EASTERN WASTE MANAGEMENT
WHITBOURNE AREA WASTE RECOVERY FACILITY

Environmental Assessment Registration

Pursuant to the *Newfoundland & Labrador Environmental Protection Act (Part X)*

Submitted by:

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February 2014

AMEC TF 1372718

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1.0 INTRODUCTION

Project Name: *Whitborne Area Waste Recovery Facility*

Eastern Waste Management is proposing to construct and operate a new Waste Recovery Facility (WRF) in the Whitbourne area of Eastern Newfoundland (hereinafter also referred to as the "Project").

This *Environmental Assessment Registration* has been prepared in relation to the proposed Project by Eastern Waste Management, with assistance from AMEC Environment & Infrastructure.

1.1 Nature of and Rationale for the Undertaking

In 2002, the Government of Newfoundland and Labrador released a provincial *Solid Waste Management Strategy* (the Strategy), which indicated that that the Province would be moving towards a regionalized waste management system including the closure of existing waste disposal sites and various initiatives to significantly reduce the amount of waste being produced and disposed of in Newfoundland and Labrador. A framework for the execution of the Strategy was recently adopted by Government, with goal of full implementation by 2020 based on the following key goals and activities:

Waste Diversion

Pursuing waste diversion initiatives aimed at reducing the amount of waste going into landfills by 50 percent. This strategy will be supported by the use of disposal bins, the development of diversion programs, and by researching new waste diversion programs and other actions.

Regional Waste Management

Newfoundland and Labrador has been subdivided into 15 regional waste management zones, with 11 zones on the Island portion of the province and four in Labrador. With the proclamation of the *Regional Service Board Act* in 2004, Government has been working to form Regional Boards with mandates to oversee the development of regional waste disposal sites and various transfer stations province wide.

Under the Strategy, there are to be three full service regional waste disposal facilities ("super sites") developed in the Avalon, Central and Western zones of the Island portion of the province. Once these are operational, the remaining eight zones in Newfoundland will develop systems to transport waste to the three full service facilities.

Concurrent with the development of the three regional facilities, work is also being undertaken to close as many existing waste disposal sites in the province as possible, as well as to consolidate waste management activities, enhance recycling and diversion programs and develop the transportation infrastructure required to provide full integration into the three regions.

Modern Standards and Technology

The NL Department of Environment and Conservation is responsible for providing the standards and regulations that govern the design, construction and operation of new waste management systems and facilities, and the closure of existing non-contained waste management systems. The Department has developed a number of new environmental standards that apply to new waste systems, lateral expansion of new waste management systems, or decommissioning of unlined existing landfill sites.

Maximize Economic and Employment Opportunities

Government is actively pursuing opportunities to maximize economic and employment benefits with a focus on stimulating regional benefits.

Eastern Waste Management

The Eastern Regional Service Board was established and mandated "to oversee the modernization of a solid waste management system for the Greater Avalon region including both residential and commercial users", including the 163 communities and 270,000 residents that comprise the Eastern Region. The Board operates as "Eastern Waste Management", and is comprised of 20 municipal government representatives led by a Chairperson appointed by the Province. These 20 members are either nominated by their respective Council or are elected by the Councils in a sub-region to represent that area at the Board.

The region's Waste Management Plan was developed to accomplish three broad goals:

1) To advance the implementation of modern waste management practices;

2) To divert materials from disposal in the landfill, and

3) To close the 42 community landfills that operated in the region.

As of the end of 2013 there were four community landfills operating in the Eastern Region, with 38 having been operationally closed in accordance with the Eastern Regional Waste Management Plan. The Province has selected the Robin Hood Bay facility (located within the City of St. John's) to be the focus for landfill and diversion services / facilities in the region. At present, nearly all communities in the area are collecting and transporting their municipal solid waste to the regional waste disposal site at Robin Hood Bay.

Although many of the larger communities in the region have dedicated waste fleets, some of the smaller municipalities, local service districts and unincorporated areas have been brought together in joint service delivery contracts that allow for efficient and effective collection, transport and diversion of waste materials. The Eastern Regional Service Board provides direct service to approximately 18,000 households and businesses through these contracts, which include weekly waste collection, biweekly recyclables collection (fibre and containers) and regular bulk garbage collection events. Throughout the year household hazardous waste collection events also take place to allow residents to properly dispose of these materials.

In addition to the roadside / curbside collection, the Eastern Waste Management is also establishing a series of WRFs throughout the region to ensure that residents have access to services and facilities to dispose of household bulk items. As part of the Strategy, nine locations throughout the Avalon Region were selected as WRFs, including a site near Whitbourne, at Peak Pond. Similar facilities are currently in operation or under development at Bay Bulls, Renews - Cappahayden, St. Joseph's, Placentia, Sunnyside, Cavendish, Old Perlican and Harbour Grace, NL.

The proposed Project will therefore involve the construction and operation of a WRF at this location, which will serve the various communities in this area.

1.2 The Proponent

Name of Corporate Body: Eastern Regional Service Board
(Operating as Eastern Waste Management)

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1.3 Environmental Assessment Processes and Requirements

The Newfoundland and Labrador *Environmental Protection Act* (NL EPA, Part 10) requires anyone who plans a project that could have a significant effect on the natural, social or economic environment (an "Undertaking") to present it for examination through the provincial environmental assessment (EA) process. The associated *Environmental Assessment Regulations* (Part 3) list those projects that require registration and review. This includes, for example: *47.(1) An undertaking that will be engaged in the (a) establishment of a waste disposal site where the population to be served by the site is more than 5000.* Other components and activities associated with a proposed waste management project may also be relevant for EA purposes. The Minister of Environment and Conservation also has the discretion to require EA registration and approval for other types of project which may not be specifically listed, pursuant to Section 26 of the *EA Regulations*.

Following public and governmental review of this EA Registration, the Minister of Environment and Conservation will determine whether or not the Project may proceed, subject to any associated terms and conditions and other applicable permits, or if further EA review is required.

2.0 PROJECT DESCRIPTION

The proposed Project involves the construction and operation of a new WRF near Whitbourne in Eastern Newfoundland, with associated composting and maintenance infrastructure. The facility will be owned and operated by Eastern Waste Management, and will serve communities and residents in the surrounding area.

2.1 Geographic Location

The proposed Project is located in the eastern portion of the Island of Newfoundland, on the Avalon Peninsula approximately 8.5 km from the Town of Whitbourne, to the immediate south of the Trans Canada Highway (TCH) and northwest of Peak Pond (Figure 2.1).

2.2 Project Components and Layout

The new facility will be comprised of three main components: 1) the WRF itself 2) a Composting Facility, and 3) a Maintenance Building (Figure 2.2), each of which will be designed, constructed and operated in accordance with applicable regulations, standards and permits (see Appendix A).

The site will be accessed through the existing gravel surface access road that currently extends off the TCH at this location (Figure 2.2). Portions of the existing road network at this location will require some clearing, widening (to approximately 3-4 meters) and resurfacing several hundred meters of road distance. It is also possible that the section of access road from the TCH to the WRF itself (about 100 m) will be paved. There are no new or existing culverts or other watercourse crossings associated with the access road segments that will be upgraded and used as part of the Project. Ditching and drainage culverts will be installed as required. The facility will have fencing and gates to restrict access to authorized personnel for approved times and waste disposal activities only.

The WRF will be located in the eastern portion of the Project area, and will be approximately 60 m by 100 m in size. This facility will be subdivided into a number of zones (cells) for accepting and storing the various types of solid waste materials, each of which will clearly identified through signage installed at each cell. The surface of the site will initially be cleared and graded with rock fill as required to level the area. The levelled site will be covered with a gravel surface worked to compaction. This will be comprised of imported till and 4” minus rock fill where required, along with a 4” surface of Granular ”A” material. The individual cells within the WRF will be separated by berms, each approximately 1-2 m in height and constructed of compacted soil taken from within the Project footprint itself and/or sourced from existing and approved offsite locations.

A Maintenance Building will also be established at the site, to the immediate northwest of the WRF (Figure 2.2), which will provide a maintenance and storage area for equipment as well as an office, washroom and lunchroom for staff during Project operations. This facility will consist of a pre-engineered steel building approximately 40 m by 20 m in size, with a concrete foundation and floors. All floors will be sealed and hardened, and will be sloped towards equipment for collection, removal and appropriate disposal of any spilled material.

