
AMHERST ISLAND WIND FARM

POST-CONSTRUCTION REMEDIAL SPECIFICATION

MUNICIPAL INFRASTRUCTURE

September 20, 2017

Prepared For: Windlectric Inc.
354 Davis Road
Oakville, ON

Prepared By: Pennecon Heavy Civil Ltd.
1309 Topsail Road
St. John's, NL

Contents

1.0	Overview.....	2
2.0	General Requirements.....	2
3.0	Post-Construction Remediation Within Road Allowance Boundaries	4
4.0	Other Considerations	6

1.0 Overview

This Post-Construction Remedial Specification has been developed in response to the conditions set forth in the Road Use Agreement (RUA) between Windlectric Inc. and Loyalist Township, effective January 26, 2016.

The RUA states the pre-construction study shall include:

“The specification to which the Municipal Infrastructure will be left upon completion of the Post-Construction Remedial Works to ensure the Municipal Infrastructure is in the same or better condition as it was upon completion of the Pre-Construction Preparatory Work.”

This specification outlines the means by which this performance obligation will be met. As a diligent and highly reputable Contractor, Pennecon Heavy Civil Ltd. (PHCL) will ensure the conditions contained in this document are complied with at all times. Our successful execution of the post-construction work will involve effective planning and management

The Amherst Island Wind Project (the “Project”) will be designed, constructed and remediated in a manner that meets all permits, complies with all regulatory requirements, and prudent construction industry standards.

The post-construction remedial work involves various construction activities on the Project site and therefore the Operations Plan that was developed in accordance with the RUA will be held to the highest regard. The Traffic Management Plan, Emergency Response Plan and any other plans created for the purpose of construction and ensuring the safety of residents and workers on the Island will be followed at all times. Safety will be the utmost consideration every day, by everyone, with everything we do. PHCL’s staff, crews and subcontractor personnel are trained to provide themselves and their co-workers with a safe workplace and to plan their work with safety as the top priority. The safety of the public, and Loyalist Township residents in particular, are considered paramount to the success of this Project

2.0 General Requirements

2.1 Permitting

The post-construction remedial work will be completed in a manner that complies with all applicable permits. The following list and types permits (not exhaustive), which have either

been secured or will be secured, are very important and PHCL will hold them in the highest regard.

- Renewable Energy Approval (REA)
- Road Use Agreement (RUA)
- Loyalist Township Tree removal bylaw approval - tree cutting and trimming permits
- Development, interference with wetlands, culvert installation and alterations to shorelines and watercourses permits
- Endangered Species Permits
- Oversize/Overweight/Excess load permits (O/O Permits)
- Entrance permits
- Operations Plan
- Stormwater Management Plan
- Traffic Management Plan
- Erosion and Sediment Controls Plan
- Emergency Response and Communications Plan

2.2 Environmental Measures

PHCL, its partners, and subcontractors will comply with applicable environmental requirements as stipulated through legislation, permits, approvals and authorizations. Compliance with environmental requirements is recognized as a condition of participation by all involved with this Project. We will use Best Management Practices (BMPs) and prudent wind energy construction industry practices in the execution of all construction activities, and strive to exceed site environmental commitments.

PHCL is responsible for ensuring all staff/crew members have knowledge of environmental regulations and project-specific requirements, including any updates or changes to these requirements.

As necessary and defined in the Erosion and Sediment Controls Plan and design drawings, erosion and sediment control features for post-construction remedial work activities will be installed prior to disturbing the existing landscape and will be regularly inspected and repaired. All erosion and sedimentation control features will also be inspected immediately after a significant rain event to ensure integrity of the control features are maintained. Erosion and sediment control features expected to be used for this phase of work include, but are not limited to:

- Light duty and heavy duty silt fencing, single and double depending on the erosion and sediment control plan requirements.
- Hay bales and straw bales

- Check dams and sediment traps

The Contractor shall install, monitor and maintain in good working condition, all water quantity and quality control measures prescribed in the Storm Water Management Plan. Such monitoring and maintenance will be in accordance with the requirements of the REA and as described in the Storm Water Management Plan.

3.0 Post-Construction Remediation Within Road Allowance Boundaries

3.1 Topsoil and Vegetative Restoration

The Contractor shall apply the following steps to address re-application of topsoil and vegetation:

- Commence grubbing as necessary to perform the Work. Grubbed materials shall be managed to minimize the amount of waste material that will require removal from the work area to a suitable designated location by Windlectric and the Township, in accordance with applicable regulations;
- During construction of the project, remove and windrow or stockpile topsoil for use in remediation in areas where 1) municipal road and intersection upgrades will be constructed and 2) underground collector lines will be installed.
- Topsoil materials will be windrowed alongside the existing municipal right of way only if sufficient area exists to do so within the road allowance boundaries and without interfering with existing drainage.
- Stockpiling of topsoil will take place on private property outside the road allowance in areas identified for such purpose on the applicable drawings.
- After construction activities have been completed and temporary intersections/road widening areas have been removed, approximately 50-200mm of topsoil will be re-applied over de-compacted subgrade.
- Areas previously mowed by the Township will be sodded; non-maintained areas within the road allowance boundaries will be seeded.

3.2 Tree Cutting and Trimming

No removal or trimming of trees is expected as a part of the post-construction remediation work.

3.3 Municipal Road Upgrades

The modifications required to the municipal roads to accommodate project construction and turbine deliveries have been identified in the design drawings. The primary modifications include temporary road widenings and road reconstruction to improve structural integrity.

