Maritime Electric Company Ltd.
Charlottetown, PE

133546898S301
Borden Substation and Cape Tormentine
Riser Station Construction
Request for Tender 2016-18
ADDENDUM NO. 2

This addendum shall form part of the contract for the Request for Tender 2016-18 (Stantec Specification No. 133546898S301), and will alter and take precedence over any provisions of which this addendum is in conflict.

Please be advised of the following additions, deletions, changes, or clarifications.

1. Addition – Section 013543 - Environmental Protection Plan

Attached is the Project Specific Environmental Protection Plan.

***** End of Addendum 2 *****

Control Copy No. _____

PROJECT-SPECIFIC ENVIRONMENTAL PROTECTION PLAN: SUBSTATION AND RISER STATION INSTALLATION

May 2016 – Revision 0

MARITIME ELECTRIC COMPANY, LIMITED
PEI-NB CABLE INTERCONNECTION UPGRADE PROJECT
PRINCE EDWARD ISLAND

PROJECT NO. 121811475

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May 3, 2016

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ACRONYMS

AC CDC	Atlantic Canada Conservation Data Centre
AS	Archaeological Services, New Brunswick Department of Tourism, Heritage and Culture
ATV	All-Terrain Vehicle
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
DFO	Fisheries and Oceans Canada
EIA	Environmental Impact Assessment
ESA	Environmentally Significant Area
kV	kiloVolt
m	metre
m^2	square metre
MECL	Maritime Electric Company, Limited
NB	New Brunswick
NBDELG	New Brunswick Department of Environment and Local Government
NBDNR	New Brunswick Department of Natural Resources
NBDTI	New Brunswick Department of Transportation and Infrastructure
PDA	Project development area
PEI	Prince Edward Island
PEIDCLE	Prince Edward Island Department of Communities, Land and Environment
PEITIE	Prince Edward Island Department of Transportation, Infrastructure and Energy
PPE	personal protective equipment
PSEPP	Project-Specific Environmental Protection Plan
SAR	Species at Risk
SOCC	Species of Conservation Concern

TROV	Trenching Remote Operated Vehicle
WHMIS	Workplace Hazardous Materials Information System

CONTACT LIST

Contact names and numbers are provided to facilitate communication with appropriate Project personnel when circumstances warrant. A list of regulatory agencies, contact names, and numbers are also provided, should MECL require contact with a specific agency during construction. All communication with regulatory agencies will be through MECL, unless otherwise stated.

Agency	Area/Contact	Telephone/Cellular
EMERGENCY CONTACTS		
Environment and Climate Change Canada – Environmental Emergencies	New Brunswick	1-800-565-1633
Fire/Ambulance/Police	New Brunswick/PEI	911
Environmental Emergency Response	PEI	(902) 368-5000
Canadian Coast Guard	Maritimes	1-800-565-1633
New Brunswick Department of Local Government – Moncton Regional Office	New Brunswick	506-856-2374
LOCAL HOSPITALS		
New Brunswick - Horizon Health Network	Moncton Hospital 135 Macbeath Ave, Moncton	911
New Brunswick - Vitalité Health Network	Dr. Georges-L. Dumont University Hospital Centre 330 Université Ave, Moncton	911
New Brunswick – Sackville Memorial Hospital	8 Main St., Sackville NB	(506) 364-4100
PEI - Prince County Hospital	65 Roy Boates Ave., Summerside PEI	(902) 436-9131
PROJECT PERSONNEL		
PEI Energy Corporation	Mark Victor (mevictor@gov.pe.ca)	(902) 368-6098
MECL Project Manager	Ron LeBlanc (leblanc@maritimeelectric.com)	(902) 629-3610
MECL Assistant Project Manager	Adam MacKenzie (mackenziead@maritimeelectric.com)	(902) 629-3796
MECL Health, Safety and Environment (HSE) Coordinator	Tom Mugford (mugfordtm@maritimeelectric.com)	(902) 629-3601

Agency	Area/Contact	Telephone/Cellular
REGULATORY AUTHORITIES **Contact with the groups listed below is to be made by the Environmental Inspector/Monitor only**		
Fisheries and Oceans Canada Gulf Region	Moncton	(506) 851-6227 (506) 851- 2435
Environment and Climate Change Canada Canadian Wildlife Service Atlantic Region	Sackville	1-800-668-6767
New Brunswick Department of Environment and Local Government Surface Water Protection Section	Fredericton	(506) 457-4850
New Brunswick Department of Environment and Local Government Regional Program Delivery Section Region 3 - Moncton	Moncton (Region 3)	(506) 856-2374
Archaeological Services New Brunswick Department of Tourism, Heritage and Culture	Tricia Jarrett	(506) 238-3512
Archaeological Services Government of Prince Edward Island – Aboriginal Affairs Secretariat (PEI Archaeology)	Director Helen Kristmanson	(902) 368-5378
Archaeology Consultant: Stantec	Shannon McDonnell-Melanson Mike Rooney	(506) 857-8607
New Brunswick Department of Natural Resources	Fish and Wildlife Branch	(506) 453-3826
New Brunswick Department of Natural Resources	Crown Lands Branch	(506) 453-3826
Atlantic Canada Conservation Data Centre	Sackville	(506) 364-2658
Government of Prince Edward Island – Department of Communities, Land and Environment	Hazardous Materials Mr. Barry Jackson	(902) 368-5173
	Environmental Assessment Mr. Dale Thompson	(902) 368-5049
	Fish and Wildlife Mr. Brad Potter	(902) 368-5111
	Watercourse Alteration Mr. Kevin Arsenault	(902) 368-7260
INDIGENOUS GROUPS **Contact with the groups listed below is to be made by the Environmental Inspector/Monitor only**		
Mi'gmawe'l Tplu'taqnn Incorporated (MTI)	Consultation Coordinator	(506) 481-0726 (cell)
Elsipogtog First Nation	Consultation Coordinator	(506) 523-5823 (cell)
Mi'kmaq Confederacy of PEI	Consultation Coordinator	(902) 626-2882

1.0 INTRODUCTION

This Project-Specific Environmental Protection Plan (PSEPP) describes the mitigation measures that are to be implemented during the preparation, construction and rehabilitation phases of the riser station and substation construction for the PEI-NB Cable Interconnection Upgrade Project (the "Project") to minimize potential adverse environmental effects during the construction process. This PSEPP includes all activities associated with the construction of the riser station at Cape Tormentine, New Brunswick (NB) and the substation at Borden-Carleton, Prince Edward Island (PEI). Expansion of the substation at Memramcook is also required as part of the Project, but will be accomplished separately by NB Power and is thus not subject to this PSEPP.

The measures outlined in this document have been taken from a variety of information sources including Project documents filed with the New Brunswick Department of Environment and Local Government (NBDELG) and the PEI Department of Communities, Land and Environment (PEIDCLE), and environmental protection measures standard with riser station/substation construction practices.

1.1 Objectives

The objectives of the PSEPP are to:

- Present the environmental protection measures related to Project activities that are to be implemented;
- Provide instructions to Project personnel for planning and implementing preparation and construction activities in order to minimize potential adverse environmental effects and comply with regulatory commitments;
- Provide guidance for implementing environmental inspections and monitoring during the Project to facilitate compliance with the commitments made during the regulatory review process;
- Outline the measures that will be implemented to restore disturbed areas;
- Provide a training aid during implementation efforts; and
- Communicate changes in the program through a revision process.

The environmental protection measures listed in this PSEPP have been organized under specific activity headings. The information contained in this PSEPP will act as a key reference to the measures, obligations and commitments that are to be implemented by the Contractor(s) and monitored throughout the Project. In addition, the content of the PSEPP will form the basis of the Environmental Inspection/Monitoring Training, as well as the Contractor Orientation Training.

1.2 Organization of the Project-Specific Environmental Protection Plan

The PSEPP has been organized to facilitate its use by Project personnel and Contractors to be informed of the required environmental protection measures for the Project. It is organized into the following sections.

- Section 1.0 outlines the objectives and content of the PSEPP, and provides an overview of the Project.
- Section 2.0 describes the organizational responsibilities relating to the implementation of the PSEPP and the consultation/notification program.
- Section 3.0 outlines the mitigation measures and best management practices that are to be implemented for the Project.
- Section 4.0 outlines the reclamation plan to be followed as soon as construction activities are complete.
- Section 5.0 defines the contingency and emergency response plans.
- Section 6.0 outlines environmental compliance and monitoring initiatives which will be followed to make sure the mitigation measures outlined in the PSEPP are followed and are adequate.
- Section 7.0 lists cited references.

1.3 Project Overview

The PEI-NB Cable Interconnection Upgrade Project (the “Project”) includes construction and operation of a new high voltage (138 kV) alternating current transmission system, linking the province of Prince Edward Island to the New Brunswick electrical grid. The Project will span three geographic regions: PEI, the Northumberland Strait, and New Brunswick. The proponent of the Project is the PEI Energy Corporation. The construction agent for the marine and PEI portions of the Project is Maritime Electric Company, Limited (MECL), and the New Brunswick Power Corporation (NB Power) for the New Brunswick portion of the Project.

This PSEPP applies specifically to construction activities associated with construction of a riser station (termination structure) in Cape Tormentine, NB and construction of a substation in Borden-Carleton, PEI (Figure 1). Expansion of the substation at Memramcook is also required as part of the Project, within the existing fenced area of the substation, but will be accomplished separately by NB Power and is thus not subject to this PSEPP.

For the purposes of this PSEPP, the term “construction” will be taken to include site preparation, construction and rehabilitation activities unless otherwise stated or unless the described mitigation measures do not apply to the specific activity.

Construction of a cable termination site within the new substation at Borden-Carleton is required to transition from cable to overhead transmission. The cable termination site on the PEI side of the Northumberland Strait will be on land, approximately 300 m from

shore. The termination site will consist of a riser pole, ground grid, overhead switches and perimeter fencing.

The termination site in New Brunswick will be located at Cape Tormentine, approximately 200 m from the shoreline. A cable termination site is required to facilitate the transition from submarine cable to overhead transmission. The site will be similar in appearance to a substation and will include a riser pole, ground grid, overhead switches, and perimeter fence. A climate-controlled metering building will be constructed on site to house weather sensitive equipment. This building covers a footprint of approximately 18 m^2 (3.5 m x 5 m) and will be located inside the perimeter fence.

Construction activities for the marine cable installation of the Project and installation of overhead transmission lines within NB are not subject to this PSEPP and are addressed in separate PSEPPs.

FIGURE 1 PROJECT LOCATION OVERVIEW

U:\121811475\3_drawings\3_draft_figures\mxd\rptea\vol_1\121811475-0024.mxd

Sources: Base Data - Natural Resources (2011).Project Data from Stantec or provided by NB Power / MECL. Imagery - ArcGIS Map Service World Imagery, PEI Government (2010), Natural Resources (2011).