Figure 2.1 Whitbourne Area Waste Recovery Facility: General Location

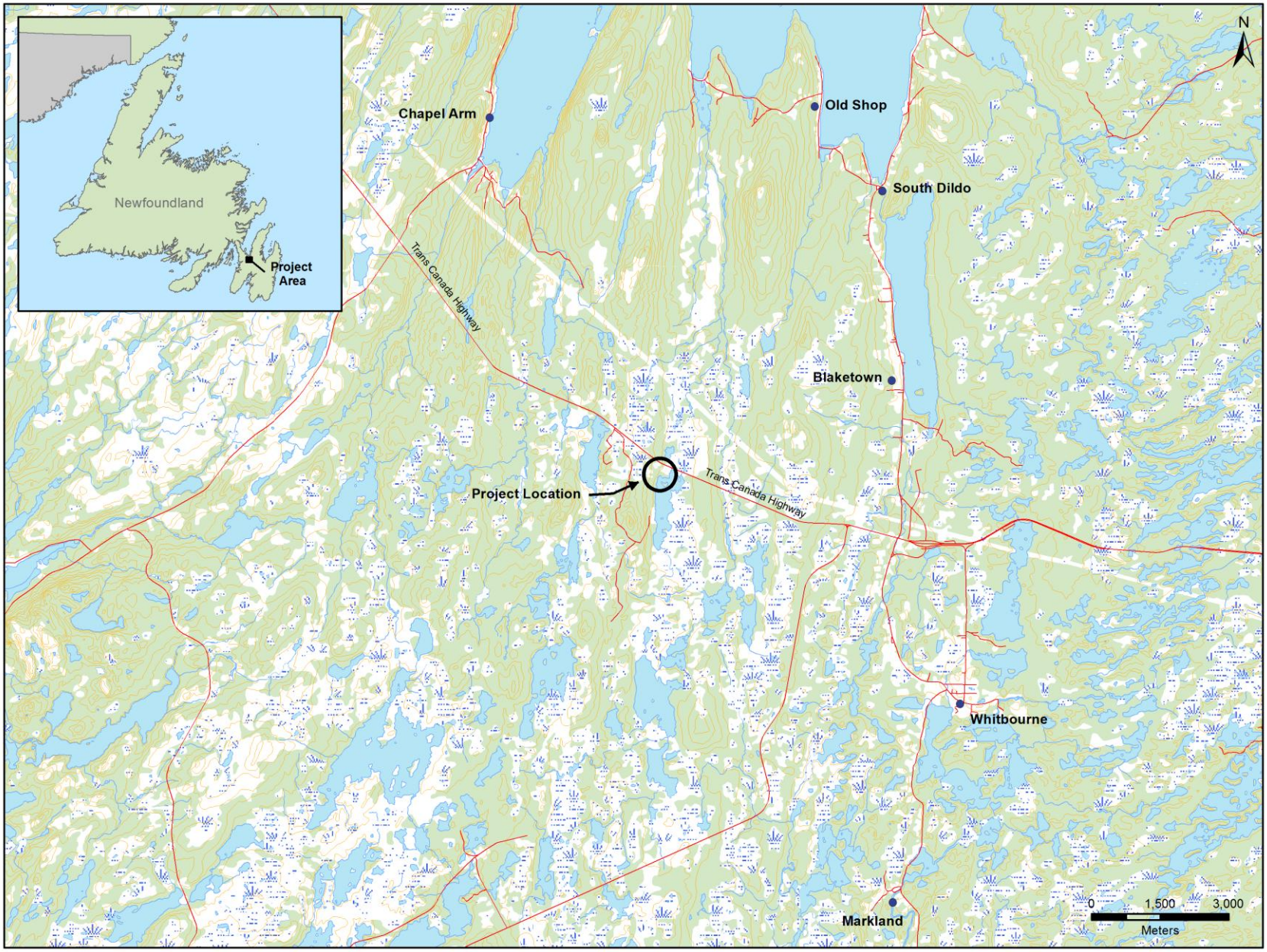
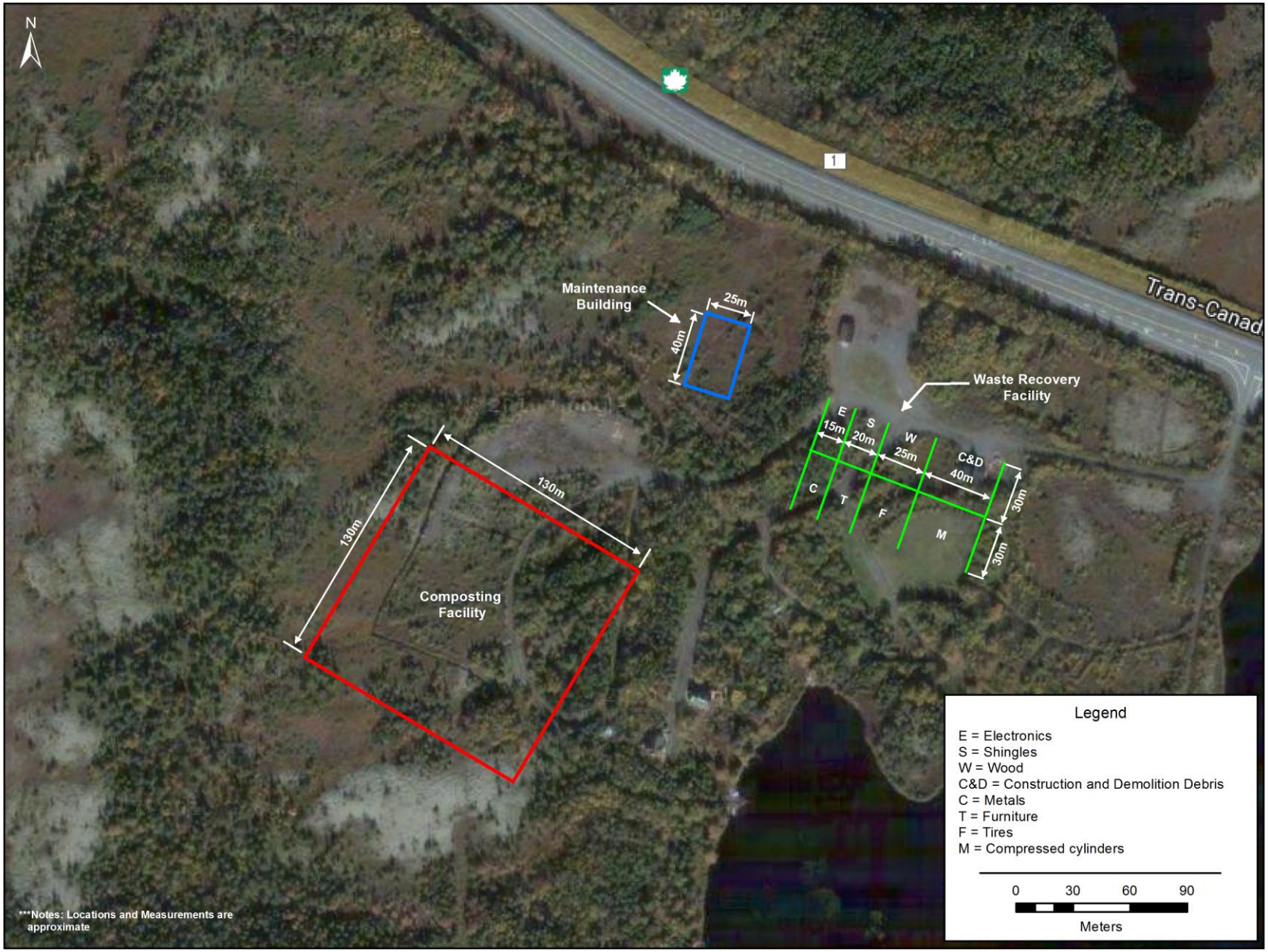


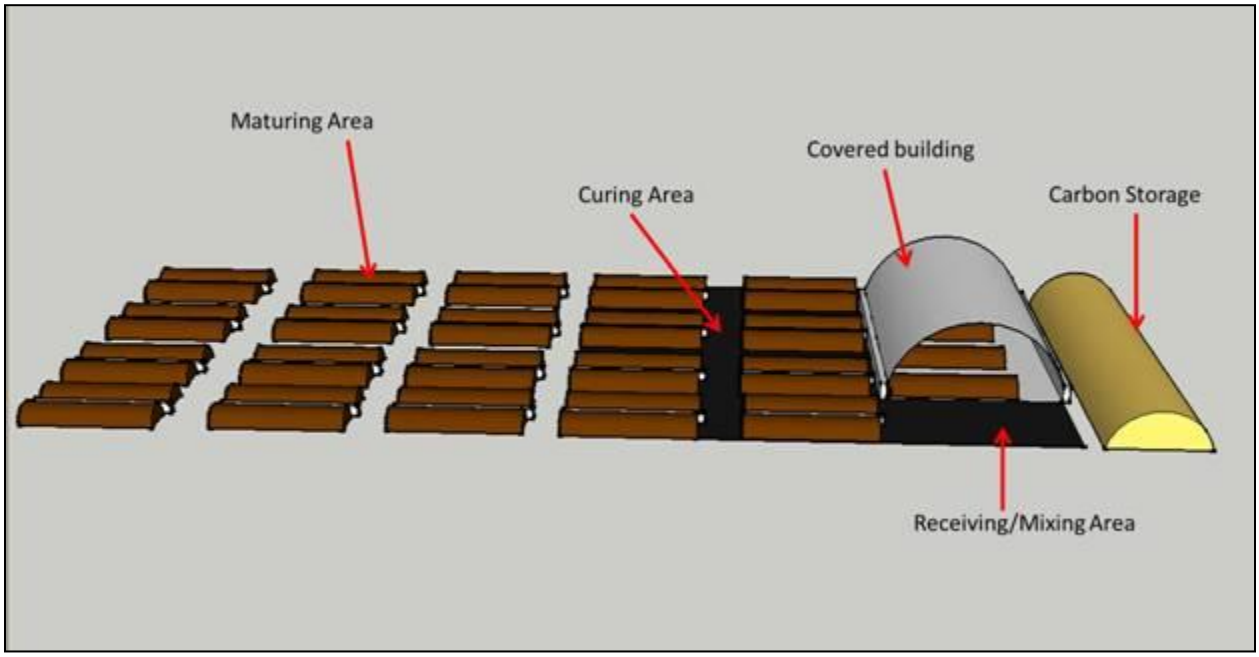
Figure 2.2 Whitbourne Area Waste Recovery Facility: Key Components and Site Layout



