

Goshen Wind, Inc.

Revision to the Construction Plan Report – Goshen Wind Energy Centre

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Table of Contents

	page
1. Introduction	1
1.1 The Proponent	1
1.2 Project Study Area	1
2. Proposed Project Modifications	2
3. Edits to the Construction Report	10
4. Summary and Conclusions.....	17

List of Figures

Figure 2-1 Modified Project Location	9
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List of Tables

Table 2-1 Summary of Project Modifications.....	3
Table 3-1 Edits to the Construction Plan Report.....	11

List of Appendices

- Appendix A. Project Modifications
- Appendix B. Water Body Mitigation Measures
- Appendix C. Revised Figures for the Construction Plan Report

Glossary of Terms

- EIS Environmental Impact Study
- MNR..... Ontario Ministry of Natural Resources
- mVA mega Volt-Ampere
- NextEra NextEra Energy Canada, ULC
- O.Reg. 359/09..... Ontario Regulation 359/09
- The Project..... Goshen Wind Energy Centre
- REA..... Renewable Energy Approval

1. Introduction

Goshen Wind, Inc. (Goshen) is proposing to construct a wind energy centre in the Municipality of Bluewater and the Municipality of South Huron in Huron County, Ontario. The following sections of this Renewable Energy Approval (REA) Revision Report describe the proposed modifications to this Project and resulting updates to the Construction Plan Report.

1.1 The Proponent

The Project will be owned and operated by Goshen, a wholly owned subsidiary of NextEra Energy Canada, ULC (NextEra). NextEra’s indirect parent company is NextEra Energy Resources, LLC. The proponent has not changed from the initial REA submission.

The primary contacts for the Project are as follows:

Project Proponent	Project Consultant
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1.2 Project Study Area

The proposed Project is located in the Municipality of Bluewater and the Municipality of South Huron in Huron County, Ontario (refer to **Figure 2-1**). The Project Study Area has not changed from the initial REA submission.

The following co-ordinates define the external boundaries of the Project Study Area:

Longitude	Latitude
-81.6753290	43.4155312
-81.3011931	43.3810955
-81.3303330	43.3036317
-81.7743607	43.2379854

2. Proposed Project Modifications

Goshen is proposing modifications to the Project. These proposed Project modifications are categorized as follows:

- Construction disturbance area modified to reduce or eliminate impacts to archaeological resources or Conservation Authority regulation limits;
- Infrastructure or construction disturbance area added or changed to optimize project design/constructability; and,
- Turbine and associated infrastructure removed.

Table 2-1 summarizes and documents the following about each of the proposed modifications:

1. A description of the modification and a rationale for why the modification is proposed; and
2. New potential environmental effects and corresponding mitigation measures.

Figure 2-1 illustrates the modified Project Location. **Appendix A** contains a series of figures showing the details for each of the modifications.