Disclaimer: This map is for illustrative purposes to support this Stantec project; questions can be directed to the issuing agency.

Stantec

121811475 - PEI-NB Marine Cable Interconnection - Maritime Electric Company Limited

General Project Overview

Figure 1.1

1.4 Maintenance of the Project-Specific Environmental Protection Plan

MECL will maintain this PSEPP and keep it up-to-date. The PSEPP is a living document and is subject to change during the construction period. MECL will provide the most current version of this PSEPP to their staff, contractors, representatives of applicable regulatory agencies and others listed on the distribution list (Section 1.4.1). MECL is responsible for the following.

- Provide training to relevant MECL personnel, including contractors, to facilitate the proper implementation of mitigation measures and best management practices contained in the PSEPP.
- Distribute copies of the PSEPP to appropriate Project site locations and MECL personnel, including contractors and applicable regulatory agencies.
- Implement revisions to the PSEPP and issue approved revision pages of the PSEPP to control copy holders (Section 1.4.1).
- Review the sections of the PSEPP as warranted to confirm the mitigation measures and best management practices are current, comprehensive and effective.

1.4.1 Distribution List

The following list provides the names, addresses, phone numbers and affiliations of the PSEPP Control Copy Holders. All revisions and updates to the PSEPP will be distributed to the Control Copy Holders. Additional copies of this document are considered dated non-“Control Copy” versions of the PSEPP. Should an updated copy of the PSEPP be required, contact MECL for the most current version of the PSEPP revisions.

Control Copy Number	Name	Address	Phone Number	Organization

1.4.2 Revision Notice

The PSEPP may require edits or updates when construction activities are taking place. If it is determined that a revision to the PSEPP is required during that time, the following process will apply.

- PSEPP revisions will only be initiated by MECL personnel.
- Control copy holders may initiate revisions by submitting suggested changes in writing (via email) to the MECL Project Manager.
- All revision requests must be approved by MECL.
- When a revision request is received, a draft of the revision will be issued to all control copy holders for review. After the draft is reviewed and deemed acceptable by all parties, a final version of the revision will be issued. If a revision request is not approved, MECL will contact the originator explaining the rationale for the decision.

An updated PSEPP table of contents and Revision Control Table (Section 1.4.3) will be included as required with each PSEPP revision. The table of contents will indicate the current version of each section of the PSEPP.

Within two working days of receiving the revision, control copy holders are required to complete the following:

- Read the revision and make sure all listed pages have been received.
- Remove the pages outlined in the Revision Control Sheet and insert the revised pages in the PSEPP.
- Enter the revision number and date on the Revision Control Table.
- Make sure any circulated copies of the PSEPP under their direction are updated.
- Take appropriate action to implement the PSEPP revision.

1.4.3 Revision Control Table

A Revision Control Table is presented below. It will be kept up-to-date by Control Copy holders to track revisions/updates made to the PSEPP. Revision Control Sheets will be provided by MECL, indicating the page reference and instructions for the revision.

Revision #	Date of Revision	PSEPP Section Revised	Description of Revision

2.0 ENVIRONMENTAL COMPLIANCE

2.1 Roles and Responsibilities of Project Personnel

The following section outlines the roles and responsibilities of MECL management and personnel with respect to the environmental management of the Project. The Project Team has been structured to make sure that work will be accomplished effectively through the use of staff across various departments within MECL (*e.g.*, Engineering, Finance, etc.). All personnel will adhere to the mitigation and permit conditions outlined in the PSEPP in order to maintain environmental compliance. Project personnel are responsible to report non-compliances with the PSEPP and regulatory requirements.

The MECL Project Manager will be responsible for appointing Environmental Inspector/Monitor, who will confirm that activities are conducted and managed in compliance with all applicable federal and provincial legislation and will also make sure that contractors comply with the spirit and intent of the contract.

The following sections outline the roles and responsibilities of Project personnel in relation to environmental management.

2.1.1 MECL Personnel

2.1.1.1 MECL Project Manager

The Project Manager will be responsible for the following.

- Make sure that the PSEPP is developed and environmental mitigation measures described therein are implemented during all phases of the Project.
- Confirm that the appropriate permits and approvals are obtained prior to initiating construction activities.
- Provide sufficient resources (*e.g.*, financial and human) to facilitate the implementation of all permit and approval conditions, environmental assessment commitments and conditions and other requirements are implemented.
- Facilitate the Environmental Inspector/Monitor Training and Orientation that will be delivered to all Project staff and provided to inspectors prior to the start of the Project activities.
- Have regulatory authorities review changes to this document of a substantive nature.
- Act as primary contact with MECL and regulatory authorities with regard to plan implementation and compliance issues.

2.1.1.2 MECL Construction Manager

The Construction Manager will be responsible for the following:

- Integrate environmental requirements into the construction contracts (note to reader: the term “construction” refers to both clearing and construction activities).

- Confirm that environmental commitments associated with Project documents and permit and approval conditions are met during construction.
- Review methodologies with the contractors to facilitate proper understanding and implementation of protection measures.
- Ensure that incidents, such as spills, are investigated and that corrective actions are implemented and documented.
- Liaise with regulatory agencies and other affected parties.

2.1.1.3 MECL Health, Safety and Environment Coordinator

The Health, Safety and Environment (HSE) Coordinator shall:

- Be familiar with and understand this PSEPP.
- Act as a primary resource on environmental issues on site.
- Participate in environmental site inspections and acknowledge environmental concerns on each property.
- Halt any construction activities based on environmental or occupational health and safety concerns.
- Conduct a review of the PSEPP on an as-needed basis.
- Document control.
- Issuance of revisions.
- Ensure health and safety training is completed for all personnel associated with the Project.

2.1.1.4 MECL Environmental Inspector/Monitor

The Environmental Inspector/Monitor will be responsible for the following:

- Confirm compliance with all applicable permits, policies and procedures, and conditions in the contract documents and commitments made during the planning and application process.
- Assist in the preparation and delivery of environmental orientation presentations to construction staff.
- Advise contractors on the implementation of commitments regarding environmental protection.
- Advise on the proper course of action to address unexpected environmental conditions and events.
- Report any spills immediately in accordance with applicable federal and/or provincial regulations.
- Advise management and/or contractors on the clean-up and disposal of material.
- Monitor work site activities and conditions on a daily basis to identify problem areas.
- Confirm that commitments and protocols made with Indigenous groups are fulfilled in a timely and proactive manner.
- Prepare daily environmental reports.

- Liaise with appropriate regulatory agencies and other affected parties.
- Organize on-site meetings as required to address site-specific issues relative to the environment.
- Issue stop work-order for environmental non-conformances.
- Retain copies of all permit/approval conditions and PSEPP.

2.1.1.4.1 MECL Qualifications of Environmental Inspector/Monitor

The Project will use qualified and trained personnel to fulfill this role. The Environmental Inspector/Monitor may be qualified biologists, engineers, or forestry professional, and be familiar with construction activities on linear projects such as pipeline or highway construction projects. The Environmental Inspector/Monitor will possess a university degree, college diploma or technical certificate with an emphasis in natural resources management, environmental science, environmental engineering or environmental planning.

The Environmental Inspector/Monitor will possess a demonstrated positive attitude toward the environment and for achieving a high quality environmental product. In addition, the Inspector/Monitor will possess strong organizational, problem solving and leadership skills. The inspector/Monitor will also demonstrate effective oral and written communication skills.

2.1.2 Contractor Personnel

2.1.2.1 Construction Contractors

With respect to complying with the environmental commitments and protection measures made during the approval process of this Project, and described in this PSEPP, the Contractors will be responsible for implementing these measures. For the purposes of this PSEPP, the term Contractor refers to Construction Contractors as well as any other entity required for any activity related to the construction of this Project.

Contractors, as applicable, will be responsible to implement the following:

- Understand and accept responsibility for implementing and maintaining the environmental commitments associated with the PSEPP, contracts, and permit/approval conditions.
- Provide all labour, machinery and materials to comply with all environmental requirements and commitments as presented in this PSEPP and any and all environmental approvals and permits issued for this Project.
- Attend environmental orientation presentation prior to conducting work on site.
- Ensure training is provided for all personnel arriving on the site, including subcontractors and suppliers, to introduce and explain the PSEPP.
- Communicate with the Environmental Inspector/Monitor to facilitate compliance with commitments and permit/approval conditions.

- Notify the Environmental Inspector/Monitor of any concerns or issues associated with commitments.
- Keep a controlled copy of the PSEPP on site and up to date at all times.
- Familiarize themselves and their personnel with revisions of the PSEPP, as applicable.

2.2 Environmental Training

Two modules will be developed for the Project as part of the training program: Environmental Inspector/Monitor Training and the Orientation Training for Project personnel.

2.2.1 Environmental Inspector/Monitor Training

The Environmental Inspector/Monitor Training will contain components to address policies and procedures, problem identification and resolution, regulatory liaison, documentation and project-specific environmental commitments and concerns.

The Environmental Inspector/Monitor Training will be mandatory for all inspectors/monitors. The training will include an overview of all environmental topics with regard to planning, site preparation and construction activities. Presentations will be made by appropriate MECL technical staff, consultants or regulatory agency personnel, where required.

Environmental Inspector/Monitor training will include, but not be limited to:

- Project overview
- Policies and procedures
- Role of the Inspector/Monitor (*e.g.,* responsibilities, reporting structure, documentation requirements, stop-order authority)
- Federal and provincial commitments and agreements
- PSEPP overview
- Archaeological response protocol
- Approvals and permits
- Contingency plans
- Communication/media relations
- Applicable acts and regulations
- Contracts terms and conditions
- Landowner commitments

In addition to the Environmental Inspector/Monitor Training, safety training will be provided to all personnel.

2.2.2 Contractor Orientation Training

An environmental orientation will be mandatory for MECL Project staff and contractor staff who will be present on the construction site. This will be part of an overall Project orientation program and will include an overview of all environmental topics with regard to planning, site preparation and construction activities.

The environmental orientation will address policy and procedures, problem identification and resolution, documentation, and project-specific environmental commitments and concerns. In addition the orientation will include safety requirements, as well as the handling, clean-up, reporting and disposal of contaminated material.

MECL will keep records of course completion.

2.3 Consultation and Notification Program

MECL is committed to on-going consultation as the Project moves forward. A number of consultation and engagement initiatives will be conducted prior to and during the Project, as follows.

- Meetings will be held with Indigenous communities and/or groups prior to construction activities to discuss the tendering process.
- Appropriate provincial and federal regulatory agencies and interested municipal authorities will be informed of Project developments prior to the start of construction activities.

3.0 MITIGATION MEASURES AND BEST MANAGEMENT PRACTICES

This section provides instructions for the selection and implementation of mitigation measures and best management practices. It is important to note that the requirements of this section are minimum requirements, and that additional measures may be required on a site-by-site basis, if deemed necessary by MECL. The Contractor must provide all materials, equipment and labour necessary to implement the required environmental protection practices described below.