The Maintenance Facility will require the establishment of new water and sewage systems at the site, which will be designed and constructed in compliance with applicable regulatory requirements and standards. This will involve the installation of an appropriately sized septic tank system, from which the associated waste material will be regularly collected and transported to an existing, approved disposal facility by a licenced contractor. An artesian well will be drilled adjacent to the facility to provide its water supply. Electrical power will be supplied from the existing transmission line which runs along the TCH, and from which there is an existing electrical connection and utility pole at the proposed site of the Maintenance Building. This existing electrical equipment and connection will be upgraded as required. An asphalt parking area will be located immediately adjacent to the building itself. Fuel will be stored and supplied from an approximately 4,000 litre pre-fabricated steel storage tank, installed on a concrete pad with a retaining basin and other components as per applicable guidelines and associated permits, which will be filled as needed by a certified fuelling contractor.

A Composting Facility will also be developed as part of the proposed WRF, as a "pilot project" being undertaken by Eastern Waste Management in partnership with the Multi Materials Stewardship Board (MMSB). The proposed experimental facility will manage organic waste through a composting process using covered "windrow" technology (as described in the next section). It will be configured to handle up to an estimated 1,000 tonnes of organic waste material, and will be approximately 130 m by 130 m in size and located in the southwestern portion of the Project site (Figure 2.2). The site of the Composting Facility will be cleared and compacted to an approximately two percent sloping grade, which will be subdivided into several zones that will serve as receiving, mixing and curing areas as well as space for carbon storage and maturing. Each of these areas will be underlain by concrete, asphalt or gravel. An approximately 25 m by 40 m building, comprised of an A-frame structure with steel frame and fabric covering on a concrete pad, will also be established at the site (Figure 2.3). Key equipment that will be located and used at the Composting Facility include: scales and bins for weighing and sorting the compost materials; a front-end loader with rotating forklift attachment and ALLU bucket (shredder and grinder); trommell screener; impermeable covers; and a leachate tank.

Figure 2.3 Composting Facility: Overview of Proposed Layout



2.3 Construction

Subsequent to release from the EA process and the receipt of all other required regulatory approvals and permits (including land acquisition by Eastern Waste Management), construction activity would commence in the early summer of 2014. Standard and relatively routine construction methods will be used for the Project, which will be carried out in accordance with environmental regulations, permits and applicable standards.

The upgrading of the existing access road segments will involve clearing back vegetation and widening where needed, and the installation of drainage ditches and culverts as required. Fill and surfacing materials for the access roads will be obtained either from within the developed footprint of the Project site itself, or from any nearby existing quarries in the general region. Following clearing and site preparation of the roadbed and facility locations, the locally-sourced gravel will be transported to the worksite and distributed, spread and compacted using standard construction equipment and methods, followed by asphalt and concrete installation in specific locations.

Project planning and design work to date has been completed with a view to minimizing the physical footprint of the Project and its various components and activities. Limits of clearing will be clearly marked and adhered to. During initial site preparation, trees will be removed manually using brush saws and chain saws. On-site vegetation ranges in size from softwood scrub to potential saw logs and firewood, which will be salvaged in accordance with permit specifications. Site preparation work will also involve the demolition and removal of the existing and abandoned wooden structures and associated infrastructure at the site, which will be disposed of appropriately and in accordance with relevant regulations.

Once cleared of vegetation, the work areas will be grubbed and stripped and then levelled using rock fill as required, followed by the placement of gravel surfacing, construction of soil berms, installation of concrete and asphalt surfacing in select locations, and the development of the other components and infrastructure within each of the associated facilities. Construction of the site buildings and other Project infrastructure and components would take place throughout the summer of 2014, including constructing the foundations, assembly and erection of the buildings, installation of utilities and electrical system, as well as the receipt and installation of equipment.

The main equipment that will be required for Project construction is anticipated to include three hydraulic excavators (20 tonne or larger), one track type dozer, two to five tandum dump trucks, an asphalt spreader, concrete and pump trucks, and a boom truck.

2.4 Operation

Once operational, the facility will serve as a public drop off and temporary storage site for bulk residential waste only, including household furniture, wood, construction and demolition debris, metals and other such materials which are not accepted during weekly curb side collection in the surrounding communities. The underlying purpose of the WRF is therefore to provide the general public with a continuous, local drop off location for bulk waste materials. It will not be a disposal site, but rather, bulk waste material will be dropped off by the public and consolidated at this location before being transported to the regional landfill on a regular basis by Eastern Waste Management.

It is currently planned that the WRF will be open to the public from approximately 12 pm – 5 pm on Tuesdays and Thursdays, and from 9 am – 5 pm on Saturdays. Eastern Waste Management will have an attendant on site during these hours of operation to coordinate the movement of traffic to and within the site and oversee the associated waste disposal activities. This will include ensuring that only accepted waste materials are disposed of at the WRF, that the facility is used by public (and not commercial) users only, as well as otherwise tracking and monitoring waste disposal at the facility. The site will be gated and locked during non-operating hours to prevent unauthorized vehicle / public access. It is currently anticipated that all waste materials collected at the WRF will be removed for transportation to and disposal at Robin Hood Bay approximately every three months. Metals that are collected in the WRF will be salvaged from the site by an approved metal recycler, with any used tires being also collected regularly. Trees and brush will be chipped / mulched and transferred to the Composting Facility.

The Maintenance Building will be accessible to facility staff only, and will be used to store and service equipment and for administrative purposes.

The Composting Facility will accept and store compost materials that are collected from residents and transported to the facility by Eastern Waste Management or its contractors. This component of the WRF will not be open to the public, but rather will be used to accept and process compost materials that are obtained during these organized collection activities in the region. The approximately 1,000 tonnes of organic waste that are currently expected to be received and processed at this facility each year will be obtained from domestic (household) and commercial (e.g., grocers) sources. The Composting Facility will be design, constructed and operated in accordance with applicable standards and regulations that pertain to a facility of its type, size and capacity (see Appendix A).

Windrowing is a long-standing and relatively simple and cost-effective means of composting. It does not require complicated or costly equipment or processes, and is the technology used by most of the current composting operations in Canada. The processing of organic waste using windrow technology typically takes from 12 to 24, months and involves the following procedures:

- Receiving and mixing of material to ensure adequate carbon to nitrogen ratio and porosity;
- Placement of material in rows of predetermined height, width and length; and the
- Introduction of oxygen and management of moisture to facilitate decomposition.

The main activities that will be associated with the operation of the Composting Facility will therefore include:

- Transportation of the collected organic material to the facility;
- Receiving, weighing and initial placement of the waste material into windrows;
- Primary Phase: Pathogen kill (approximately 2-3 weeks);
- Secondary Phase: Covering and curing (approximately 14-16 weeks);

- Tertiary Stage: Maturing and test (approximately 30-34 weeks); and

- Final Stage: Screening and distribution

Upon arrival at the Composting Facility, the delivery vehicle will be weighed and its specific contents determined. From there, the organic material will be placed in a receiving bunker, and the vehicle will be weighed empty to determine the specific amount of material delivered. The waste material will then be thoroughly mixed with a loader, and placed in a windrow within the composting area which will be labelled according to the material and the date of delivery.

During the next phase of the process, the organic material is left to sit for approximately 5-6 days. During that period, the temperature of the windrow is regularly monitored to ensure that the composting process has commenced. When the pile reaches 50^{o} C, the material is turned and then sits for another period, during which time its temperature is checked regularly to ensure that it has maintained a 50^{o} C temperature for at least 15 days. The secondary (covering and curing) phase then begins, where the material is moved by loader to the curing area, placed in large windrows and covered. The waste piles are then turned every two weeks and re-covered, with this process typically lasting from 14-16 weeks. In the tertiary (maturing and testing) stage, the waste material is moved to the adjacent maturing area, placed in windrows and covered for a period of about 30 to 34 weeks. Over this timeframe, samples are taken and sent to an accredited lab for the purposes of evaluating the grade of compost. In the final phase, the matured and tested material is considered to be compost, and is screened, moved to a receiving area, labelled, and eventually loaded onto trucks for transportation to users.

There are no planned discharges to the environment associated with the operation of the proposed Project, which functions as a “closed system” from the receipt and storage of the waste materials to their eventual transportation from the facility. Once operational, the facility will be subject to regular inspection and maintenance, which will help to prevent any unplanned discharges or other environmental issues or interactions.