Table 2-1 Summary of Project Modifications

Label on Figure 2-1	Proposed Modification	Rationale for Proposed Modification	New Potential Environmental Effects	New Mitigation Measures
A1	Removal of Turbine 7 and associated access road and collection line	Turbine and associated infrastructure removed	None – no new natural heritage, cultural heritage, or water body features within 120 m	N/A
A2	Removal of a portion of Turbine 11 construction disturbance area.	Construction disturbance area modified to reduce or eliminate impacts to Conservation Authority regulation limit	None – removal of infrastructure	N/A
A3	Relocation of collection line to Turbine 9 17 m to southern property boundary, west of Bronson Line	Construction disturbance area modified to reduce or eliminate impacts to archaeological resources	None – no new natural heritage, cultural heritage, or water body features within 120 m	N/A
B1	Relocation of collection line from private property to Babylon Line and Huron Street right-of-way	Construction disturbance area modified to reduce or eliminate impacts to archaeological resources	None – no new natural heritage, cultural heritage, or water body features within 120 m	N/A
B2	Temporary construction laydown area modified and increased in size	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability	None – no new natural heritage, cultural heritage, or water body features within 120 m	N/A
B3	Relocation of Turbine 71 15 m north within the existing turbine construction disturbance area	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability	None – no new natural heritage, cultural heritage, or water body features within 120 m	N/A
C1	Relocation of access road to Turbine 66 to the west	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability	None – no new natural heritage, cultural heritage, or water body features within 120 m	N/A
C2	Removal of a portion of construction disturbance area, east of Shipka Line, for the access road and collection line to Turbine 21	Construction disturbance area modified to reduce or eliminate impacts to archaeological resources	None – removal of infrastructure	N/A
C3	Addition of collection line construction disturbance area in the Black Bush Line right-of-way, east of Turbine 86	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability	None – no new natural heritage, cultural heritage, or water body features within 120 m	N/A
C4	Relocation of collection line from private property to Black Bush Line right-of-way in two locations, northeast of Turbine 64	Construction disturbance area modified to reduce or eliminate impacts to archaeological resources	None – no new natural heritage, cultural heritage, or water body features within 120 m	N/A
C5	Relocation of collection line from private property to Crediton Road right-of-way, south of Turbine 39	Construction disturbance area modified to reduce or eliminate impacts to archaeological resources	None – no new natural heritage, cultural heritage, or water body features within 120 m	N/A
C6	Relocation of collection line from private property to Bronson Line right-of-way, southwest of Turbine 81	Construction disturbance area modified to reduce or eliminate impacts to archaeological resources	None – no new natural heritage, cultural heritage, or water body features within 120 m	N/A
C7	Relocation of collection line from private property to South Road right-of-way, southeast of Turbine 38	Construction disturbance area modified to reduce or eliminate impacts to archaeological resources	None – no new natural heritage, cultural heritage, or water body features within 120 m	N/A
C8	Relocation of collection line from private property to South Road right-of-way, southwest of Turbine 41	Construction disturbance area modified to reduce or eliminate impacts to archaeological resources	None – no new natural heritage, cultural heritage, or water body features within 120 m	N/A
C9	Realignment of collection line from Black Bush Line right-of-way onto private property west of Black Bush Line	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability	None – no new natural heritage, cultural heritage, or water body features within 120 m	N/A
C10	Removal of a portion of collection line disturbance area on private property, along Black Bush Line	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability	None – removal of infrastructure	N/A
D1	Relocation of Turbine 83 and associated construction disturbance area 1,140 m to the east	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability	<p>Natural Heritage:</p> <ul style="list-style-type: none"> Generalized Candidate Significant Wildlife Habitat (Amphibian Woodland Breeding Habitat) in Natural Area 255 was changed to Amphibian Woodland Breeding Habitat Feature AWO-36 because it is within 120 m of a proposed access road. Potential effects of construction of the access road include: <ul style="list-style-type: none"> Accidental intrusion into natural feature resulting in habitat damage. Disruption or possible mortality of amphibians moving between breeding pools and home range. Increased erosion and sedimentation resulting from clearing and grubbing, backfilling and stockpiling. Possible indirect effects on breeding pool condition through changes to surface water drainage patterns. Turbine is within 120 m of new Generalized Candidate Significant Wildlife Habitat Feature (Plant Species of Conservation Concern Habitat) in Natural Area 227, not previously described in the NHA. Potential effects of construction on this feature are the same as described for other Generalized Candidate Significant Wildlife Habitat Features in Section 5.8.3 (Table 5.5) of the NHA. 	<p>Natural Heritage:</p> <ul style="list-style-type: none"> For construction of the access road within 120 m of Amphibian Woodland Breeding Habitat Feature AWO-36: <ul style="list-style-type: none"> Clearly delineate habitat boundaries where construction will occur within 30 m using protective fencing to ensure that construction activities occur outside the habitat boundaries. Undertake weekly site inspections by an Environmental Monitor to ensure that protective fencing is intact and that there is no damage caused during construction. Contingency Measures: <ul style="list-style-type: none"> Repair protective fencing if damaged. Any damaged trees will be pruned through implementation of proper arboricultural techniques, under supervision of an Arborist or Forester. If accidental damage to habitat occurs, habitat restoration will occur within the disturbed area using suitable native species. Limit construction of roads within 30 m of Significant Amphibian Habitats to daylight hours between April 1st and June 30th (for significant frog breeding habitats) or between March 15th and April 30th (for significant salamander breeding habitat), to avoid excessive noise and vehicle caused mortality, wherever possible. Post speed limits along construction access roads (30 km/hr). No monitoring required if timing windows are applied. If construction occurs within 30 m of amphibian breeding habitat (if determined to be significant) after dark within the specified timing windows, amphibian mortality surveys will be conducted the following day by a qualified Biologist. Contingency Measures: <ul style="list-style-type: none"> Restrict work to daylight hours if significant amphibian mortality is detected through mortality surveys.