The following measures listed below to be implemented by the Contractor are mitigation requirements that apply to all phases of the Project.

3.1 Generic Mitigation and Best Management Practices for All Project Phases

1. Environmental training will be provided to all contractors and workers involved in the Project, in particular those involved in field activities.

2. All necessary provincial and federal permits (*e.g.,* license of occupation; watercourse, wetland and buffer zone alteration permit; etc.) and approvals will be obtained by MECL prior to the start of construction activities, unless otherwise stated below.

3. MECL will obtain all necessary land rights for all lands within the project development area (PDA). This includes licenses of occupation in NB.

4. The measures outlined in the Reclamation Plan contained in Section 4.0 will be implemented as soon as construction of the Project is complete and the area is no longer needed for access.

5. Appropriate measures will be implemented by the Contractor during all phases of the Project to prevent malfunctions and accidental events. These measures will include:

    - The need for hazardous substances will be reduced by substituting for less harmful ones, where feasible.
    - Spill response equipment (*e.g.,* absorbent booms, absorbent pads, barrels will be maintained in readily accessible locations during construction).

6. The contractor will abide by all the measures outlined in this document, the conditions of permits and approvals and the timing constraints for Project activities.

7. All workers will be properly trained in practices to prevent workplace accidents including workplace hazardous materials information systems (WHMIS), first aid and other training programs.

8. The transport of fuel will be conducted in compliance with the *Transportation of Dangerous Goods Act*. Deliveries to the sites will be conducted by qualified companies.

9. Fuel storage, if required, will be undertaken in compliance with applicable provincial and federal regulations, codes and guidelines, using approved WHMIS containers.

10. The MECL Environmental Inspector/Monitor will flag, stake or fence the site-specific environmental constraints, where necessary.

11. Construction debris will be collected by the Contractor on a daily basis throughout the Project and disposed of at approved facilities. Receipts for disposal will be retained and provided to MECL upon request.

12. Temporary staging areas will be used to store material such as structures, hardware and work equipment for the duration of the Project.

13. The extent of earthworks will be very limited and localized to riser station/substation locations.

14. All equipment used for the Project must be in good working order and free from leaks. Equipment with minor drips must be repaired prior to use on the Project.

15. Maintenance of mobile construction equipment will not be carried out within 30 m (100 ft) of any watercourse or wetland.

16. The Contractor will ensure refuelling of mobile construction equipment is not carried out within 30 m (100 ft) of any watercourse or wetland. The Contractor will ensure refuelling activities are monitored at all times; vehicles must not be left unattended by fuelling operations personnel while being refuelled. All containers, hoses, and nozzles will be free of leaks. All fuel nozzles will be equipped with functional automatic shut-offs.

17. The Contractor will ensure all vehicles and heavy equipment on the transmission route are equipped with a spill kit. The Contractor will maintain a supply of emergency response equipment on site, including absorbent materials, oil pans, and Material Safety Data Sheets (MSDS) will be available either in hard copy or electronically.

18. The Contractor will take every precaution to minimize spills and accidental releases of fuel and hydraulic fluid from vehicles and equipment. Spills will be managed in accordance with the Spill Contingency Plan (Section 5.3).

19. The Contractor will prevent harassment of wildlife.

20. The Contractor will ensure all waste (including food waste) is properly contained and disposed of on a daily basis at an approved facility (see waste management practices in Section 3.3).

21. The Contractor will ensure that construction equipment is inspected and cleaned immediately following construction in areas known to support invasive species. Washing will be conducted on the site where invasive species already exist.

22. Fuel storage, if required, will be undertaken in compliance with applicable provincial and federal regulations, codes, and guidelines, using approved WHMIS containers.

23. The Contractor will abide by details provided in Watercourse and Wetland Alteration Permit or Watercourse, Wetland, and Buffer Zone Activity Permits (if required).

24. Hazardous materials and petroleum, oils, and lubricants (POLs) will be stored at least 100 m (330 ft) away from any watercourse or wetland, and on level terrain. Appropriate spill kits will be provided at each storage location.

3.2 Staging Areas

Temporary staging areas are used mainly for the storage of materials and work equipment during construction.

Staging areas will be identified at locations that do not require grading activities.

The following mitigation will be implemented to minimize the potential environmental effects associated with staging areas, particularly if located adjacent to watercourses and wetlands.

1. Staging areas will avoid wetlands.

2. All staging areas will avoid water bodies and maintain a minimum 30 m (100 ft) buffer from the banks of any water body, including wetlands.

3. Staging areas will avoid interactions with sensitive environmental features, such as known occurrences or high potential areas of Species at Risk (SAR) or Species of Conservation Concern (SOCC), or archaeological or heritage resources.

3.3 Waste Management

A variety of types of waste will be generated during the Project. These wastes include solid non-hazardous waste, industrial waste and liquid hazardous waste.

Solid non-hazardous wastes are garbage and debris (*e.g.,* food, wrappings, wood, flagging tape, wire) generated by personnel during all phases of the Project. Although non-toxic in nature, it is still required that these materials be properly managed and disposed of.

Industrial wastes are wastes generated by construction activities typically as part of performing maintenance on equipment. These wastes include used filters, spent grease

cartridges, empty containers and cans, crates, etc. These wastes can often contain small quantities of residual substances, such as used oil and grease.

Liquid hazardous wastes include fuels (*e.g., d*iesel, gasoline); lubricants (*e.g.,* oil, grease); coolants (*e.g.,* glycol) and sewage. These wastes must be managed in accordance with this PSEPP and any applicable permits, laws and/or regulations.

The following measures will be implemented during construction:

1. All Project personnel will take preventative measures to avoid the release of wastes, including hazardous materials, into the environment.

2. Any construction debris that enters the marine environment will be removed immediately and disposed of in a provincially approved manner.

3. All wastes or hazardous material spills will be reported to the Environmental Inspector/Monitor for reporting to the appropriate regulatory authorities.

4. All spills will be cleaned-up immediately as soon as they are discovered.

5. Industrial waste will be reused or recycled on a priority basis. Where reuse or recycling opportunities are not available, the waste will be disposed of at an approved site.

6. The contractor's equipment will be clean and maintained in good working condition, free of leaks of petroleum, oil or lubricants.

7. The Environmental Inspector/Monitor will conduct visual inspections of the contractor's equipment on a regular basis. If any deficiencies are identified, that will be addressed and repaired immediately.

8. Servicing of equipment in the field with the potential for accidental spills (*e.g.,* oil changes, hydraulic repairs) will be completed over an impervious tarp or a tray.

9. Refueling or servicing of equipment will be prohibited within 100 m (330 ft) of a watercourse, wetland or water body, where possible.

10. Vehicles and vessels will be equipped with spill containment and clean-up material. This will include but not necessarily be limited to: shovels, absorbent spill pads, heavy duty garbage bags, and absorbent material (*e.g.,* kitty litter or similar material).

11. Prior to the commencement of construction activities, the Contractor will confirm that spill response and firefighting equipment are available in all heavy equipment/vessels being used for the Project.

12. Hazardous waste and storage area(s) will be clearly identified and secured.

13. Each Contractor will be equipped with adequate garbage receptacles for solid non-hazardous wastes. These wastes will be collected on a regular basis or as they are generated and will be disposed of at approved locations. All containers intended to temporarily store waste material will be covered with a secure lid to prevent rain or snow from infiltrating the container, or unwanted access by wildlife.

14. Industrial wastes will be collected and disposed of at approved facilities. Tickets/receipts or other documentation issued for the disposal of material shall be retained by the Contractor and provided upon request to MECL personnel.

15. Portable domestic sewage facilities will be provided by the Contractors to field staff and maintained by a service contractor.

3.4 Traffic Management

To access the sites, the Contractor will only use existing access roads, where possible. All Project-related vehicle and equipment traffic will be confined to the surveyed project development area and approved access roads. Any change to access requirements will be examined and approved by MECL prior to use.

1. Should it be necessary to closures or delays on any public roads, a plan will be provided by the Contractor to MECL for approval prior to the date of the closure/delay. The Contractor is responsible to obtain all necessary approvals and permits required from New Brunswick Department of Transportation and Infrastructure (NBDTI) or the PEI Department of Transportation, Infrastructure and Energy (PEITIE) and must meet all conditions on obtained permits.

2. Any road closures must be managed by a qualified team of traffic controllers, as per PEI *Occupational Health and Safety Act* and the New Brunswick *Occupational Health and Safety Act*. Applicable certificates for these traffic controllers will be provided to MECL upon request.

3. All Project related vehicles will obey traffic laws.

4. Trucking activity will take place on designated truck routes, and observe speed limits and weight restrictions.

5. Any road closures will be communicated to the public prior to the closure. The closure details (*i.e.,* location and durations) will be relayed to NBDTI or PEITIE, as applicable.

3.4.1 Site Access

To access the construction areas, the contractor will only use existing access roads, where possible, as determined and approved by the Contractor. All Project-related vehicle and equipment traffic will be confined to the surveyed construction areas and approved access roads. Any change to access requirements will be examined and

approved by the Contractor prior to use. The necessary access permits and approvals will be acquired, where, and if, required.

3.5 Noise Control

Noise will be produced during construction due to the operation of heavy machinery.

Noise is considered excessive when it lasts for three hours at a time, is located within 60 m (197 ft.) of any receptor (*i.e.,* person or building) and (i) exceeds 65 dBA-Leq in residential areas; or (ii) exceeds 70 dBA-Leq in commercial areas.

1. All construction activities will be performed in such a manner that noise is minimized.
2. All Project vehicles and equipment will be properly maintained and equipped with mufflers as per equipment specifications to reduce noise emissions.
3. The Contractor will limit idling of construction vehicles and equipment.
4. Noise will remain largely confined to the work site and immediately adjacent areas; land based construction activities will be conducted during day light hours.
5. Any complaints from the public will be forwarded immediately to MECL, who will work with the Contractor to address the concerns raised.
6. The Environmental Inspector/Monitor will periodically check nearby receptors and other sensitive receptors for noise issues so that they can be quickly addressed.
7. Nearby residents will be notified of major construction activities.

3.6 Air Quality

Vehicular and equipment emissions contribute to greenhouse global warming, and reduce overall air quality in the immediate vicinity of operations. Exposure to vehicle or machine exhausts poses both short-term (irritation of sensory system and breathing) and long-term health risks to adjacent workers and residences.

1. All equipment and machinery used on site will be maintained in good working order.
2. Orientation training with contractor personnel will include discussion of vehicle idling; the Contractor will limit unnecessary idling of construction vehicles and equipment.
3. Dust will be controlled with the use of water only, applied during dry periods as necessary. The ground surface on access trails and other traffic roads will be sprinkled with water until it is moist. Water will not be applied in excess to avoid unwanted runoff from the construction area into wetlands or watercourses, or onto adjacent landowners' properties.