Leachate from all stages of the composting process will be collected and managed appropriately. The site will be graded to ensure that leachate flows towards a drainage system and into an underground leachate tank. This tank will be inspected and emptied regularly, and its contents treated and disposed of by an approved effluent management contractor.

2.5 Decommissioning

The new facility will be subject to inspection and periodic maintenance, as required, and it is assumed that it will be operated on a permanent basis. As such, formal and separate plans for decommissioning have not been developed. Should decommissioning be required for all or a part of the Project, a detailed decommissioning plan would be developed and implemented in accordance with acceptable standards of the day, and in consultation with relevant regulatory agencies.

2.6 Effects of the Environment on the Project

The proposed Project has been planned and designed, and will be implemented, with due consideration of the local environmental conditions in and around the Project site. Topographic features, waterbodies, existing access roads and other infrastructure, and other environmental factors have, to varying degrees, influenced the placement and design of the Project and its associated components. Weather conditions will also likely influence the timing of some construction activities. No additional or specific mitigation measures are required or proposed in relation to the possible effects of the environment on the Project.

2.7 Labor Force and Occupations

The Project, through its construction and operations phases, will create employment opportunities in several occupations. In addition, the requirement for goods and services during Project construction and operation will provide opportunities for local businesses. These direct economic benefits will be supplemented by indirect and induced "spin-off" effects through, for example, spending by Project employees and contractors.

Over its construction phase, the Project will require an estimated 40 workers, including the following occupations (Table 2.1)*:*

Table 2.1 Occupations Likely to be Represented in the Construction Work Force

Project Phase	Number (Approximate)	Description	National Occupational Classification (NOC)
Construction	1	Supervisor / Foreperson	NOC 7205
	5	Heavy Equipment Operator	NOC 7521
	5	Concrete Finishers	NOC 7282
	2	Electrician	NOC 7241
	5	Steel Erector	NOC 7235
	5	Roofer	NOC 7291
	2	Plumber	NOC 7251
	5	Truck Driver	NOC 7511
	10	Labourer	NOC 7611

Project construction will be carried out on a contractual basis, with workers hired at the discretion of the contractor and in accordance with its own hiring practices and policies. Eastern Waste Management supports employment and gender equity in its hiring and contracting practices, and is committed to maximizing the use of the local workforce and Newfoundland and Labrador companies to the extent possible.

During Project operations the Project will require several long-term positions, including: one administrative person (NOC 0114), one site attendant (NOC 7611) for the WRF, an equipment operator (NOC 7521) and labourer (NOC 7611) at the Maintenance Facility, and one operator for the Composting Facility (NOC 8431).

2.8 Project Documents

Apart from this EA Registration, no other EA-related documents have been produced by Eastern Waste Management in relation to this Project.

2.9 Project Schedule

Subsequent to release from the EA process and the receipt of all other required environmental approvals and permits, construction activity would commence in the summer of 2014, with facility commissioning and start-up currently planned for late 2014.

2.10 Project Cost and Funding

The estimated capital cost of the Project, based on the current stage of engineering design and planning, is approximately $2.5 to 3.0 million. In May of 2007 the Government of Newfoundland and Labrador announced its implementation and funding plan for the Provincial *Solid Waste Management Strategy* (estimated at approximately $200 million overall). The capital costs of the infrastructure required for implementation are being supported through an allocation of federal gas tax revenue as well as allocations from the annual capital works budget of the NL Department of Municipal Affairs.

2.11 Environmental Management and Protection

Environmental protection planning is an important and integral part of Eastern Waste Management's activities and initiatives related to the planning and implementation of waste management program and projects in Eastern Newfoundland.

An Environmental Protection Plan (EPP) is an important tool for consolidating environmental information and procedures in a format that provides sufficient detail for the implementation of environmental protection measures in the field. An EPP provides concise instructions to personnel regarding protection procedures and descriptions of techniques to reduce potential environmental effects associated with any construction or operations activity.

A Project-specific EPP will be prepared and implemented for the construction and operations phases of the Project, which will include procedures and measures relating to such activities as vegetation clearing, grubbing and grading, storage and handling of fuel, dust and sedimentation control, waste and sewage disposal, and other associated activities. This will also include identifying and establishing measures to respond to any potential accidental events or emergency situations, such as a fire or the accidental release of fuel or other materials.

2.12 Other Required Environmental Approvals

In addition to approval under the provincial EA process, the proposed Project will also require a number of other permits and authorizations. A listing of some of the main permits, licences, approvals and other authorizations that may be required for the Project is provided as Appendix A.

3.0 EXISTING ENVIRONMENTAL SETTING

The following provides an overview of the existing environmental setting for the proposed Project, including a brief description of relevant components of the biophysical and socioeconomic environments.

3.1 Natural Environment

The proposed Project is located in the eastern portion of the Island of Newfoundland, on the Avalon Peninsula approximately 8.5 km from the Town of Whitbourne, to the immediate south of the Trans Canada Highway (TCH) and to the northwest of Peak Pond (see Figures 2.1 and 2.2).

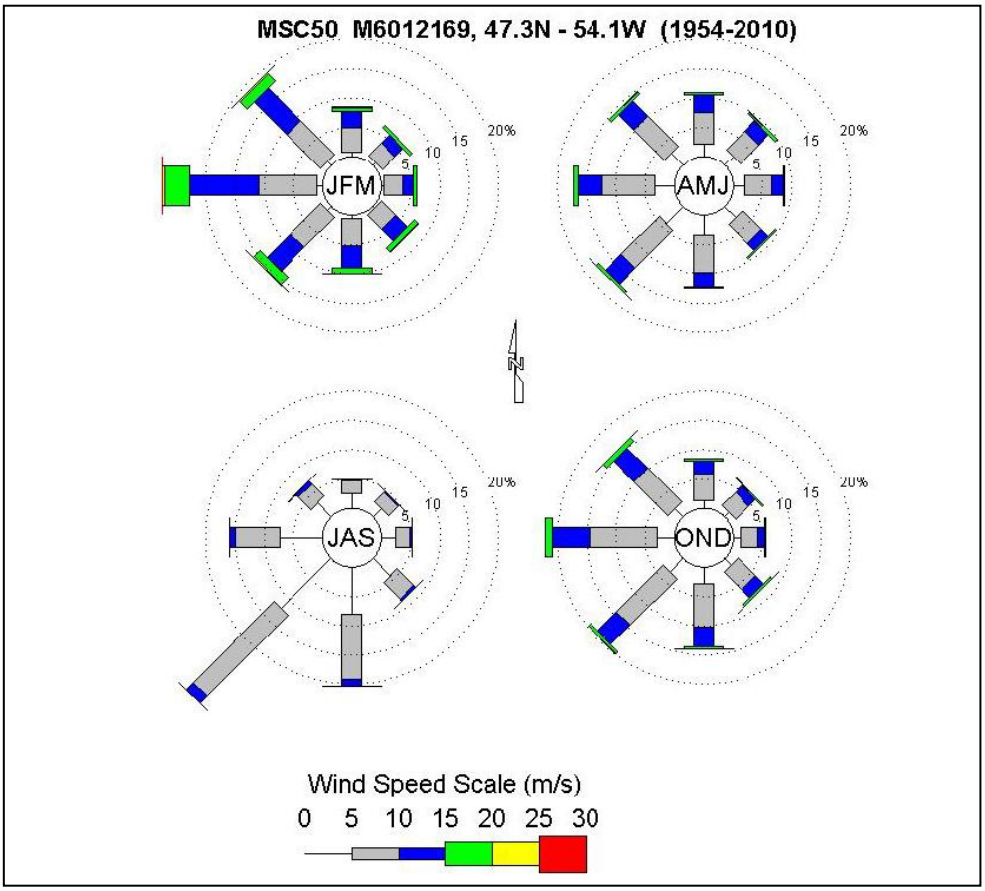
The Project site is located within the extensive *Maritime Barrens Ecoregion* (Meades 1990; DNR 2014), which extends from the east coast of Newfoundland to west coast through the south central portion of the Island. The landscape pattern consists of usually stunted, almost pure stands of balsam fir, broken by extensive open heathland. Good forest growth is localized on long slopes of a few protected valleys, with an extensive heath landscape due to historic burning. This ecoregion has cold summers with frequent fog and strong winds, with relatively mild winters having intermittent snow cover, particularly near the coastline.

Daily average temperatures in the area range from – 4.9 ^{o} C in February to + 16.5 ^{o} C in August, with 1,382 mm of rainfall and 286 cm of snowfall per year (Environment Canada 2013) and prevailing westerly and southwesterly winds (Table 3.1 and Figure 3.1).