Table 2-1 Summary of Project Modifications

Label on Figure 2-1	Proposed Modification	Rationale for Proposed Modification	New Potential Environmental Effects	New Mitigation Measures
			<p>Water Bodies:</p> <ul style="list-style-type: none"> • Effects associated with new turbine location and associated construction disturbance area within 120 m of water body D05 include: <ul style="list-style-type: none"> - Increase to surface water temperature from reduced groundwater contribution if dewatering activities are required for excavation of turbine foundations - Increase to stream flows in watercourses that receive temporary groundwater dewatering discharge (if required). Groundwater discharge has potential to cause streambed and/or bank erosion and downstream sedimentation if not managed properly. - Increased erosion, sedimentation and turbidity in watercourse from clearing and grubbing for on adjacent lands for construction of turbines, pads and turnaround areas. - Soil compaction, which may result in hardening of surfaces and increased runoff into watercourses. - Release / discharge of runoff from the construction area, which has the potential to transport sediment and nutrients into the watercourse. - Soil/water contamination by oils, grease and other materials from accidental spills and release of contaminants from construction equipment. 	<ul style="list-style-type: none"> - Install sediment and erosion control fencing along edge of construction area if within 30 m of habitat feature as per Ontario Provincial Standards Specifications (OPSD 219.130). - Monitor on-site conditions (<i>i.e.</i>, erosion and sediment control, spills, flooding, etc.) by an Environmental Monitor where construction occurs within 30 m of a feature on the following basis: <ul style="list-style-type: none"> ▪ Weekly during active construction periods; ▪ Prior to, during and post forecasted large rainfall events (>20 millimetres in 24 hours) or significant snowmelt events (<i>i.e.</i>, spring freshet); ▪ Daily during extended rain or snowmelt periods; ▪ Monthly during inactive construction periods, where the site is left alone for 30 days or longer. - Contingency Measures: <ul style="list-style-type: none"> ▪ Suspend work if excessive flows of sediment discharges occur until additional mitigation measures are in place (e.g., install the extra erosion and sediment control materials kept on site, such as heavy duty silt fencing, straw bales, etc.). - Ensure no grade changes within 30 m of breeding pools. - Inspect locations following completion of access roads by an Environmental Monitor to ensure no grade changes. - Examine condition of vernal pools or ponds within 30 m of access road following completion of construction. - Contingency Measures: <ul style="list-style-type: none"> ▪ If surface water drainage alterations are detected, undertake corrective measures to restore drainage pattern. • For construction of the turbine within 120 m of Generalized Candidate Significant Wildlife Habitat Feature in Natural Area 227, mitigation measures are the same as described for other Generalized Candidate Significant Wildlife Habitat Features in Section 5.8.3 (Table 5.5) of the NHA. <p>Water Bodies</p> <ul style="list-style-type: none"> • Mitigation measures associated with turbine construction within 120 m of a water body include (refer to Appendix B for detailed mitigation measures under the following headings)¹: <ul style="list-style-type: none"> - Water management - Timing windows - Water quality - Erosion and sediment control - Grading and excavation - Equipment use - Material Stockpiling and handling
D2	Removal of the southwest portion of Turbine 17 construction disturbance area	Construction disturbance area modified to reduce or eliminate impacts to archaeological resources	None – removal of infrastructure	N/A
D3	Relocation of collection line from private property to Grand Bend Line right-of-way, south and west of Turbine 53	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability	<p>Natural Heritage:</p> <ul style="list-style-type: none"> • Collection line is within 13 m of Significant Woodland Feature WOD-022, not previously described in the NHA. Potential effects of construction of the collection line include: <ul style="list-style-type: none"> - Accidental intrusion into Significant Woodland resulting in damage to trees. - Changes in surface water drainage patterns resulting in effects to soil moisture and species composition of vegetation. - Increased erosion and sedimentation resulting from clearing and grubbing, excavation, backfilling and stockpiling. 	<p>Natural Heritage:</p> <ul style="list-style-type: none"> • For construction of the collection line within 13 m of Significant Woodland Feature WOD-022: <ul style="list-style-type: none"> - Maintain 5 m setback from Significant Woodland, measured from the dripline of trees. - Where construction occurs within 30 m, install and maintain protective fencing to clearly define the construction area and prevent accidental damage to vegetation. - Undertake weekly site inspections by an Environmental Monitor to ensure that protective fencing is intact and that there is no damage caused during construction.