4. The Contractor will monitor the amounts of water required to control dust so that the potential for surface runoff of soil is minimized.

5. Transportation of fine-grained soils and granular materials will be in covered trailers or trucks to reduce airborne particulates.

6. Contractor vehicles are to avoid to the extent possible tracking mud from Project facilities onto public roads. During dry and windy conditions, dust generation in sensitive areas will be monitored through visual inspections and mitigation measure implemented.

7. Overburden disturbance will be limited to structure locations or where backfill is required.

8. Approved noise arrest mufflers will be used on equipment to reduce potential environmental effects of noise.

3.7 Archaeological/Heritage Resources

The following measures for the protection of land-based archaeological/heritage resources are to be implemented whenever there is potential or planned ground disturbing activities, regardless of the construction phase.

1. The Heritage Resources Response Protocol (Appendix B) will be followed in the event of an unexpected archaeological discovery during construction.

2. The Environmental Inspector/Monitor will be provided with archaeological awareness training to aid in the identification of archaeological/heritage resources.

3. Contractors will be informed of their responsibility to report and protect any potential archaeological/heritage resources upon discovery.

3.8 Erosion and Sediment Control

It is very important to keep eroding sediments out of any watercourse or wetland. Any disturbance that results in the exposure of erodible soils has the potential to result in sedimentation of a waterbody or wetland. This is particularly true during periods of rain and high winds.

Temporary erosion controls will be installed by the Contractor immediately after initial ground disturbance and will be properly maintained by the Contractor throughout construction until restoration is complete and sites are considered stable. The Environmental Inspector/Monitor will determine if it is necessary to install temporary sediment barriers prior to initial disturbance to minimize the potential for sediment to enter into a waterbody and/or wetland.

1. Temporary erosion sediment control measures to be implemented will include the following, as applicable:

   - seeding with non-invasive native species;
   - piling straw to intercept sediment laden runoff; and/or
   - installing silt fencing.

2. Erosion control techniques will be implemented in areas along the PDA where vehicle activity results in the creation of wheel ruts that channelize natural drainage or expose soil or subsoil to potential erosion. Vehicle activity would cease until one or all of the following erosion control techniques are implemented:

   - spreading a thin layer of straw over disturbed areas;
   - installing baffles or sediment traps, where necessary, within the area of disturbance;
   - installing drainage collectors across the disturbed area channeling drainage into vegetated areas; or
   - installing silt fencing.

   Alternative tools and materials (*e.g.,* straw) will be used to control surface water flow (*e.g.,* surface runoff) or act as a mulch on exposed soils. Silt fences or straw bale barriers will be required to prevent sediment from entering wetlands or waterbodies (Figure 2 and Figure 3).

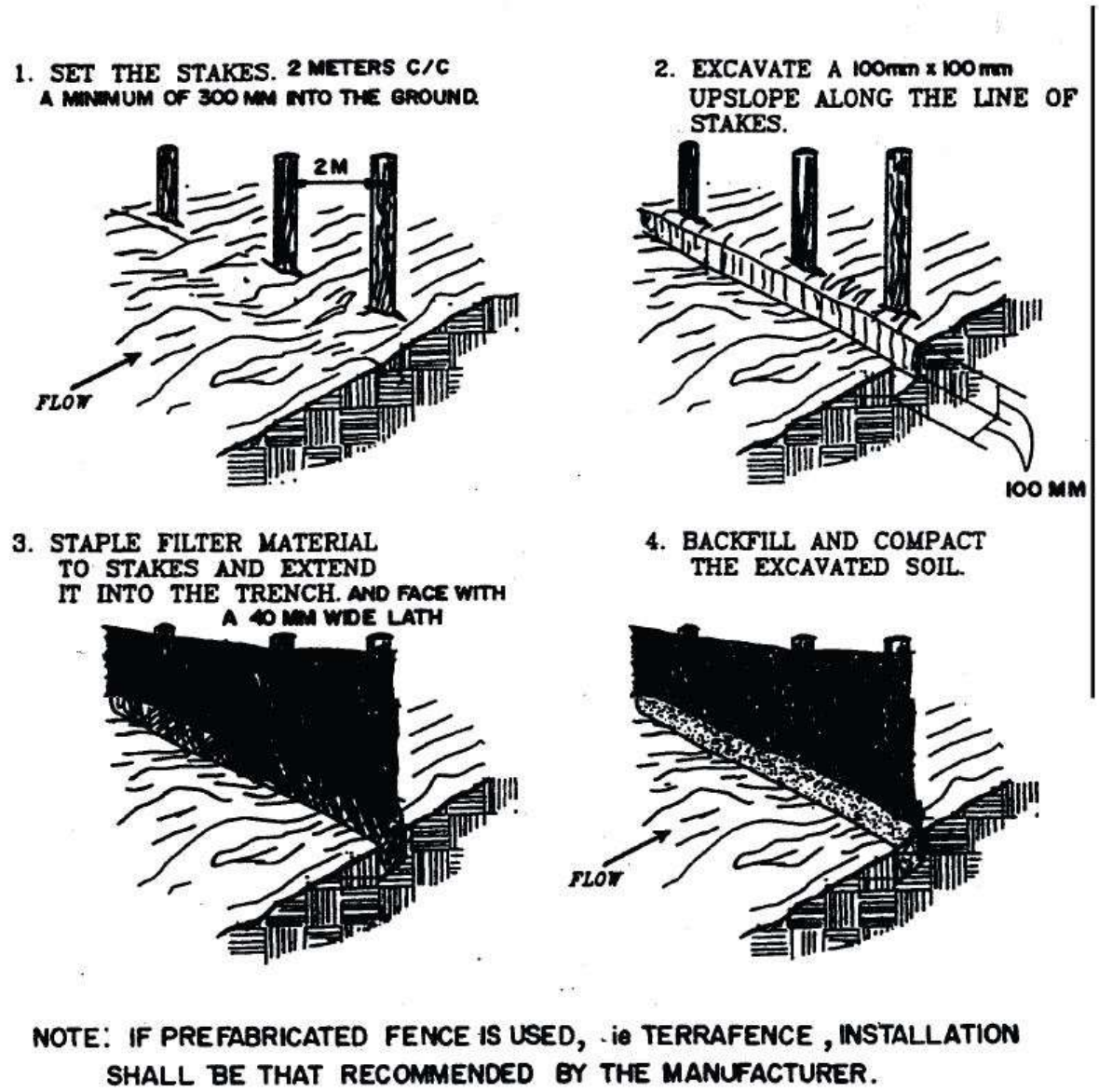

FIGURE 2 INSTALLATION OF SILT FENCE (PEITIE 2012)

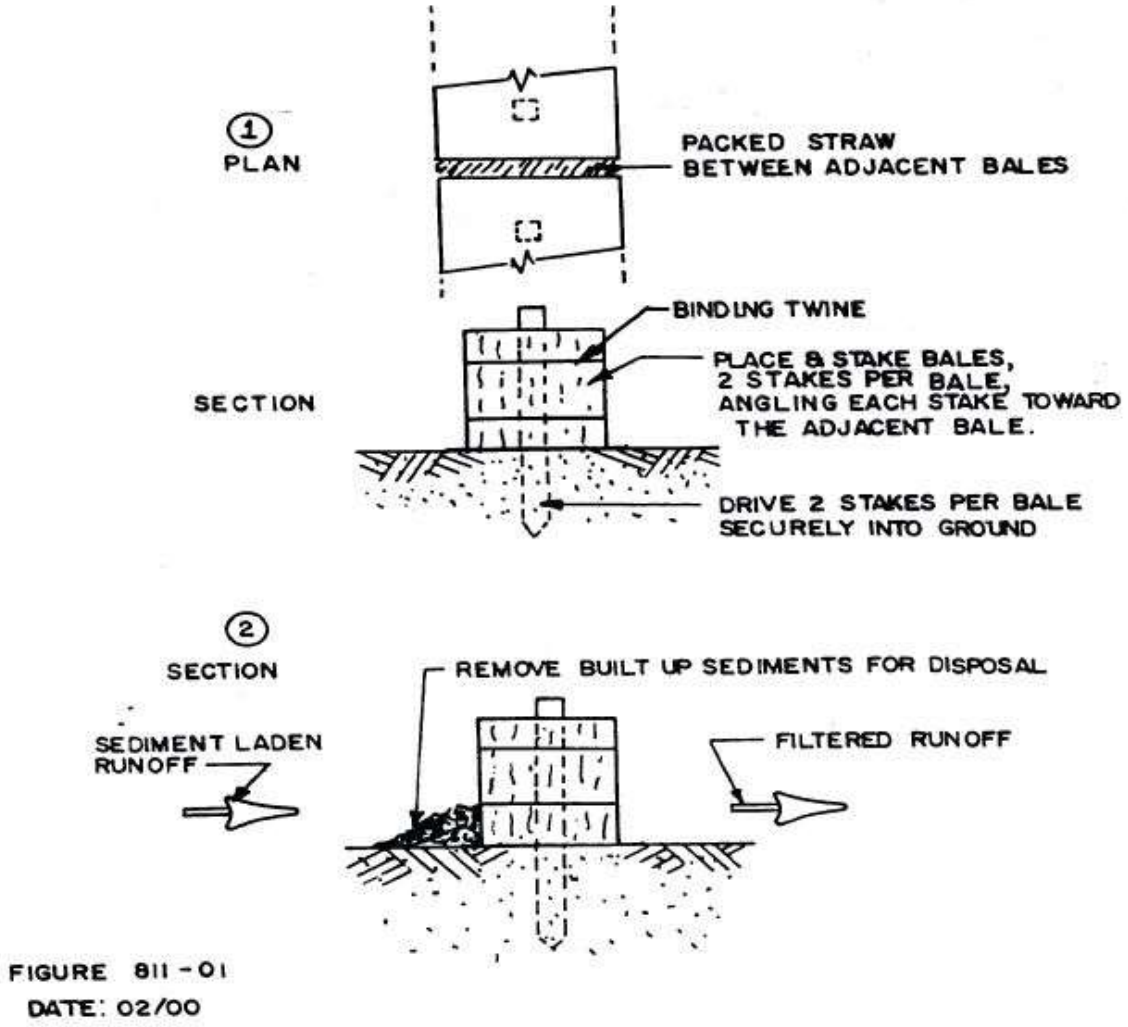

FIGURE 3 INSTALLATION OF STRAW BALE BARRIER (PEITIE 2012)

Silt fences will be constructed as follows.