Table 3.1 Climate Normals and Averages (Whitbourne, 1981-2010)

WHITBOURNE	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Precipitation													
Total precipitation (mm)	174.35	142.98	145.57	134.65	103.69	90.99	117.54	101.85	159.01	163.84	161.63	172.34	1668.44
Total rainfall (mm)	88.78	77.72	107.24	111.80	102.90	90.99	117.54	101.85	159.01	162.77	146.62	114.72	1381.94
Total snowfall (cm)	85.56	65.26	38.33	22.85	0.79	0.00	0.00	0.00	0.00	1.07	15.01	57.62	286.49
Air Temperature													
Extreme maximum daily max temperature (^{o} C)	15.50	14.00	19.00	19.00	26.50	27.00	29.00	30.00	30.00	21.00	18.50	15.00	30.00
Extreme minimum daily min temperature (^{o} C)	-26.50	-33.00	-26.00	-20.00	-6.50	-3.50	0.00	2.00	-1.50	-8.00	-16.00	-23.00	-33.00
Mean daily max temperature (^{o} C)	-0.20	-0.10	2.22	6.56	11.84	16.27	20.52	21.23	17.19	11.68	6.51	2.63	9.70
Mean daily min temperature (^{o} C)	-9.16	-9.69	-6.43	-1.94	1.75	5.54	10.41	11.73	8.33	3.88	-0.62	-4.97	0.74
Mean daily temperature (^{o} C)	-4.69	-4.90	-2.11	2.32	6.81	10.93	15.48	16.50	12.78	7.80	2.96	-1.17	5.23
Source: Environment Canada (2013)													

Figure 3.1 Distribution of Wind Speeds and Directions in the Region (by Season)



Source: MSC50 wind hindcast at M6012169: Between Red Island and Argentia NL, 47.3°N, 54.1°W

Within the larger *Maritime Barrens Ecoregion,* the *Southeastern Barrens Subregion* encompasses the proposed Project area itself. Its landscape is dominated by heathlands and the forest only occurs in small acreages which have escaped fire. The dominant heath shrub on uplands is Empetrum nigrum with Kalmia angustifolia forming a dense cover only in protected valleys. The topography is generally undulating with shallow heavily compacted till and numerous large erratics. The Clintonia-Balsam Fir type is most common where the forest is still present. Good forest growth only occurs in a few large protected valleys where the Dryopteris-Balsam Fir type dominates the slopes (Meades 1990; DNR 2014). The Eastern Newfoundland region, with its productive and scrub forests, extensive wetlands and barren areas also provides habitats for a range of wildlife that are typical of boreal forest ecosystems. Wildlife species that are known or likely to occur in the general region include large mammals (moose and black bear), furbearers and small mammals (such as fox, hare, red squirrel, voles) as well as various resident and migratory species of birds, including raptors, waterfowl, passerines and upland game birds.

The proposed Project site itself is characterized by patches of mixed wood forest interspersed with alder beds, some wetter areas in the southeastern portion of the Project site and to the east of the area. There are also areas of exposed rock and earth throughout (Figure 3.2), with roads, trails and other cleared areas being present (see Figure 2.2). No plant or animal species that are listed under the Newfoundland and Labrador *Endangered Species Act* (*NL ESA*) or the Canadian *Species at Risk Act* (*SARA*) are known to occur within the proposed Project area itself.

Figure 3.2 Environmental Setting (Typical Site Vegetation and Ground Cover)






3.2 Human Environment

The proposed Project is located in the eastern portion of the Island of Newfoundland, on the Avalon Peninsula near its Isthmus. It is located approximately 5.5 km from the nearest community (Blaketown) and 8.5 km from Whitbourne, with all other communities being at least 8.0m from the proposed Project site.

The Project area and surrounding communities are located within Canadian Census Consolidated Subdivision 1Y. This region had a total population of 2,091 residents in 2011 (Statistics Canada 2012), including the communities of Whitbourne (916 persons), Blaketown (511 persons), Dildo (37 persons), Old Shop (220 persons), South Dildo (277 persons), Spread Eagle (44 persons) and various other smaller communities and residential areas.

A variety of land and resource use activities are undertaken throughout the surrounding region, including commercial, recreational and subsistence pursuits. Large and small game can be found throughout the area, and hunting has long been part of the lifestyle of area residents. Residents also harvest the area's forest resources for firewood and lumber. Fishing is also an important recreational and subsistence activity, with various species found in the numerous rivers and ponds in the region through angling. Snowmobiling is also a popular activity in the winter months.

Cabins are located throughout the larger area, and are used in association with various recreational pursuits. Existing cabin areas that are located several kilometres to the south and to the west of the Project site are not accessed through the highway turn off and access road that will be utilized for this Project, but rather through another, separate access road that is located further west on the TCH. There are other commercial and industrial developments and activities located in the surrounding area, including access roads and infrastructure on the opposite side of the TCH and just to the east. Forest access roads and domestic harvesting and silviculture areas are also located to the immediate south and east, near several of the existing cabin areas in the region, and there are quarries to the east.

The proposed Project area is located well outside of any municipal boundaries or planning areas, community infill limits or local service district bounds. The TCH runs to the immediate north of the proposed Project area, with an existing exit off the TCH located at the site. Portions of the Project (and specifically, the associated access road) are located within the TCH Protected Road Zone (which extends approximately 400 m from the centre line on both sides of the highway), which will necessitate a development permit prior to Project construction (see Appendix A). The development and operation of waste disposal sites are permitted under Section 6(1) of the *Protected Road Zoning Regulations* under the Newfoundland and Labrador *Urban and Rural Planning Act.*

The proposed Project site is located on private land, which appears to have been obtained by the current user for development, and would be subject to appropriate land acquisition by Eastern Waste Management. The Project site is located immediately adjacent to a major highway (the TCH), and there has been previous development activity (such as site clearing, and the construction of buildings, roads and a power line) at this location (see Figure 2.2). There are three known existing wooden structures on the site, two of which appear to be old cabins that are in considerable disrepair, and the third being an abandoned building at the location of the planned Maintenance Facility that was likely used as a warehouse or similar purpose. A vent pipe has also been found on the property, which could possibly be associated with an existing fuel or sewage tank.

4.0 POTENTIAL ENVIRONMENTAL INTERACTIONS AND PROPOSED MITIGATION

The following sections provide the results of an environmental effects analysis for the proposed Project, including each of its associated components and activities. The analysis focuses upon, and is organized according to, the following themes:

1) Atmospheric Environment;

2) Terrestrial Environment;

3) Freshwater Environment; and

4) Socioeconomic Environment

The analysis for each includes a discussion and description of the likely environmental issues (adverse and positive) that may be associated with the Project, with separate subsections for the Construction and Operations phases. Environmental planning and mitigation measures to avoid or reduce environmental effects are identified and considered integrally with the analyses. The assessment also includes possible accidental events and malfunctions that could potentially occur during each phase (construction, operations) of the Project. This is followed by a summary and evaluation of the likely residual (after mitigation) environmental effects of the Project.

The environmental analysis concludes with an overview of any environmental monitoring and follow-up which may be required during one or both phases of Project implementation.

4.1 Atmospheric Environment

The environmental analysis for the Atmospheric Environment includes consideration of any likely implications of the Project on air quality and noise levels within and around the Project area and nearby communities.

4.1.1 Construction

The main potential interactions between the Project and the Atmospheric Environment relate to the use of equipment, primarily during Project construction, and the associated noise, dust and engine emissions that may be associated with these activities. Construction activity will include various activities associated with land clearing and site preparation, the construction of buildings and other site infrastructure, the movement and installation of materials and equipment, and other activities, which will result in some minor, temporary and localized air emissions due to project-related dust and emissions from vehicles and equipment.

Project construction will be characterized by fairly standard and routine activities and practices, and will occur within a localized area over a relatively short period. It will take place within an area that has been subject to a degree of previous site development, has a number of types of existing infrastructure and industrial activity through the general region, and which is located several (at least five) kilometres from local communities. Project-related vehicles and equipment will be maintained in good repair and inspected regularly, and any associated air emissions from equipment and vehicles will conform to applicable regulations and guidelines.

Fugitive dust from construction activities will be controlled as necessary using dust control agents such as water.

Any potential emissions or interactions with the Atmospheric Environment during Project construction are therefore likely to be negligible (and within existing regulations or standards), localized and short-term (intermittent over the construction period).

4.1.2 Operations

During Project operations, the nature and degree of on-site activity will be somewhat less than that during the construction phase, and will be characterized primarily by the movement of materials to and from the facility, as well as periodic maintenance. The operational activities that will be undertaken at the WRF are not particularly noisy, nor are they characterized by significant air emissions or other planned environmental discharges. The proposed Project facilities - and the other, existing land uses in the area - are located in close proximity to the TCH, and the highway will likely continue to be the main source of noise at this location.

The operation of the Composting Facility will result in a degree of odour being created as a result of the on-going process of storing, moving and decomposing the organic waste and its production into compost. The proposed facility is, however, located over 5 km from the nearest community, and over 8 km from any other residential area. Moreover, the prevailing winds at the Project site do not blow towards the existing cabin areas which are located over a kilometre to the south and east.

4.1.3 Environmental Effects Summary and Evaluation

A summary of potential environmental interactions, identified mitigation measures, and the residual environmental effects of the Project on the Atmospheric Environment is provided in the Table below.

