
AMHERST ISLAND WIND FARM

POST-CONSTRUCTION REMEDIAL SPECIFICATION

MUNICIPAL INFRASTRUCTURE

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

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

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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 requirements to return the Municipal Infrastructure to existing pre-construction conditions or better. 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

2.2 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 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

3.1 Topsoil Stripping

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

- 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;
- Remove and windrow topsoil for use in remediation in areas where municipal road and intersection upgrades will be constructed. We are expecting approximately 50-200mm of topsoil will need to be removed;
- As necessary, remove and windrow topsoil for use in remediation in areas where the underground collector lines will be installed. We are expecting approximately 50-200mm of topsoil will need to be removed;
- Topsoil materials will be windrowed alongside the existing municipal right of way. It is expected that there is sufficient space to do so, since the amount of topsoil to be stripped is relatively small in quantity.
- After construction activities have been completed, approximately 50-200mm of topsoil will be re-applied over de-compacted subsoil, with any seeding requirements being completed, as deemed necessary by the Consultant and applicable permits.

3.2 Tree Cutting and Trimming

Trees and brush identified as needing to be cut or trimmed, as a result of conflicts with the Underground Collection System and/or Turbine Component deliveries, will be addressed prior to commencing construction.

Stumps that exist as a result of tree cutting will be removed during construction and disposed of in accordance with standard industry practices.

Tree cutting and trimming will be completed in a manner that complies with the tree cutting permits and other applicable permits, such as the REA and RUA.

Replanting of trees, landscaping or any other associated reclamation works will be consistent with all permits.

3.3 Municipal Road Upgrades

The modifications required to the municipal roads to accommodate construction and turbine deliveries have been identified in the design drawings. The primary modifications include road widenings, culverts at intersections and road capping 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), excess material (i.e. Class A, Class B) used for road widenings will be de-compacted and either: mixed with the native material and re-spread, or applied those Project roads located on private land.
- Subsoil material used for road widenings will be de-compacted before accepting any topsoil as defined in section 3.1.
- All material used as capping to improve the structural stability of the roads will be left in place. The final result will consist of the roads being reinstated to pre-construction conditions or better.
- Municipal roads, as required, will receive final grading at the end of the construction term.
- Any asphalt removed to accommodate construction will be re-applied.

It is preferred, where there is no unreasonable interference with driveways and properties to leave the road widenings and upgrades in place. This will result in improved municipal roads for the residents of the Island.

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.

No material imported for construction purposes will be exported off the island. Any such material will be used to redress, mix with the native soil or moved to the central staging area where it will be used to re-contour the land in the central staging area, as detailed in this specification.

3.4 Intersections

The modifications required to the intersections to accommodate construction and turbine deliveries have been identified in the design drawings. The primary modifications include installation of temporary culverts, placement of fills (i.e. existing native material or class B) and capping material to improve structural integrity.

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

- Existing native material used for fills will be de-compacted to accept re-application of topsoil. If the additional fill placed at the intersection widenings must be removed, the material will be hauled and placed at the central staging area, where it will be used to re-contour the land. Any adjustments to the land contours will be completed in a manner that complies with the permits and the Stormwater Management Plan.
- Any geogrid and/or geotextile used to strengthen the road intersections will be disposed of in accordance with standard industry practices.
- All material used as capping to improve the structural stability of the intersections will be de-compacted, mixed with the native material and re-spread.

No previously imported material will be exported off the island. It will be used to redress, mix with the native soil or moved to the central staging area, as detailed in this specification.

3.5 Underground Collector Lines

Topsoil will be stripped during the installation of the underground collector lines. 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.

For instances where the underground collection and fibre lines pass through the municipal roadways, the trenches will be backfilled based on 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 will be removed and disposed off-site in accordance with standard industry practices. In cases where existing culverts have been damaged, as a result of construction and turbine deliveries, they will be replaced in accordance with applicable permits.

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.

4.3 Road Maintenance During Post-Construction Remediation

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

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

PHCL will provide adequate snow clearing and sanding crews in their work areas to maintain construction and site safety for the Project.

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. The Contractor shall work with the Windlectric to agree and provide the frequency for the Contractor's main channels.

PHCL shall provide all necessary signage on the Project Site 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.