in this neighbourhood?

a. _____

b. _____

c. _____

10. What are the three things you most dislike about living in this neighbourhood?

a. _____

b. _____

c. _____

11. Over the past 5 years what major changes, if any, in your neighbourhood have you noticed?

a. _____

b. _____

c. _____

12. In general, how satisfied are you with living in your neighbourhood?

- Very satisfied
- Satisfied
- Neither satisfied nor dissatisfied
- Not very satisfied
- Not at all satisfied

We would like to know how living near the landfill site affects your day to day life.

13. How often do you think about living near the City of Sault Ste. Marie Landfill site?

- Very often
- Often
- Not very often
- Never

14. Does the landfill site affect your use and enjoyment of your property?

- Yes
- No

15. If yes, to what extent would you say the landfill site has affected your use and enjoyment of your property?

- a. A great deal
- b. Somewhat,
- c. A little
- d. Very little

16. If yes, please indicate in what ways your use and enjoyment of property has been affected (positively and/or negatively)

Positive Effects	Negative Effects

17. In the past 5 years have you considered moving from this address?

- Yes
- No (*go to Q20*)

a. If yes, what were the main reasons that you considered moving for?

- b. If yes, what were the main reasons that you remained at this address although you considered moving?

This section will ask about your anticipated use and enjoyment of your property during construction activities at the expanded landfill.

We anticipate the construction activity related to the new disposal cells shall include excavating and material placing, hauling and deliveries. In addition landfill mining has been included for consideration in the preferred option. Landfill mining involves the excavation of existing disposed waste and cover material, recovering the cover material and returning the waste to the disposal footprint. This will facilitate the construction of a "liner" (similar to a swimming pool liner) beneath the waste in the mined area. Landfill mining has successfully been used in Ontario to create additional landfill capacity and/or to mitigate impacts to groundwater. The construction activities related to landfill mining will include material screening in addition to the above activities. We anticipate landfill mining may be undertaken over a two year timeframe±.

18. Considering how you use and enjoy your property today, do you anticipate that your use or enjoyment of your property will change as a result of construction activities at the Landfill site?

- Yes
 No
 Don't Know

- a. If yes – in what way do you anticipate your use and enjoyment of your property will be affected as a result of construction activities?

19. Do you anticipate that you will do anything differently on your property because of these site construction activities?

- Yes
 No
 Don't know

- a. If yes –what things do you think you might do differently and in what way?

20. Do you anticipate that your level of satisfaction with your community is likely to go up a great deal, go up somewhat, go down somewhat or go down a great deal because of the site construction activities?

- Up a great deal
- Up somewhat
- Neither up nor down
- Down somewhat
- Down a great deal

21. Do you foresee yourself moving from this property because of the site construction activities?

- Yes
- No

Once construction activity is complete we are not anticipating any significant changes in the quantities of waste managed at the landfill each year. Please address the following questions thinking about when the landfill has been expanded and is operational

22. Do you anticipate that your use and enjoyment of your personal property will change as a result of operations at the landfill site?

- Yes
- No
- Don't Know

a. If yes – in what way do you anticipate it might be affected?

23. Do you anticipate that you might do anything differently as a result of operations at the expanded landfill site?

- Yes
- No
- Don't know

a. If yes – what do you think might change?

24. Do you anticipate that your level of satisfaction with your community is likely to go up a great deal, go up somewhat, go down somewhat or go down a great deal because of the expanded landfill site?

- Up a great deal
- Up somewhat
- Neither up nor down
- Down somewhat
- Down a great deal

25. Do you foresee yourself moving from this community as a result of the operations at the expanded landfill?

- Yes
- No
- Don't Know

26. What suggestions would you like to pass on to the City of Sault Ste. Marie to ensure your ongoing use and enjoyment of your property?

27. What suggestions or considerations can you offer to the City of Sault Ste. Marie to ensure that you are satisfied with living in this neighbourhood?

28. What other concerns or questions do you have regarding the proposed project for the Landfill that you would like addressed?

If you have any questions about the project or this survey please use the contact details below:

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AECOM Socio-Economic Lead
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Markham, ON, L3R 5Z6
T : 905 477 8400 ext. 254
Sara.jarrett@aecom.com

Thank you for your participation in this survey!

Appendix B

Business Surveys

City of Sault Ste. Marie Landfill Expansion – Business Interviews

AECOM has been hired by the City of Sault Ste. Marie to conduct an Environmental Assessment to assess potential effects from the proposed expansion of the City of Sault Ste. Marie Landfill on Fifth Line. The EA process is a transparent decision-making process used to promote good environmental planning by assessing potential effects of certain activities or projects on the natural and human environment. As part of this study a socio-economic impact assessment is being conducted and as part of this we are talking to local businesses to better understand any concerns they have about the landfill's current operations and the plans for expansion.

I'd like to go through a quick questionnaire with you; it should not take longer than 15 minutes of your time.

If not able to talk – try to reschedule.

Project background

The City of Sault Ste. Marie is undertaking a Waste Management Environmental Assessment to determine the preferred way to address future waste management needs within the City and surrounding area. The preferred waste management alternative was identified as increased waste diversion through reduction, reuse and recycling (i.e. 3Rs) and landfilling of residual waste. The City has significantly increased diversion over the last decade and remains committed to investigating, implementing and supporting programs to further increase waste diversion through 3Rs initiatives. Alternative disposal methods including export of waste, and waste conversion through high heat processes were also considered and the EA study is now focusing on potential impacts of expanding the existing disposal site.

More information can be found on the City of Sault Ste. Marie's website.

Name of Business:

Local Address:

Company Address if different from above:

Name:

Job Title and details of role:

1. How long has your business been in operation at this location?

1 – 2 years	11 – 20 years
3 – 5 years	More than 20 years
6 – 10 years	

2. Do you own or rent this property?

Own Rent

17. If you anticipate any adverse effects, in what ways could the City of Sault Ste. Marie reduce or eliminate the effects on your business?

18. Do you have any other concerns about this project that you would like to express?