- The silt fence will be installed up-slope, adjacent to the area to be protected in order to prevent silt from being directed towards an adjacent property or sensitive area (*e.g.,* watercourse/wetland).
- A trench 100 millimetres (mm) in width and 100 mm in depth will be excavated on the up-slope side of the fence, as shown in Figure 2, in order for the silt fence to be anchored properly into the substrate.
- 50 mm square wooden stakes (1.5 m in height) will be driven 400 mm into the ground at intervals 2,000 mm apart along the downslope side of the trench.
- Filter fabric will be in a continuous roll, cut to the length of the barrier to avoid joints. When joints are unavoidable, filter fabric will be spliced together on a support stake with a minimum 150 mm overlap. Filter fabric will be attached to the stake on the upstream side extending the bottom 100 mm into the trench using 25 mm heavy duty wire staples.
- The excavated soil from the trench will be backfilled and compacted over the filter fabric.

Straw bale barriers will be constructed as follows.

- Straw bales will be placed on their sides, tightly together, so that the twine is not in contact with the ground.
- Straw bales will be secured by driving two sturdy wooden or steel stakes through each bale, deep enough into the substrate to anchor them securely. The first stake in each bale will be driven on an angle toward the previous bale to anchor the bales together.
- Loose straw will be wedged between any cracks or other openings and spread over the soil on the upslope side of the barrier.

Erosion control structures will be inspected on a regular basis, and immediately before and after storm events. If determined to need repairs or maintenance, these repairs will be undertaken by the Contractor immediately. Erosion control measures will be removed once disturbed sites have been completely stabilized.

3.9 Wetlands

The installation of the submarine cables in trenches leading to the termination site/substation will result in the loss of wetland area in PEI. According to current provincial requirements, a watercourse, wetland and buffer zone activity permit is required as well as wetland compensation for loss of wetland area. MECL will obtain this permit prior to Construction. MECL is responsible for any wetland compensation as part of this permit that is required from the province.

The following resource protection measures will be implemented by the Contractor during construction for the protection of wetlands.

1. Work conducted in the wetland area in PEI (Figure 4) (*e.g.,* trenching, vehicle movement) will be done in compliance with the watercourse, wetland and buffer zone activity permit issued by PEIDCLE.

2. Vegetation disturbance within all wetlands will be kept to a minimum.

3. Ground disturbance will be minimized by locating staging areas outside all wetlands and limiting equipment use in wetlands.

4. Earthwork will be restricted to the PDA when working in or near wetlands. MECL will flag, or otherwise mark the defined and approved work area.

5. The area and duration of construction activities in wetlands will be minimized, where possible.

6. Standard erosion and sedimentation control measures will be employed by the Contractor prior to disturbance in wetlands and surrounding areas. See Section 3.8.

7. Fueling and fluid changes or storage of fluids will not take place within 100 m (330 ft) of any wetland.

8. All sewage, refuse or chemicals will be properly managed and contained and only disposed of at provincially approved facilities license to accept such material. See Section 3.3 – Waste Management.

9. The application of water to control dust, if required, will be done in a way that runoff of any excess water will not enter a wetland or waterbody. Only clean water is to be used for dust control.

10. The removal of vegetation surrounding the wetlands will be limited to the immediate work site. MECL will define and flag, stake or otherwise mark the limits of construction

11. Wetlands will be allowed to re-vegetate naturally. If seeding of these areas is required, native seed mixes will be used.

12. To the extent possible, structures will not be located within a regulated wetland or within 30 m (100 ft) of a regulated wetland. Where such avoidance is not possible and structures need to be located in a regulated wetland or their 30 m (100 ft) buffer because they are too large to span, access to structure locations will be in compliance with the WAWA Permit issued by NBDELG, or a Watercourse and Wetland Alteration Permit issued by PEIDCLE.

13. Grading will be restricted to essential areas when working in or near wetlands.

14. Clearing will only occur within designated areas as shown on construction drawings. No trees will be removed outside these limits.

15. Vegetation within forested wetlands will be largely removed by mechanical means, except within 30 m (100 ft) of a watercourse, where only hand clearing will occur. Within wetlands, mechanical removal will be limited, and only the tall (*i.e.,* above 3.66 m or 12 feet) vegetation will be removed, leaving the under growth and duff layer undisturbed to prevent erosion. No grubbing or stump removal will occur within wetlands.

16. Salvaged timber and debris will be stockpiled outside of 30 m (100 ft.) buffer zones for wetlands.

17. Non-merchantable vegetative debris will be mulched and spread in the construction areas outside of buffers and wetlands.

18. No sewage, refuse, or chemicals will be discharged into or near any wetland or body of water. There is to be no disposal of any materials or waste anywhere but at a facility approved to accept such material.

19. Road construction and rutting in wetlands will be reduced by the use of brush mats and log corduroy on roads. Where activities are required in wetlands, swamp mats, brush mats, and/or corduroy will be employed to reduce compaction or rutting.

    - Swamp mats may be constructed of old tires, fabric or wooden portable bridging.
    - Geo-textile fabric may be placed between the mat and the surface of the wetland to provide additional support.
    - Brush mats and log corduroy will be constructed using felled or merchantable timber cut from the Project area—no new trees will be cut specifically to construct brush mats or log corduroy.

20. Mats will be placed end-to-end to form a continuous span for the entire length of the area to be protected and will be inspected regularly and maintained as necessary to facilitate their proper function. Swamp mats are:

    - for temporary use only;
    - will be removed once access to the work area is no longer required; and
    - the preferred crossing method over brush mats and log corduroy.

    This will apply to all wetland crossings, including those wetlands where there is no defined watercourse channel. However, the Contractor will make a site-specific decision on individual wetlands to employ the crossing type that is most suitable and will have the least environmental impact. This decision will be made in consultation with the Environmental Inspector/Monitor.

21. If log corduroy is used, poles or logs placed perpendicular to the direction of travel will be placed on top of a layer of geo-textile fabric and may be topped with brush or

portable bridging if required to improve the ability to support traffic. Once access to the work area is no longer required, all placed material will be removed from the wetland.

22. Quarried, crushed rock and/or gravel material will be used for temporary roads access in and near wetlands, to reduce the risk of introducing or spreading exotic and/or invasive vascular plant species.

23. Watercourse and wetland crossings will not be permitted where access to the construction area is reasonably available from both sides of a watercourse or wetland and the watercourse or wetland is judged by the Environmental Inspector/Monitor in consultation with Contractor personnel to be sensitive to crossing.

24. Where watercourses are within wetlands, clearing of vegetation within the transmission line corridor will occur by hand within 30 m (100 ft.) of the watercourse.

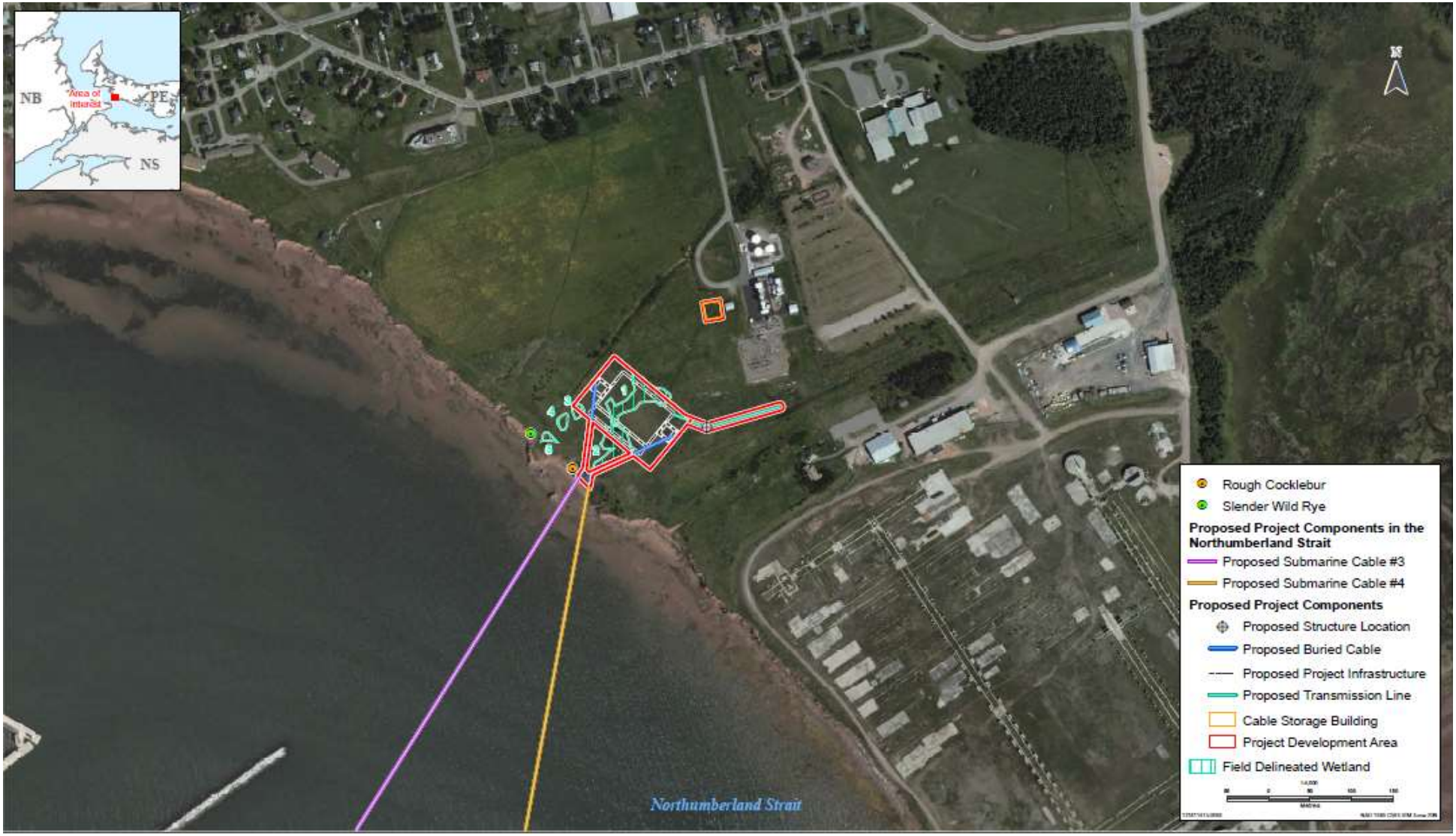

FIGURE 4 ENVIRONMENTAL FEATURES – PEI

3.10 Species at Risk and Species of Conservation Concern

Species at Risk (SAR) include those listed as endangered, threatened or special concern by the federal *Species at Risk Act* (*SARA*), the New Brunswick *Species at Risk Act* (NB *SARA*) in NB, the *Wildlife Conservation Act* in PEI, or by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). Species of conservation concern (SOCC) are not listed under federal or provincial legislation but are considered rare in New Brunswick or PEI, or the long-term sustainability of their populations has been evaluated as tenuous. SOCC are defined here as species ranked S1 (critically imperiled), S2 (imperiled), or S3 (vulnerable) by the AC CDC (2016).

In addition to the general requirements presented in Section 3.0, the following resource protection measures will be implemented during construction for the protection of SAR and SOCC.