Table 4.1 Environmental Effects Assessment Summary: Atmospheric Environment

Environmental Component	Project Phase / Potential Interaction			Key Considerations and Environmental Mitigation
	Construction	Operations	Issues / Interactions	
Air Quality	•	•	▪ Construction works (noise, dust) ▪ Equipment use (vehicles, fuel consumption) ▪ Odour from composting activities ▪ Possible accidental event (fire, others)	▪ Localized and short-term construction activity. ▪ Standard construction and operational practices. ▪ Regular inspection and maintenance of equipment. ▪ Accidental event prevention and response.
Noise Levels	•	•		

The proposed Project is not likely to result in significant adverse environmental effects on the Atmospheric Environment.

4.2 Terrestrial Environment

The Terrestrial Environment is comprised of relevant components of the "on-land" biophysical environment which may interact with the Project, including vegetation, soils, landforms and wildlife.

4.2.1 Construction

Project construction will involve vegetation clearing and grubbing, site preparation and excavation activities, covering an overall area of approximately 24,000 m^2 (2.4 hectares). The proposed Project site itself is characterized by patches of mixed wood forest interspersed with alder beds, scrub, some wetter areas and exposed rock and earth (Figures 2.2 and 3.1), with roads, trails and other cleared areas being present throughout the area. No listed (protected) plant or wildlife species are known or likely to occur within or near the proposed Project area.

The proposed Project area is characterized by a relatively small footprint. Vegetation clearing and other ground disturbance activities will be confined to only those areas where it is absolutely necessary. Limits of clearing will be marked in advance, and only designated areas will be cleared. Clearing will be completed in compliance with relevant permits and regulations, and any merchantable timber will be salvaged in accordance with permit conditions. Naturally vegetated areas between the site and any surrounding properties and thoroughfares will be maintained.

Adverse interactions with wildlife are not likely to occur during the Project's construction phase. Any wildlife that may be present in the immediate area that may be disturbed by Project-related noise, human presence or other interactions may temporarily avoid the immediate vicinity of such works during the short-term period of construction. Any such avoidance and the associated ground (habitat) disturbance associated with the Project is not expected to affect the overall presence or health of any wildlife population in the area, and there is similar habitat available throughout the larger, surrounding area.

The following additional mitigative measures will be implemented to further reduce the potential for interactions between Project activity and any wildlife that may occur in the area:

- Work areas will be kept clear of garbage;
- Project personnel will not hunt or harass wildlife;
- Pets will not be permitted on the Project site;
- Equipment and vehicles will yield the right-of-way to wildlife; and
- Any nuisance animals will be dealt with in consultation with the NL Inland Fish and Wildlife Division.

Waste materials generated through construction activities will be removed from the area and disposed of at an approved site. Non-hazardous refuse will be stored in covered metal receptacles and will be transported to and disposed of on a regular basis at an approved landfill site. Waste materials will be reused / recycled where possible. Any hazardous wastes will be stored in sealed, labelled containers and disposed of according to

applicable regulations. There will therefore be no adverse interaction between construction waste materials and the environment.

Fuel and oils will be stored on site in approved storage containers. All relevant hydrocarbon storage at the site will be approved by Service NL prior to installation and use. Fuel transfer operations will follow procedures as designed by the fuel distributor and the drilling contractor and will comply with all regulatory requirements for such activities. Refuelling will be conducted from a self-bermed CSA approved tank by qualified personnel, which will be installed and registered as per the NL *Storage and Handling of Gasoline and Associated Products Regulations*. Personnel responsible for the transport, storage and handling of hydrocarbon products will be appropriately trained prior to commencing work at the site. Refueling and maintenance activities will be undertaken on level terrain, at least 30 m from any surface water, on a prepared impermeable surface with a collection system to ensure oil, gasoline and hydraulic fluids do not enter waterbodies.

A supply of hydrocarbon spill response equipment and materials will be maintained at the site in an accessible location, including absorbents and open-ended barrels for collection of any contaminated ground or other debris. In the unlikely event that fuels or oils are spilled at site, they will be recovered, stored in metal containers, and transported to an approved site for disposal by a certified contractor. Personnel working on the Project will be appropriately trained and knowledgeable about these spill response procedures, and any such incidents will be reported to environmental authorities as applicable. Any contaminated soil, absorbents or other materials will also be recovered and stored as outlined above, and will be removed from the area by the contractor, who will transport these materials to an approved facility in Newfoundland or elsewhere for proper disposal.

4.2.2 Operation

During the operations phase of the Project there will be no additional soil or vegetation disturbance, and therefore, little or no potential for further effects to these aspects of the terrestrial environment. Wastes, fuels and other such materials and substances will be handled, used and disposed of properly throughout the life of the Project, as outlined earlier.

Operations activities will be characterized primarily by the movement of bulk materials to the WRF, their temporary storage at the site, and the eventual transportation of same to the regional waste disposal facility at Robin Hood Bay, as well as the on-going operation of the Maintenance Building and Composting Facility and the periodic maintenance of the facility. None of these operational activities will be particularly noisy or otherwise disruptive to the surrounding environment.

No additional interactions with or adverse effects on the Terrestrial Environment are therefore anticipated during this phase of the Project.

4.2.3 Environmental Effects Summary and Evaluation

A summary of potential environmental interactions, identified mitigation measures and the residual environmental effects of the Project on the Terrestrial Environment is provided in the Table below.

Table 4.2 Environmental Effects Assessment Summary: Terrestrial Environment

Environmental Component	Project Phase / Potential Interaction			Key Considerations and Environmental Mitigation
	Construction	Operations	Issues / Interactions	
Vegetation	•	•	• Ground disturbance • Possible fuel or chemical spills	• Localized and small project "footprint", clearly delineated • Compliance with regulations and permits • Accidental event prevention and response
Soils	•	•		
Wildlife	•	•	• Noise, human presence, ground clearing and other disturbances • Possible avoidance of Project area	• No harvesting or harassment of wildlife by Project personnel • Waste management facilities and procedures • Accidental event prevention and response

The proposed Project is not likely to result in significant adverse environmental effects on the Terrestrial Environment.

4.3 Freshwater Environment

The Freshwater Environment includes surface and groundwater (quantity and quality) and fish and fish habitat which may interact with the Project.

4.3.1 Construction

There are no waterbodies or watercourses within or immediately adjacent to the location of the proposed Project site, and the access roads do not include (or require new or modified) watercourse crossings.

The Project is proposed to be located at least 30 - 50 m from the adjacent waterbody (Peak Pond), as illustrated previously in Figures 2.1 and 2.2. Construction site drainage will be managed as required to prevent water containing sediment and/or other substances from entering adjacent waterbodies and watercourses. Silt-laden water will be discharged to a vegetated area or a sedimentation basin prior to release into a watercourse or waterbody. A clearly marked buffer zone will be maintained between any areas of ground disturbance and watercourses.

Work will be performed in a manner ensuring that no deleterious substances, such as (but not limited to) sediment, fuel and oil, enter waterbodies. Tools and equipment will not be washed in any body of water, and wash water will not be discharged directly into any waterbody. A designated cleaning area for tools will be established. Wastes, fuels and other such materials and substances will be handled, used and disposed of properly throughout the life of the Project, as outlined earlier, with appropriate equipment and procedures in place to respond to an accidental spill should one occur.

As described previously, a water well will be established to provide a water supply for the Maintenance Facility, which will be constructed and used in compliance with provincial *Water Resources Act* and associated permits

and approvals from the Water Resources Management Division of the NL Department of Environment and Conservation.

4.3.2 Operation

During planned operations activities there will be no additional, direct interactions with the Freshwater Environment. Project infrastructure and the groundwater water well established during the construction period will continue to be used and maintained / repaired as required, and site drainage will be controlled as necessary. Each of these activities which will occur in compliance with relevant regulations and permits.

There are no planned discharges to the environment associated with the operation of the proposed WRF, which will function as a "closed system" from the receipt of the bulk waste materials, their temporary storage at the facility, to their eventual transportation to the regional landfill. Leachate from all stages of the composting process will be collected and managed appropriately. The site will be graded to ensure that leachate flows towards a drainage system and into an underground leachate tank. This tank will be inspected and emptied regularly, and its contents treated and disposed of by an approved effluent management contractor. Once operational, the facility will be subject to regular inspection and maintenance, which will help to prevent any unplanned discharges to the environment.

No additional interactions or adverse effects to the Freshwater Environment are therefore anticipated during this phase of the Project.

4.3.3 Environmental Effects Summary and Evaluation

A summary of potential environmental interactions, identified mitigation measures, and the residual environmental effects of the Project on the Freshwater Environment is provided in the Table below.

Table 4.3 Environmental Effects Assessment Summary: Freshwater Environment

Environmental Component	Project Phase / Potential Interaction			Key Considerations and Environmental Mitigation
	Construction	Operations	Issues / Interactions	
Surface Water (Quantity and Quality)	•	•	• Drainage / sedimentation • Potential accidental spills	• Compliance with regulations and permits • Accidental event prevention and response
Groundwater (Quantity and Quality)	•	•	• Installation and use of water well • Potential accidental spills / releases	• Compliance with regulations and permits • Accidental event prevention and response
Fish and Fish Habitat	•	•	• Drainage / sedimentation • Potential accidental spills	• Compliance with regulations and permits • Accidental event prevention and response

The proposed Project is not likely to result in significant adverse environmental effects on the Freshwater Environment.