The Contractor shall apply the following steps to address post-construction remediation of municipal roads. If removal of a temporary road upgrade feature is deemed necessary by Windlectric (in consultation with Loyalist Township) pursuant to Section 2.6 of the approved Operations Plan,

- Excess aggregate material used for temporary road widenings will be removed and used to top dress private access roads or stockpiled for future use.
- Subsoil material in areas used for road widenings will be de-compacted before accepting any topsoil pursuant to section 3.1.
- Municipal roads, as required, will receive final grading at the end of the construction term.

All aggregate material used to improve the structural stability of the municipal roads will be left in place. Grading of the municipal roads will be performed to reinstate grade, alignment, and crown or transverse slope conditions consistent with the conditions existent upon completion of the Pre-Construction Preparatory Work.

Any residential driveways that have been negatively affected by the road upgrades will be re-instated within a reasonable timeframe, after the construction in the respective area has been completed.

3.4 Road Intersections

The modifications required to the intersections (between municipal roads and between municipal roads and private access roads) to accommodate construction and turbine deliveries have been identified in the design drawings. The primary modifications include placement of fills (i.e. existing native material and/or class A granular materials) to enlarge road intersections or to provide bypass routes.

The Contractor shall apply the following steps to address post-construction remediation of road intersections:

- Temporary modifications made at existing public road intersections will be removed and such intersections will be restored to their prior configuration.

- Temporary enlarged turning areas constructed at intersections between private access roads and municipal roads will be reduced to 5m radius as shown in the Project drawings.
- All aggregate material used to enlarge such intersections will be removed and used to top dress private access roads or stockpiled for future use.
- Any geogrid and/or geotextile used to strengthen the road intersection areas that are removed will be disposed of in accordance with standard industry practices.
- Existing native material used for fills will be de-compacted and regraded to accept re-application of topsoil in accordance with section 3.1.
- Where temporary intersection improvements are removed, ditches will be re-graded.

3.5 Underground Collector Lines

Topsoil will be stripped during the installation of the underground collector lines where such installation is not within the municipal roadways. As the trenching for the collector lines progress, the trenches will be backfilled after the power and fibre cables have been installed. During the backfill process, the topsoil will be re-instated over the trench width.

Where the underground collection and fibre lines pass through the municipal roadways, the trenches will be backfilled in accordance with the design drawings. Material will be compacted properly ensuring the structural integrity of the roadway has not been compromised.

3.6 Culverts

The temporary culverts installed due to the widening of the public road intersections and/or intersections between public and private access roads will be removed and disposed of off-site in accordance with standard industry practices. In cases where existing culverts have been damaged, as a result of construction and turbine deliveries as determined by the municipal engineer, they will be replaced in accordance with applicable permits.

Pursuant to Section 2.6, subsection Project Closure Protocol, of the approved Operations Plan, buried bridging plates installed for protection of existing culverts will be removed or left in place at the Township's option.

4.0 Other Considerations

4.1 Project Coordination and Communication

Project Coordination is essential for a safe and productive project site. PHCL maintains that teamwork and partnering is a major focal point of each project and its success. This commitment to open communication and teamwork has been a key to the success of PHCL's, its subcontractors and clients on past projects. PHCL and our subcontractors look forward to working with each and every stakeholder of the Project to maintain open lines of communication.

4.2 Survey Control

PHCL will survey and stake areas that require remediation along the municipal roadways, prior to completing the work.

PHCL's Survey Manager or designate will be responsible to review all alignments before staking in the field. The Survey Manager will meet Survey Team at the beginning of shift to discuss the survey requirements. In addition, the Survey Manager will plan ahead upcoming survey needs with work crews.

Survey field books will be kept up to date and in accordance with common surveying practices. Survey equipment will be maintained in good working order with a sufficient supply of backup components, such as batteries and data collectors. Survey equipment accuracy will be checked on a regular basis, using known control points, in accordance with our Project Quality Management System.

Layout of the work, boundary surveys, quantity surveys, instrumentation surveys, Contractor surveys, and record documents will all be performed in accordance with the Contract Documents and associated permits and plans. Strict attention will be paid to ensuring that we achieve proper survey and record documentation of the work.

At the conclusion of the Project, all legal survey monuments disturbed or destroyed during construction shall be replaced by an Ontario Land Surveyor.

4.3 Road Maintenance During Post-Construction Remediation

PHCL will ensure that all roads in their work areas perform as per specifications during the post-construction remedial work. Regular maintenance of roads, such as but not limited to grading after rainfalls, cleanup of culverts, maintenance of silt fences, etc. will be performed.

PHCL shall be responsible for any dust control measures required as a result of their post-construction remedial work and will supply the necessary water trucks to mitigate dust.

4.4 General Construction Requirements

PHCL shall be responsible for providing a mobile radio system for use during construction to ensure proper communication is maintained during performance of the post-construction remedial work.

PHCL shall provide all necessary signage on the Project Site during performance of the post-construction remedial work, including:

- I. Temporary signage, as indicated in the Traffic Management Plan, shall be provided by the Contractor to provide reasonable information and direction to public and site personnel and for the purposes of traffic safety. Signs should be legible and of sufficient durability to last the duration of construction activities.
- II. Other signs for overhead power lines, blind corners, dips, and other hazards to be provided by the Contractor.
- III. Permanent signage shall be provided and installed at each intersection of a public road with an access road that identifies each turbine tower accessible from such access road.