1. MECL will facilitate the flagging of locations within the construction area that have been identified with known occurrences of SAR or SOCC prior to construction activities.

2. Flagged locations for plant SAR and plant SOCC will be avoided by traffic, disturbance, and clearing to the extent possible within the necessary limitations of clearance, line of site, and construction activities.

3. If raptor nests are discovered within or near the construction areas, the Contractor will immediately contact the Environmental Inspector/Monitor or the MECL Construction Manager. MECL will contact NBDNR or PEIDCLE (whichever jurisdiction applies) and the Canadian Wildlife Service (CWS) as necessary to discuss appropriate approaches in addressing the situation. If no acceptable alternatives exist, MECL would modify the schedule in the area of the nest.

3.11 Invasive Species

The following resource protection measures will be implemented by the Contractor during construction for protection against invasive species.

1. To prevent the introduction of invasive plants, equipment will be inspected by the Environmental Inspector/Monitor for any vegetation and soil debris prior to its use for the Project.

2. If any vegetation or soil debris is found on the equipment, the equipment will be cleaned to remove all such material. The Environmental Inspector/Monitor will inspect equipment from cleanliness and record location, time, date and the specific equipment that was cleaned.

3. Manage invasive species through minimization operation activities in wetland areas and cleaning of equipment before it enters a wetland.

4. The risk of import of invasive plants or their seeds, rhizomes or vegetative structures will be minimized by training Environmental Inspector/Monitor to recognize these plants. Construction personnel will also be apprised of the concerns regarding surrounding invasive plants.

3.12 Migratory Birds

All migratory birds are protected under the *Migratory Birds Convention Act, 1994*. This legislation provides migratory birds protection from hunting and capture during sensitive periods, and prohibits the deposit of oil, oil wastes, or other substances harmful to migratory birds or in any area frequented by birds. The interpretation of "other substances" includes food scraps, sediment plumes, dust, noise and activities that could disturb nesting or feeding migratory birds.

1. The Contractor is to use public roads to access the Project area, to transport material and to transport waste material to approved disposal sites.

2. The Contractor should be aware that migratory birds, their eggs, nests, and young are protected under the *Migratory Birds Convention Act, 1994*.

3. The Contractor should be aware that under the *Migratory Birds Convention Act, 1994*, "no person shall deposit or permit to be deposited oil, oil wastes or any other substance harmful to migratory birds in waters or any area frequented by migratory birds".

4. Any and all spilled material must be contained and cleaned up immediately, and reported to the MECL Environmental Inspector/Monitor and appropriate regulatory agencies.

5. Should an active bird nest be encountered during clearing activities, MECL and the Environmental Inspector/Monitor will be responsible for implementing flagging and establishing a 30 m radius (100 ft.) "no-work buffer zone" around the nest or tree until all young have hatched and left the nest, following guidance established by Environment and Climate Change Canada (ECC Canada 2014). In the unlikely event that nesting waterfowl are discovered, this "no-work buffer zone" will be 50 m (164 ft). MECL will facilitate determining final buffers to be maintained during the nesting period.

   The location of all nests should be documented and reported to the Environmental Inspector/Monitor. The nest itself must not be flagged.

6. Fields will be kept mowed during the breeding bird season if work is to be conducted at any point during this time. This will be done in order to deter species from nesting in the area (*e.g.*, bobolink). If any active nests are discovered during this mowing the nest must not be disturbed and "no-go" buffer must be established (see #5, above).

7. Construction activities will be avoided in areas of native vegetation during the normal breeding season for most migratory birds (*i.e.,* April 1 to August 31), if possible.

8. Appropriate avian avoidance devices (either the FireFly™ HW or the FireFly™ FF Bird Flapper/Diverter manufactured by P&R Technologies) will be used near potential staging areas

9. For lighting installations on structures, full cut-off lighting (*i.e.,* no light is emitted above 90°) will be used to reduce attraction to migrating birds, wherever possible.

10. Approved noise arrest mufflers will be used on all motorized equipment to reduce potential environmental effects of noise.

11. If wildlife are encountered, measures outlined in the Wildlife Encounter Contingency Plan will be followed (Section 5.5).

3.13 Earthwork (Grading, Excavating)

The mitigation measures below will be implemented by the Contractor. Earthworks are defined as any activities related to ground breaking, such as preparation of the grade. Such work that is required during construction will be confined to the defined PDA of the Project. The work area will be determined and flagged, staked or otherwise marked by MECL.

1. Trees that require removal will be done in consultation with the Contractor.

2. Equipment and vehicles will only operate in areas designated for construction activities. MECL will designate and flag, stake or otherwise marked the limits of construction.

3. Erosion of exposed soils will be controlled by the Contractor through the implementation of erosion control procedures outlined in Section 3.8 – Erosion and Sediment Control.

4. Immediately after earthworks near the wetland in PEI (*i.e.,* once erodible soils have been exposed), a sediment control fence will be installed and maintained by the Contractor between the area of exposed soils and the wetland. The Environmental Inspector/Monitor shall have the final word on the extent of the silt fence in this area.

5. In wet areas where surface stabilization is inadequate to support equipment travel, the Contractor may use swamp mats or corduroy. Swamp maps will be used as the preferred method of stabilizing ground surface.

6. The movement of heavy equipment in wetlands will be limited to that which is necessary to prevent rutting and other unnecessary damage.

7. The Contractor is responsible to contact all appropriate utilities for locates for any and all subsurface infrastructures/utilities. This must be completed and updated as warranted prior to any ground breaking or excavation activities. Documentation of clearances must be obtained by the Contractor and provided to MECL upon request.

8. Material excavated from the footprint and not suitable as backfill, such as large rocks, will be disposed of in a provincially approved location. Any excess subsoil will be removed by the Contractor and disposed of at a provincially approved location.

9. The Contractor will maintain all temporary sediment control structures/features throughout the construction period, and repair and reinstall them as necessary. Any deficiencies noted by the Environmental Inspector/Monitor will be repaired by the Contractor immediately.

10. Initial clean-up and restoration activities, including soil stabilization and erosion protection measures, will commence as soon as possible after backfilling.

3.14 Fencing

Fencing will be required around the perimeter of the Project site to restrict site access. Improperly constructed or maintained fencing may allow public access to the site, thereby posing a health and safety risk to the public.

1. Prior to earthworks, fencing will be installed around the perimeter of the project sites by the Contractor with controlled access points to the site. The controlled access and perimeter fencing will be maintained (where necessary) by the Contractor for the duration of construction. MECL will determine and approve all access points.

2. During construction, only Project personnel will be permitted within the fenced or marked project site. Access to the Project site will be limited to Project personnel only and members of the public will not be permitted into the project site. Site security and access control is the responsibility of the Contractor.

3. Perimeter fencing will be monitored on a regular basis and repaired by the Contractor as needed.

4. Signage, to be placed by the Contractor, will be attached to perimeter fencing advising of “Restricted Access”.

3.15 Backfilling

The following protection measures will be implemented during construction.

1. Material from riser structures and/or substation excavations will be used whenever possible.

2. The number of borrow areas opened during construction will be minimized. Existing borrow areas will be used whenever possible. The Contractor shall be responsible to confirm that all borrow areas used for the Project are appropriately approved/licensed to do so, as applicable.

3. Where borrow material is required, use material from the nearest, provincially approved local source to the extent practical and in accordance with applicable acts and regulations.

4. Upon completion of excavation, the disturbed area will be graded to slopes of less than 20% for excavation areas that are specifically developed for the Project.

5. The Contractor will avoid mixing snow, ice or other organic materials with the backfill material and will compact the backfill to the level of the surrounding ground to minimize potential erosion and sedimentation.

6. Implement the archaeological/heritage resources protection measures described in Section 3.7 of this PSEPP, as applicable.

3.16 Installing of Grounding and Anchoring

All structures will be installed in accordance with the drawings contained in the tender document. Two types of anchoring systems will be used on dead-end and angle structures depending on the terrain: grillage anchors or rock anchors.

The anchors will be buried in soil or drilled into rock. The anchoring system will be attached to the structure at the conductor height using a suitably sized steel guy wire. Structure grounding systems will include counterpoise wire buried around and away from the poles.

Implement the archaeological/heritage resources protection measures described in Section 3.7 of this PSEPP, as applicable. Additional environmental protection measures listed in previous sections will be implemented during the installation of foundation, structures, grounding and anchors.

4.0 RECLAMATION PLAN

Reclamation activities of disturbed areas will commence as soon as construction of the Project is complete in order to restore wildlife habitat and restore the aesthetic appearance of an area.

4.1 Restoration Measures

Upon completion of construction, the Contractor will remove construction debris from the construction area. All disturbed areas that were affected by construction activities will be re-graded and contoured to blend into the surrounding landscape and to re-establish natural drainage patterns (if required). Emphasis during contouring will be to return disturbed areas as close as possible to their original contour, to stabilize slopes and to control surface drainage. Where excavation has taken place for the installation of structures, guy wires and grounding, topsoil free of noxious weeds or deleterious materials will be uniformly spread over those disturbed areas. The spreading of topsoil will not occur during wet conditions.

The following measures will be implemented as part of the restoration plan.

1. The Project Manager and the Environmental Inspector/Monitor will identify areas requiring seeding and/or planting for re-vegetation purposes. These will include:

    - areas adjacent to wetlands/waterbodies where erodible soil has been exposed, and where mechanical stabilization (*i.e.,* riprap techniques) are not judged to be sufficient to guarantee stability, or prevent uncontrolled introduction of sediment into wetlands/waterbodies;
    - areas within community boundaries or adjacent to existing roads where erodible soil has been exposed;
    - areas which have been identified as providing critical habitat for wildlife species; and
    - any other areas judged to require quick re-vegetation.

2. Native species will be used for re-vegetation and obtained from the proper authorities.

3. Where possible, wetlands will be allowed to re-vegetate naturally unless there are potentially erodible soils. Where wetlands must be disturbed, the “duff” or organic top layer of the wetland will be set aside, and then put back in place during restoration activities. Original contours and drainage patterns will be restored.

4.2 Seeding

Portions of the PDA needed for construction that are not within a fenced area will be allowed to re-vegetate naturally whenever possible. When seeding is required, native seeds will be dispersed onto exposed soil. Seed can be used alone without mulch.

Follow-up applications will be made where required to cover bare spots.

4.3 Fabric Placement/Silt Fences

Geotextile fabric will be used to stabilize disturbed slopes. The black plastic fabric should not be used in this case. The white geotextile is porous and will allow plant growth to emerge.