4.4 Socioeconomic Environment

The Socioeconomic Environment includes relevant components of the human and cultural environments, including historic and heritage resources, land and resource use (commercial, municipal, recreational), human health and well-being, community services and infrastructure, and economy.

4.4.1 Construction and Operation

Historic resources include sites and objects of historic and archaeological, cultural, spiritual and paleontological importance, which may be protected under the Newfoundland and Labrador *Historic Resources Act* (1985) administered by the Provincial Archaeology Office (PAO) of the NL Department of Tourism, Culture and Recreation. Ownership of all archaeological objects is vested in the Crown. Construction activities and associated ground disturbance have the potential to disturb or destroy archaeological sites and other historic resources.

There are no known historic resources within or near the Project area. The proposed Project "footprint" itself is relatively small and has already been subject to a degree of past development, and it is therefore unlikely that the Project will result in the disturbance or destruction of historic resources. During Project construction, however, standard precautionary and reporting procedures will be implemented. Should an accidental discovery of historic resources occur, all work will cease in the immediate area of the discovery until authorization is given for the resumption of the work. Any archaeological materials encountered will be reported to the PAO, including information on the nature of the material discovered and the location and date of the find. During the operations phase of the project there will be no additional ground disturbance, and therefore, little or no potential for effects to historic and heritage resources. The precautionary and reporting procedures implemented for construction will, however, continue to be in place throughout the life of the Project.

Project construction will be characterized by fairly standard and non-intrusive activities and practices, will occur within a small and localized area over a relatively short period. The proposed Project site is located several kilometres from local communities, and is not expected to interact with these communities or their residents either directly (it does not overlap with any municipal boundaries) or indirectly (Project activities will not likely be seen or heard from nearby communities).

No specific commercial or recreational land and resources uses in the immediate Project area have been identified through the existing and available information. The proposed Project site is currently private land, and so the Project will not adversely affect public access to, and use of, this area. In moving forward with the Project, Eastern Waste Management will apply for and acquire the relevant land rights for this property and will appropriately demolish and remove the existing (abandoned) buildings at the site, in compliance with relevant environmental regulations and standards. Existing cabin areas are located several kilometres to the south and to the west of the Project site, and are accessed through another access road that is located further west on the TCH.

The construction and operational activities that will be undertaken in associated with this Project are not particularly noisy or otherwise disruptive. The proposed Project facilities - and the other, existing land uses in the area - are located in close proximity to the TCH, and the highway will likely continue to be the main source of noise at this location. There are also other commercial and industrial developments and activities located in the surrounding area. The Project's proximity to, and required access from, the TCH (a Protected Road) will be addressed through Project related permitting.

The Project is therefore not expected to have any negative implications for other existing commercial, municipal, traditional or recreational land use activities in the area, or on human health and well-being in local communities or elsewhere.

Again, the operational activities that will be undertaken at the WRF are not characterized by emissions or other planned environmental discharges. The operation of the Composting Facility will result in a degree of odour being created as a result of the on-going process of storing, moving and decomposing the organic waste and its production into compost. The proposed facility is, however, located over five km from the nearest community, and over eight km from any other residential area. As noted previously, the Composting Facility is being proposed and implemented as a pilot project. Eastern Waste Management will continuously monitor and evaluate any odour or other issues that may arise during Project implementation, and address these as required through appropriate operational and management measures throughout the life of the Project.

In terms of visual aesthetics, the various facilities that are associated with the proposed Project will be located from approximately 50 m (Maintenance Building) to 200 m (Composting Facility) from the TCH, which runs to the immediate north of the site. In order to avoid or reduce the potential for the facility to be visible from the highway, the existing vegetation (tree line) that currently runs between the highway and the Project site will be kept in place. In addition, a fence and/or additional tree cover will be established between the existing tree line and the Project site for a distance of at least several hundred meters. If required, any installed fencing will also include green panelling to further reduce the potential for the facility and its associated components and activities to be visible from the highway.

In addition, although the potential for litter to be present in and scattered throughout the Project area is low, given the nature and size of the bulk waste materials that will be brought to and temporarily stored at the facility, the installation of fencing will help to further reduce the possibility of materials being blown by the wind into the surrounding environment.

A development project can result in increased demands on local, regional and provincial services and infrastructure. This may include both direct Project requirements, such as in the use of local transportation and accommodations, as well as indirect demands from project workers and their families. Given the relatively small size of the Project's construction and operations workforces (Chapter 2), no adverse effects related to the availability or quality of community services and infrastructure are anticipated. Eastern Waste Management will continue to consult with the local communities and other stakeholders regarding Project related requirements, timing and opportunities.

The Project will create various employment and business opportunities during its construction and operations phases (Section 2.7). The requirement for labour and for goods and services during Project construction will provide opportunities for local workers and businesses. These direct economic benefits will be supplemented

by indirect and induced "spin-off" effects through, for example, spending by Project employees and contractors.

4.4.2 Environmental Effects Summary and Evaluation

A summary of potential environmental interactions, identified mitigation measures, and the residual environmental effects of the Project on the Socioeconomic Environment is provided in the Table below.

Table 4.4 Environmental Effects Assessment Summary: Socioeconomic Environment

Environmental Component	Project Phase / Potential Interaction			Key Considerations and Environmental Mitigation
	Construction	Operations	Issues / Interactions	
Historic Resources	•		• Ground disturbance	• Localized construction and operations activity • No known (and low potential for) historic resources in the area • Standard precautionary and reporting procedures
Land and Resource Use	•	•	• Potential direct interaction with current uses and other disturbances (noise, dust, visibility, access, etc)	• Localized and short-term construction activity • No identified commercial or recreational activities in immediate Project area • Private land, no loss of current public access and use • Existing infrastructure and industrial activities in the surrounding region (including the TCH) • Distance from local communities, no likely overlap or interaction • Any associated land tenure or regulatory requirements (such as the Protected Road) can be addressed through planning and/or permitting
Human Health and Well-Being	•	•	• Potential implications of Project-related disturbances (such as odour) for human health and well-being in local communities or elsewhere	• Distance from and low potential for interaction with communities and residents • Accidental event prevention and response
Community Services and Infrastructure	•	•	• Potential Project use of, and demands for, local services and infrastructure	• Localized and short-term construction activity • Small operational workforce • Timing and scale of Project activities • Distance from and minimal interaction with communities
Economy	•	•	• Employment and business opportunities	• Positive effects (direct and indirect)

The proposed Project is not likely to result in significant adverse environmental effects on the Socioeconomic Environment.

4.5 Environmental Monitoring and Follow-up

Any potential environmental issues which may be associated with the Project can be addressed and mitigated through the use of good construction and operational practices and procedures. These will be further addressed through the specific environmental permitting requirements and compliance standards and guidelines which will apply to the proposed facility.

Once operational, the Project will be subject to regular inspections and maintenance as required. The proponent is committed to obtaining all required authorizations for the proposed Project, and to complying will all applicable regulations. No other follow-up is considered necessary in relation to the proposed Project.

5.0 SUMMARY AND CONCLUSION

Eastern Waste Management is proposing to construct and operate a new Waste Recovery Facility (WRF) in the Whitbourne area of Eastern Newfoundland. The Project is being proposed as part of the implementation of the Newfoundland and Labrador *Solid Waste Management Strategy*, through which the Province is moving towards a regionalized waste management system.

As part of this initiative, Eastern Waste Management is establishing a series of WRFs throughout the region to ensure that residents have access to appropriate infrastructure and services to dispose of household bulk items. Once operational, the facility will serve as a public drop off and temporary storage site for bulk residential waste, which will be transported on a regular basis to the regional landfill at Robin Hood Bay in St. John's. A Composting Facility will also be developed as part of the proposed WRF, as a "pilot project" for the management of organic waste in the region.

The proposed Project will be constructed and operated in accordance with applicable legislation and regulations, including the environmental protection and planning measures identified through this EA review, and in compliance with other relevant policies, procedures and standards. In addition to EA review, the Project will eventually require a range of additional environmental permits and other authorizations from federal and provincial government departments and agencies. The post-EA permitting process will provide the opportunity for relevant regulatory departments and agencies to receive and review additional Project design information, and to establish specific terms and conditions to avoid or reduce environmental effects.

Eastern Waste Management and/or its contractors will identify, apply for and adhere to all required permits and other authorizations that are required for Project construction and/or operations.