¹ Refer to Appendix B for a detailed list of mitigation measures related to water bodies that were included in the Water Assessment and Water Body Report (AECOM, 2012)

Table 2-1 Summary of Project Modifications

Label on Figure 2-1	Proposed Modification	Rationale for Proposed Modification	New Potential Environmental Effects	New Mitigation Measures
			<ul style="list-style-type: none"> Collection line is within 120 m of new Generalized Candidate Significant Wildlife Habitat Feature (Plant Species of Conservation Concern Habitat, Common Nighthawk Habitat, Red-headed Woodpecker Habitat, and Woodland Raptor Nesting Habitat) in Natural Area 204, not previously described in the NHA. Potential effects of construction on this feature are the same as described for other Generalized Candidate Significant Wildlife Habitat Features in Section 5.8.3 (Table 5.5) of the NHA. 	<ul style="list-style-type: none"> Contingency Measures: <ul style="list-style-type: none"> Repair protective fencing if damaged. Any damaged trees will be pruned through implementation of proper arboricultural techniques, under supervision of an Arborist or Forester. In the event that other woodland vegetation is damaged, habitat restoration will occur utilizing native species suited to the habitat within the disturbed area. Ensure Best Management Practices are used to maintain current drainage patterns, including: <ul style="list-style-type: none"> Implement infiltration techniques to the maximum extent possible. Minimize paved surfaces & design roads to promote infiltration. Limit changes in land contours. Site inspection by Environmental Monitor following grading activities within 30 m of Significant Woodland. Contingency Measures: <ul style="list-style-type: none"> If surface water drainage alterations are detected, undertake corrective measures to restore drainage patterns. Install sediment and erosion control fencing along edge of construction area if within 30 m of a woodland, as per Ontario Provincial Standard Specifications (OPSD 219.130). Monitor on-site conditions (<i>i.e.</i>, erosion and sediment control, flooding, etc.) by an Environmental Monitor where construction occurs within 30 m of a feature on the following basis: <ul style="list-style-type: none"> Weekly during active construction periods; Prior to, during and post forecasted large rainfall events (>20 millimetres in 24 hours) or significant snowmelt events (<i>i.e.</i>, spring freshet); Daily during extended rain or snowmelt periods; Monthly during inactive construction periods, where the site is left alone for 30 days or longer. Contingency Measures: <ul style="list-style-type: none"> Suspend work if excessive flows of sediment discharges occur until additional mitigation measures are in place (<i>e.g.</i>, install the extra erosion and sediment control materials kept on site, such as heavy duty silt fencing, straw bales, etc.). For construction of the collection line within 120 m of Generalized Candidate Significant Wildlife Habitat Feature in Natural Area 204, mitigation measures are the same as described for other Generalized Candidate Significant Wildlife Habitat Features in Section 5.8.3 (Table 5.5) of the NHA.
D4	Relocation of collection line from private property to South Road right-of-way, east of Turbine 55	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability	None – no new natural heritage, cultural heritage, or water body features within 120 m	N/A
E1	Relocation of collection line from private property to Mollard Line right-of-way, west of Turbine 56	Construction disturbance area modified to reduce or eliminate impacts to archaeological resources	None – no new natural heritage, cultural heritage, or water body features within 120 m	N/A
E2	Removal of a portion of Turbine 56 construction disturbance area	Construction disturbance area modified to reduce or eliminate impacts to Conservation Authority regulation limit	None – no new natural heritage, cultural heritage, or water body features within 120 m	N/A
E3	Addition of collection line construction disturbance area on private property, heading west to Turbine 60 from Mollard Line, and removal of collection line heading west to Turbine 58 from Mollard Line	Construction disturbance area modified to reduce or eliminate impacts to archaeological resources	None – no new natural heritage, cultural heritage, or water body features within 120 m	N/A
E4	Addition of construction disturbance area for access road and collection line to Turbine 56 from Eagleson Line	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability	None – no new natural heritage, cultural heritage, or water body features within 120 m	N/A
F1	Removal of Turbine 46 and associated access road and collection line, including collection line in the Gordon Line right-of-way and collection line on private property to Turbine 77	Turbine and associated infrastructure removed	Natural Heritage: <ul style="list-style-type: none"> Waterfowl (Tundra Swan) Stopover and Staging Area (Terrestrial) Feature WSST-36 was changed to Generalized Candidate Significant Wildlife Habitat because it is more than 120 m away from a proposed turbine and is not overlapped by the Project Location. Potential effects of construction on this feature are the same as described for other Generalized Candidate Significant Wildlife Habitat Features in Section 5.8.3 (Table 5.5) of the NHA. 	Natural Heritage: <ul style="list-style-type: none"> For construction of the collection line within 120 m of the Generalized Candidate Significant Wildlife Habitat (Waterfowl (Tundra Swan) Stopover and Staging Area (Terrestrial)) Feature, mitigation measures are the same as described for other Generalized Candidate Significant Wildlife Habitat Features in Section 5.8.3 (Table 5.5) of the NHA.
F2	Removal of a portion of construction disturbance area for access road and collection line to Turbine 77	Construction disturbance area modified to reduce or eliminate impacts to archaeological resources	None – removal of infrastructure	N/A