Silt fences are used as temporary perimeter controls around sites where there will be soil disturbance due to construction activities. They consist of a length of filter fabric stretched between anchoring posts spaced at regular intervals along the site perimeter. The filter fabric should be entrenched in the ground between the support posts. When installed correctly and inspected, silt fences can be an effective barrier to sediment leaving the site in surface water runoff. Silt fences should not be installed along areas where rocks or other hard surfaces will prevent uniform anchoring of fence posts and entrenching of the filter fabric. This will greatly reduce the effectiveness of silt fencing and can create runoff channels leading off-site. Silt fences are not suitable for areas where large amounts of concentrated runoff are likely. In addition, open areas where wind velocity is high may present a maintenance challenge, as high winds may accelerate deterioration of the filter fabric.

Silt fences will be inspected on a regular basis, as well as before and after each rainfall event to confirm that they are intact and that there are no gaps at the fence-ground interface or tears along the length of the fence. If gaps or tears are found, they will be repaired or the fabric will be replaced immediately.

4.4 Swamp Mats, Brush Mats, and Corduroy

Where activities are required in wetlands during non-frozen conditions, swamp mats, brush mats and/or log corduroy will be employed to reduce compaction or rutting. Swamp mats may be constructed of old tires, fabric or wooden portable bridging. Geo-textile fabric may be placed between the mat and the surface of the wetland to provide additional support.

Mats will be placed end-to-end to form a continuous span for the entire length of the area to be protected and will be inspected regularly and maintained as necessary to confirm their proper function. Swamp mats are for temporary use only and will be removed once access to the work area is no longer required. Swamp mats are the preferred crossing method over brush mats and log corduroy. This will apply to all wetland crossings, including those wetlands where there is no defined channel. However, the contractor will make a site-specific decision on individual wetlands to employ the crossing type that is most suitable and will have the least environmental impact.

If log corduroy is used, poles or logs placed perpendicular to the direction of travel will be placed on top of a layer of geo-textile fabric and may be topped with brush or

portable bridging if required to improve the ability to support traffic. Once access to the work area is no longer required, all material will be removed from the wetland.

Although not strictly a restoration technique, this method can be used to improve roads that cannot be back-bladed with a bulldozer because of the softness of the ground. It will restore a roadbed that has been rutted by machinery.

4.5 Monitoring and Success Criteria

The evaluation of monitoring success will be achieved through environmental monitoring initiatives. The methods employed to monitor the success of the reclamation plan will consist of ground inspections.

In general, immediately following the completion of construction activities, ground inspections will be conducted by MECL and the Environmental Monitor/Inspector to identify any issues and concerns. During these inspections, disturbed areas will be identified, documented, and photographed. MECL will be responsible to implement and additional mitigation related to the stability of the disturbed areas during the operation phase of the Project.

5.0 CONTINGENCY AND EMERGENCY RESPONSE PLANS

Contingency plans are designed to minimize hazards to human health or the environment from fires, wildlife encounters, or any other unplanned events.

5.1 Wet Soils Conditions Contingency Plan

During construction, traffic on access trails is restricted mainly to tracked vehicles. Since trails are not grubbed, the vehicles are traveling on the duff layer that contains the remnants of roots and debris of the grubbed trees and vegetation. During wet periods, this layer holds together better under vehicle traffic than just organic soil. However, a contingency plan has been developed to identify measures that will be implemented individually or in combination as required, based on site-specific construction area conditions and the timing of activities.

1. Traffic will be restricted where feasible to tracked equipment.

2. Work will only occur in non-problem areas, such as well-drained, dry sites or in frozen areas, until conditions improve.

3. Activities will be suspended or limited during wet weather conditions. The following criteria will be used in deciding whether to suspend or limit activities:

    - current soil conditions;
    - forecasted rain and drying weather;
    - type of activities scheduled for a particular area;
    - type of machinery used for a specific task;
    - location of activity;
    - potential breakdown of duff and soil structure;
    - extent and depth of rutting;
    - type of soil in the area;
    - land use (agricultural areas, wetlands and areas near watercourses receive special consideration);
    - availability and effectiveness of mitigation measures;
    - potential breakdown of soil structure; and
    - potential for sub-soil compaction.

4. The Environmental Inspector/Monitor will have the authority to suspend work in the event of wet soil conditions and to determine when conditions are suitable to resume the work. The following criteria will be employed to determine that soils have dried sufficiently to resume construction:

    - forecasted drying weather;
    - type of activities scheduled for a particular area;
    - type of machinery used for a specific task;
    - potential for rutting;

- land use;
- potential breakdown of soil structure;
- potential for sub-soil compaction; and
- availability and effectiveness of mitigation measures.

5. Techniques such as swamp mats, ice bridges, log corduroy, and other standard methods to minimize ground disturbance will be employed.

5.2 Contaminated Soil Contingency Plan

During excavation of pole placement, it is possible that soil (and accompanying water) suspected of contamination may be encountered.

In the event a suspected contaminated area is encountered, follow the procedure below.

1. The Contractor will suspend all work in the immediate area of the contaminated soil and immediately notify the Environmental Inspector/Monitor.

2. The Contractor will secure the area around any suspected contaminated soil to avoid unnecessary contact or disturbance. Methods of securement should include:

   - Placement of excavated material on an impervious liner and covering it with impervious membrane to isolate it from weather events (*i.e.*, rain, wind);
   - Placing an impermeable berm around the excavated soil in order to contain and isolate the excavated soil; or
   - Storing the suspected contaminated soil away from watercourses or wetlands.

3. MECL will be responsible to retain expert advice on proper remediation planning and any applicable regulatory reporting requirements.

5.3 Spill Contingency Plan

Fuel tanks and heavy equipment offer the potential for leaks and spills. There may be hazardous materials associated with construction activities. These fuels and hazardous materials can be damaging to vegetation, soil, surface water, groundwater, and wildlife.

Contractors and contracted personnel will be trained and made aware of spill response during orientation sessions. In addition, the Environmental Inspector/Monitor will perform checks of vehicles and storage areas to confirm proper storage and handling of petroleum products to prevent the occurrence of a spill.

All personnel will conduct inspections of work equipment such as hoses, radiators and safety equipment for wear and tear, and leaks or damage to equipment.

5.3.1 Response

All spills will be immediately contained, cleaned and reported by the Contractor as summarized below.

1. All Project vehicles will be equipped with spill kits.

2. Any spill or leak should be reported immediately to the MECL Project Manager and Environmental Inspector/Monitor, who will then contact the appropriate authorities.

3. Work in the immediate area will be halted and the first person on the scene of a spill will follow MECL's Spill Response Protocol.

4. The Contractor will assume the overall responsibility of coordinating a clean-up and maintaining this Contingency Plan current and up-to-date. The Contractor will, in consultation with the regulatory authorities (if warranted):

   a) Restrict access to the cleanup area;

   b) Prevent further spread of the spill product; deploy on-site personnel to contain the spilled material using a dyke, pit, or absorbent material;

   c) Assess site conditions and environmental impact of various cleanup procedures;

   d) Choose and implement an appropriate cleanup procedure;

   e) Deploy on-site personnel to mobilize pumps and empty drums (or other appropriate storage) to the spill site;

   f) Dispose of all contaminated debris, cleaning materials, and absorbents by placing in a waste management site; and

   g) Take all necessary precautions to ensure that the incident does not recur.

5. All spills will be reported immediately to applicable authorities (*e.g.*, Environment and Climate Change Canada 24-hour emergency reporting system 1-800-565-1633 and PEI Environmental Emergency Response (902) 368-5000) by the first person on the scene of a spill.

5.4 Fire Contingency Plan

Activities related to construction could result in fire that could spread to the surrounding area. These events can lead to the loss of forest products, poor air quality, loss of wildlife habitat, and risks to human health and safety.

- MECL and the Contractor will prevent and respond to fires, and will comply with the requirements of the New Brunswick *Forest Fires Act* and the PEI *Fire Prevention Act.*

- The Contractor will confirm that spill response and firefighting equipment are available in all heavy equipment being used for the Project. Vehicle operators will inspect each of their vehicles daily.

- A Work Permit under the *Forest Fires Act* will be obtained from NBDNR prior to the construction of the Project. This permit specifies the work locations, the equipment to be used and the fire-fighting equipment required for all crews. In addition, an early fire detection program, managed by NBDNR includes air and ground patrols during the fire season.

MECL will provide communications equipment to allow for immediate dispatch of fire departments. The equipment will be tested at the work sites before work starts to ensure the equipment is functional.

911 shall be called immediately in the event of a fire. The caller shall identify:

- That a fire has started in wild land;

- The specific location of the fire;

- The type of fuels in and near the fire;

- The closest civic address number to the access road for the construction area; and

- The potential risks that may be involved.

When a fire is discovered, the site personnel will conduct an immediate assessment of the fire scene and risks associated with: a) containing any spread, and b) extinguishing the fire. If deemed safe, site personnel will attempt to contain and extinguish the fire. Even if site personnel are able to contain and extinguish the fire, site personnel shall immediately notify the local fire department and give details of the fire.

If warranted by risk to personal safety, staff will be evacuated to a safe area and will be prepared to assist firefighters if necessary. The crew member will direct firefighters and give detailed routing to the closest possible access point(s) at which a fire suppression operation can be initiated and, if necessary, shall station a person to direct the firefighters to the best access point(s).

After a fire has been contained and/or extinguished, MECL staff or its contractors will cold trail the fire using either an infrared detector or manual cold trailing (i.e., checking for radiant heat). MECL will assist with the cleanup. MECL will immediately notify PEIDCLE or NBDNR that a fire has occurred. MECL will also provide a preliminary

report of the fire incident to PEIDCLE or NBDNR at its fire headquarters within 24 hours of a fire incident.

An internal investigation conducted by MECL's staff will be made available to PEIDCLE or NBDNR for comments and recommendations. Where damage to property has occurred, MECL will conduct the appropriate rehabilitation of the site in consultation with the property owner and the appropriate authority.

5.5 Wildlife Encounter Contingency Plan

Wildlife encounters may occur during Project activities. These encounters can potentially disturb wildlife and disrupt work activity. In most cases, interaction with wildlife is of short duration, with minimal consequences. However, wildlife species often have critical periods in their life cycles when any disturbance may result in displacement from their normal habitat, desertion of young, or other harmful reaction.

Personnel will be advised of the appropriate procedures to use in the event of a wildlife encounter. Personnel will be instructed in the correct and sanitary method of garbage disposal in designated disposal locations; this will minimize wildlife encounters.

A number of measures have been identified to protect wildlife and limit encounters, including those that follow.

1. Personnel will report the presence of significant or nuisance wildlife to the Environmental Inspector/Monitor.

2. The possession of firearms in the construction area or in equipment being used for the Project is prohibited.

3. When wildlife sightings are reported to the Environmental Inspector/Monitor, the Environmental Inspector/Monitor will initiate any reasonable action to reduce the chance of disruption or injury. Should disruption or injury appear imminent, the Environmental Inspector/Monitor will immediately contact the NBDNR or PEIDCLE.

4. Wildlife will not be harvested, harassed, harmed, or fed by MECL personnel or their contractors.

5. Equipment and other vehicles must yield to wildlife.

6. If dead animals are encountered, they will be left alone. The Contractor will notify PEIDCLE Fish and Wildlife Division or NBDNR.