Feb 14th 2014
Date

Ken Kelly
Chief Administrative Officer
Eastern Waste Management

6.0 REFERENCES

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APPENDIX A

List of Potentially Applicable Permits and Authorizations

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List of Potentially Applicable Permits and Authorizations

Approval Potentially Required	Legislation / Regulation	Project Component / Activity Requiring Approval or Compliance	Department or Agency	Requirements
Government of Newfoundland and Labrador				
Certificate of Approval for a Waste Management System / Materials Recovery Facility / Municipal Solid Waste Transfer Station (as applicable)	*Environmental Protection Act*, *Waste Management Regulations* and the *Municipalities Act*	Waste disposal associated with construction and operation	Department of Environment and Conservation	All waste management systems, both private and municipal, must receive prior environmental approval. This includes the construction or enlargement of waste disposal facilities, approval to become special waste haulers in this Province (i.e. sewage hauler, salvage metal haulers, etc.) and others.
Certificate of Approval to Construct and Operate a Composting Facility	*Environmental Protection Act*, *Waste Management Regulations* and the *Municipalities Act*	Development and operation of Composting Facility	Department of Environment and Conservation	Must be requested from the Department at least six months in advance of the proposed construction date.
Compliance Standards	*Environmental Standards for Waste Facilities*	Development and operation of WRF and Composting Facility	Department of Environment and Conservation	Provides standards to be followed in site selection, design, construction, operation and decommissioning to minimize nuisance and provide a high level of environmental protection. Applicable environmental standards may include, but not be limited to, the following: • Environmental Standards for Municipal Solid Waste Transfer Stations • Environmental Standards for Material Recovery Facilities • Environmental Standards for Municipal Solid Waste Compost Facilities • Environmental Standards for Construction and Demolition Waste Disposal Sites
Compliance Standard	*Canadian Council of Ministers of the Environment (CCME) Guidelines: Compost Quality*	Development and operation of Composting Facility	Department of Environment and Conservation	The CCME Guidelines apply to compost produced at all facilities unless other compost product criteria are approved in writing by the Department.

Approval Potentially Required	Legislation / Regulation	Project Component / Activity Requiring Approval or Compliance	Department or Agency	Requirements
Preliminary Application to Develop Land	*Urban and Rural Planning Act, Protected Road Zoning Regulations*	Construction activity	Department of Transportation and Works and/or Service NL	Construction within the planning area boundaries of a highway that is classified as a Protected Road requires the prior approval of the Department of Transportation and Works and/or Service NL
Access to Highway Permit	*Urban and Rural Planning Act, Protected Road Zoning Regulations*	Construction of any access roads and trails	Department of Transportation and Works and/or Service NL	The construction of access to a highway that is classified as a Protected Road requires approval
Commercial Cutting Permit Operating Permit	*Forestry Act* and *Cutting of Timber Regulations*	Clearing land areas for the Project	Department of Natural Resources	A permit is required for the commercial cutting of timber on Crown Land
Permit to Burn	*Forestry Act* and *Forest Fire Regulations*	Any burning required during the Project	Department of Natural Resources	A permit is required to light fires outdoors between April and December. Permits are not issued during forest fire season
Certificate of Approval for Site Drainage	*Water Resources Act*	Drainage from work sites	Water Resources Management Division, Department of Environment and Conservation	Approval is required related to the management of on-site drainage
Water Use Authorization	*Water Resources Act*	Water withdrawal for use in construction and operation activities	Water Resources Management Division, Department of Environment and Conservation	Water use authorization is required for all beneficial uses of water
Application for Water Well Drilling License	*Water Resources Act*	Drilling activity for a water well	Water Resources Management Division, Department of Environment and Conservation	A license is required for water well drilling in Newfoundland and Labrador
Application for Permit for Constructing a Non-Domestic Well	*Water Resources Act*	Establishment of a water well	Water Resources Management Division, Department of Environment and Conservation	A license is required to establish a non-domestic water well in Newfoundland and Labrador
Certificate of Approval for Septic Systems less than 4,546 L per day and Well Approval	*Environmental Protection Act*	Sewage disposal and treatment and water supply	Engineering Services Division, Service NL	A Certificate of Approval is required for commercial septic systems and wells in an unserviced area, not covered by a municipality

Approval Potentially Required	Legislation / Regulation	Project Component / Activity Requiring Approval or Compliance	Department or Agency	Requirements
Certificate of Approval for Installation of Water Supply System	*Health and Community Services Act, Sanitation Regulations*	Water supply	Department of Health and Community Services	Water supply systems designed, constructed or installed to service a private dwelling or a commercial or other building, including systems not governed by a municipal council, local service district or local water committee must be approved by an inspector before installation
Policy Directives	*Water Resources Act*	Project activities	Water Resources Management Division, Department of Environment and Conservation	The Department has a number of potentially applicable policy directives in place, including those related to Development in wetlands; and others
Fuel Tank Registration - Storing and Handling Gasoline and Associated Products	*Environmental Protection Act,* and *Storage and Handling of Gasoline and Associated Products Regulations*	Storing and handling gasoline and associated products	Engineering Services Division, Service NL	Fuel Tank Registration is required for storing and handling gasoline and associated products
Permit for Storage, Handling, Use or Sale of Flammable and Combustible Liquids	*Fire Prevention Act,* and *Fire Prevention Flammable and Combustible Liquids Regulations*	Storing and handling flammable liquids	Engineering Services Division, Service NL	This permit is issued on behalf of the Office of the Fire Commissioner. Approval is based on information provided for the Certificate of Approval for Storing and Handling Gasoline and Associated Products
Compliance Standard	*Dangerous Goods Transportation Act* and *Regulations*	Storing, handling and transporting fuel, oil and lubricants	Department of Transportation and Works	If the materials are transported, handled and stored fully in compliance with the regulations, a permit is not required. A Permit of Equivalent Level of Safety is required if a variance from the regulations is necessary. Transporting goods considered dangerous to public safety must comply with regulations
Permit to Destroy Problem Animals	*Wildlife Act*	Dealing with nuisance wildlife	Department of Natural Resources	The Department provides direction on handling nuisance animals. Details on the situation must be provided for a permit to be issued

Approval Potentially Required	Legislation / Regulation	Project Component / Activity Requiring Approval or Compliance	Department or Agency	Requirements
Compliance Standard	*Fire Prevention Act, Fire Prevention Regulations*	On-site structures (temporary or permanent)	Engineering Services Division, Service NL	All structures must comply with fire prevention standards
Compliance Standard	*Water Resources Act, Environmental Control Water and Sewage Regulation*	Any waters discharged from the project	Department of Environment and Conservation	A person discharging sewage and other materials into a body of water must comply with the standards, conditions and provisions prescribed in these regulations for the constituents, contents or description of the discharged materials
Compliance Standard	*Health and Community Services Act*	Sewage and waste disposal	Department of Health and Community Services	Outlines standards for sewage and waste disposal
Compliance Standard	*Occupational Health and Safety Act* and *Regulations*	Project-related occupations	Service NL	Outlines minimum requirements for workplace health and safety. Workers have the right to refuse dangerous work. Proponents must notify Minister of start of construction for any project greater than 30 days in duration
Compliance Standard	*Occupational Health and Safety Act, Workplace Hazardous Materials Information System Regulations*	Handling and storage of hazardous materials	Operations Division, Service NL	Outlines procedures for handling hazardous materials and provides details on various hazardous materials
Government of Canada				
Letter of Advice or Authorization for Works or Undertakings Affecting Fish Habitat	*Fisheries Act*	Any activities in or near water that may support a fishery	Fisheries and Oceans Canada	DFO has established Newfoundland and Labrador Operational Statements for various activities. These outline environmental protection measures that, if followed during construction and maintenance activities, will result in no contravention of Section 35 of the *Fisheries Act* DFO will make a determination on the level of risk associated with the project activity. If it is determined to be a low risk then a Letter of Advice would be issued. If it is determined to

Approval Potentially Required	Legislation / Regulation	Project Component / Activity Requiring Approval or Compliance	Department or Agency	Requirements
				be a higher level of risk an Authorization may be required
Radiocommunication Permit	*Radiocommunication Act* and *Regulations*	Establishment and use of radio equipment and associated towers	Industry Canada	Approval may be required for sites on which radio apparatus, including antenna systems, may be located and the erection of masts, towers and other such structures
Compliance Standard	*Fisheries Act*, Section 36(3), Deleterious Substances	Any run-off from the Project site being discharged to receiving waters	Environment Canada	Environment Canada is responsible for Section 36(3) of the *Fisheries Act*. Discharge must not be deleterious and must be acutely non-lethal
Compliance Standard	*Migratory Birds Convention Act* and *Regulations*	Any activities which could result in the mortality of migratory birds and endangered species and any species under federal authority	Canadian Wildlife Service, Environment Canada	Prohibits disturbing, destroying or taking a nest, egg, nest shelter, eider duck shelter or duck box of a migratory bird, and possessing a live migratory bird, carcass, skin, nest or egg. The Canadian Wildlife Service should be notified about the mortality of any migratory bird in the Project area
Policy	Federal Policy on Wetland Conservation	Any disruption of wetland habitat	Environment Canada	The goals of this policy should be considered where a project could affect wetland habitat
Compliance standards; permits may be required	National Fire Code National Building Code Life Safety Code	On-site structures (temporary or permanent)	Service NL	Compliance / approval is required for all Project related buildings