7. Incidents with nuisance wildlife will be reported to PEIDCLE Fish and Wildlife Division or NBDNR Officers.

8. The Canadian Wildlife Service and PEIDCLE Fish and Wildlife Division or NBDNR will be contacted regarding encounters with wildlife species at risk or species of

conservation concern. Guidance as to the appropriate course of action will be provided by these authorities.

9. Disturbance of any wildlife traps installed by members of the public is not permitted.

5.6 Archaeological/Heritage Resource Discovery Contingency Plan

No person, other than a Permitted Archaeologist may move, excavate, or in any other way mitigate, an archaeological/heritage resource. All construction personnel are responsible for reporting any unusual materials unearthed during construction activities to MECL Environmental Inspector/Monitor or the Construction Manager.

The following protocols will be implemented in case of the accidental discovery of archaeological/heritage resources, including bones of unknown origin. These protocols may vary depending upon the nature of the accidental discovery.

1. All work in the immediate area of the discovery and for a sufficient buffer (10 m or 33 ft) around the discovery will be halted immediately. The Contractor will immediately notify Environmental Inspector/Monitor or Construction Manager. If the discovery is in an area where work is continuing, a fence or flagging tape will be erected around the site for its protection, if appropriate.

2. MECL will contact a Permitted Archaeologist to investigate the find.

3. If the item is verified to be archaeological in nature, an appropriate mitigation strategy will be developed and implemented in consultation with the Archaeological Services, Province of New Brunswick and PEI. Notification and input will be sought from First Nation representatives if the material is of Indigenous origin.

4. Work will only resume in the vicinity of the find when authorized by MECL once clearance has been received from the Province.

If bones are encountered, the following additional best management practices will be implemented. If the Permitted Archaeologist can affirm the bones are non-human and archaeological in nature, please refer to the Heritage Resources Response Protocol chart in Appendix B. If the archaeologist cannot affirm 100% the nature of the bones (*i.e.,* they are non-human) the nearest detachment of the lead police agency (*i.e.,* RCMP or municipal police force, as the case may be) will be informed immediately. The lead police agency will make a decision as to whether it is a police matter. If so, the lead police agency will take responsibility for management of the area of the discovery. If the lead police agency determines it is not a police matter, then the situation will be addressed as an archaeological site and the Permitted Archaeologist will work with Archaeological Services to determine the proper course of action.

Work will only resume in the vicinity of the discovery once clearance has been received from the authorities and agencies concerned.

See Appendix B for the Archaeological/Heritage Resources Response Protocol Flowchart.

6.0 ENVIRONMENTAL COMPLIANCE AND MONITORING INITIATIVES

MECL is committed to implementing environmental monitoring initiatives to make sure that the mitigation measures outlined in the PSEPP are implemented properly and that the results of these measures are adequate and effective.

6.1 Compliance Monitoring

A Compliance Monitoring Program will be undertaken to make sure that pre-construction commitments made to landowners, regulatory agencies, and other groups (*e.g*., Cape Tormentine Community Development Corporation) are implemented during construction. Compliance monitoring will confirm that preventative and protective environmental measures are in place throughout construction.

During construction, compliance monitoring will be conducted by the Environmental Inspector/Monitor, but will also be the responsibility of all Project personnel. After commissioning, compliance monitoring will be conducted by MECL personnel. Personnel will be familiar with the applicable regulations and commitments and will make sure that activities be planned and conducted with the knowledge and understanding of standard specifications. In the event of non-compliance, the incident will be immediately reported to the appropriate personnel at MECL, and implement measures to achieve compliance.

The Environmental Inspector/Monitor will advise construction personnel on environmental matters, and oversee all environmental matters pertaining to construction. They will also report any activity which may cause adverse environmental effects, or any activities which do not meet environmental protection commitments. The Contractor will be responsible for implementing mitigation and/or repairs to existing mitigation as required by this PSEPP, any permit issued for the Project or as direct by the MECL Environmental Inspector/Monitor. Incident report forms will be used to track non-compliance but will also be used to document environmental issues and follow up. In addition, a Spill Report will be used to document and report any spill incidents.

6.2 Reporting Forms

Forms have been developed to assist the Environmental Inspector/Monitor in documenting the environmental management activities during construction of the Project. The Environmental Inspector/Monitor will be responsible for ensuring that copies of the following forms are available on site:

- Spill report; and
- Incident report form.

Following the Project, the forms will be filed and retained in accordance with MECL records management procedures. Samples of these forms can be found in Appendix A.

6.3 Issues and Management Resolution

As construction proceeds, any non-compliance observed will be recorded by the Environmental Inspector/Monitor on incident report forms and reported to the applicable regulatory authorities as appropriate. Incidents include any activity that is not conforming to commitments contained in Project documents (PSEPP, EIA, contracts) and permit/approval conditions. All incidents are a serious matter, but some are more serious than others; in particular, non-compliance with permit/approval conditions may be considered a violation of the applicable act or regulations, and may be subject to formal enforcement or legal action. A precautionary approach should therefore be adopted, regardless of the seriousness of the non-compliance situation, to ensure that the Project or its personnel are not subjected to more serious enforcement measures by regulatory authorities. As such, all deviations of this PSEPP shall be treated equally as a non-compliance situation, and shall be documented, with an incident report and investigated (as applicable).

Upon observing any non-compliances or potential incidents, the following steps will take place:

1. The person responsible for the incident will take immediate action to resolve the non-compliance and implement appropriate corrective actions to confirm that the issue does not reoccur. The Environmental Inspector/Monitor has the authority to issue a stop-work order, if required.

2. The Environmental Inspector/Monitor will fill out an incident report form (Appendix A); identifying the issue and the corrective actions taken to make sure that the issue does not re-occur.

3. The Environmental Inspector/Monitor will submit incident reports to the MECL Project Manager. If the Project Manager requires additional information, it may be necessary to review the report form with the Environmental Inspector/Monitor.

The MECL Project Manager will file all incident reports in order to track non-compliance and follow up with regulatory agencies as required.

7.0 CLOSURE

This report has been prepared by Stantec Consulting Ltd. (Stantec) for the sole benefit of Maritime Electric Company, Limited (MECL). The report may not be relied upon by any other person or entity, other than for its intended purposes, without the express written consent of Stantec and MECL.

This report was undertaken exclusively for the purpose outlined herein and was limited to the scope and purpose specifically expressed in this report. This report cannot be used or applied under any circumstances to another location or situation or for any other purpose without further evaluation of the data and related limitations. Any use of this report by a third party, or any reliance on decisions made based upon it, are the responsibility of such third parties. Stantec accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions taken based on this report. The report should not be construed as legal advice.

Stantec makes no representation or warranty with respect to this report, other than the work was undertaken by trained professional and technical staff in accordance with generally accepted engineering and scientific practices current at the time the work was performed. Any information or facts provided by others and referred to or used in the preparation of this report were assumed by Stantec to be accurate. Conclusions presented in this report should not be construed as legal advice.

The information provided in this report was compiled from existing documents and data provided by MECL and by applying currently accepted industry standard mitigation and prevention principles. This report represents the best professional judgment of Stantec personnel available at the time of its preparation. Stantec reserves the right to modify the contents of this report, in whole or in part, to reflect any new information that becomes available. If any conditions become apparent that differ significantly from our understanding of conditions as presented in this report, we request that we be notified immediately to reassess the conclusions provided herein.

8.0 REFERENCES

AC CDC (Atlantic Canada Conservation Data Centre). 2016. Understanding Ranks. Available online at: http://accdc.com/en/rank-definitions.html.

CSR (Canadian Seabed Research). 2015. Northumberland Strait Cable Route Assessment, 2014 Marine Geophysical Survey. Prepared for Maritime Electric Company, Charlottetown, Prince Edward Island. CSR Project Number 1401.

ECC Canada (Environment and Climate Change Canada). 2014. Technical Information Related to Determining the Presence of Nests: Buffer Zone and Setback Distances. Available online at: https://www.ec.gc.ca/paom-itmb/default.asp?lang=En&n=8D910CAC-1#_03_1

McGregor Geoscience Limited. 2015. Subsea Cable Survey and Geotechnical Report R/V Strait Hunter and M/V Strait Sounder NB-PEI Interconnector Northumberland Strait, Canada.

NBDELG (New Brunswick Department of Environment and Local Government). Sustainable Development, Planning and Impact Evaluation Branch. 2012. Watercourse and Wetland Alteration Technical Guidance. January 2012. Available online at: http://www2.gnb.ca/content/dam/gnb/Departments/env/pdf/Water-Eau/WatercourseWetlandAlterationTechnicalGuidelines.pdf.

PEITIE (Prince Edward Island Department of Transportation, Infrastructure and Energy). 2012. Environmental Management Section. Environmental Protection Plan.

APPENDIX A

FORMS

Revision Request Form

SECTION TO BE REVISED: _____

NATURE OF REVISION: _____

_____

_____

_____

RATIONALE FOR REVISION:_____
(*i.e.*, environment/worker safety, etc.)

_____

_____

_____

SUBMISSION:_____

Please submit this request directly to the MECL Project Manager.

Date Submitted: _____

Signature: _____

Incident Report Form

Date of Incident: _____

Incident Number: _____

GPS Coordinates of Incident: _____

Nature of Incident: _____

_____

_____

Cause of Incident: _____

_____

_____

Action Taken: _____

_____

_____

Further Action Required: _____

_____

_____

Preventative Action: _____

_____

_____

Incident Reported to: _____

Incident Reported by: _____

Date and Time of Report: _____

SUBMISSION: _____

Please submit this form directly to the MECL Project Manager

Date Submitted: _____

Signature: _____

Spill Report Form

Name: _____

Phone No.:_____
(of person reporting the spill)

Date: _____

Time of spill or leak: _____

Time of detection: _____

Type of product (spilled or leaked):_____

Amount of product (spilled or leaked):_____

Location (of spill or leak): GPS Coordinates Required; track file if available.

_____

Source (of spill or leak): _____

Type of accident - (check the correct response) ☐ collision ☐ rupture ☐ overflow ☐ other

Is the spill or leak is still occurring? ☐ Yes ☐ No

Is the spill or leaked product contained? ☐ Yes ☐ No

if not, where it is flowing?_____

Are cleanup efforts already underway? ☐ Yes ☐ No

Wind velocity and direction: _____

Temperature: _____

Proximity to watercourses, sewers, and buildings/facilities: _____

_____

Terrain: _____

Soil conditions: _____

Name of person spill was reported to: _____

Name of person spill was reported by: _____

Date and time of report: _____

Submit this completed form to the MECL Project Manager

May 2016 (Revision 0)

APPENDIX B

ARCHAEOLOGICAL/HERITAGE RESOURCES RESPONSE PROTOCOL FLOWCHART