Table 2-1 Summary of Project Modifications

Label on Figure 2-1	Proposed Modification	Rationale for Proposed Modification	New Potential Environmental Effects	New Mitigation Measures
F3	Addition of collection line in Babylon Line right-of-way, between the access road to Turbine 77 and the access road to Turbine 49	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability	<p>Water Bodies:</p> <ul style="list-style-type: none"> • New effects associated with collection line crossing water body D15 include: <ul style="list-style-type: none"> - Soil / water contamination by oils, gasoline, grease and other materials from accidental spills and release of contaminants from equipment. - Release / discharge of runoff from the construction area, which has the potential to transport sediment and nutrients into the watercourse 	<p>Water Bodies:</p> <ul style="list-style-type: none"> • Mitigation measures associated with collection line construction within 120 m of a water body include (refer to Appendix B for detailed mitigation measures under the following headings): <ul style="list-style-type: none"> - Directional Drilling - Water Quality - Equipment use - Erosion and sediment control
F4	Addition of transmission line construction disturbance area on private property, west of Parr Line	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability	None – no new natural heritage, cultural heritage, or water body features within 120 m	N/A
F5	Removal of a portion of transmission line construction disturbance area on private property west of Ausable Line and relocation of transmission line from an underground to overhead crossing of the Ausable River	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability	<p>Natural Heritage:</p> <ul style="list-style-type: none"> • Reptile Hibernacula Feature RH-06 was changed to Generalized Candidate Significant Wildlife Habitat in Natural Area 609 because it is not overlapped by the Project Location. Potential effects of construction on this feature are the same as described for other Generalized Candidate Significant Wildlife Habitat Features in Section 5.8.3 (Table 5.5) of the NHA. • The transmission line is spanning the Significant Wetland Feature WET-012. Potential effects of construction of an above ground transmission line include: <ul style="list-style-type: none"> - Accidental intrusion into Significant Wetland resulting in damage to vegetation and disturbance to wildlife. - Increased erosion and sedimentation resulting from clearing and grubbing, excavation, backfilling and stockpiling during construction of the transmission line in Significant Wetland. - Risk of soil or water contamination in Significant Wetland resulting from accidental spills of fuel, etc. - Risk of spread of invasive species into Significant Wetland as a result of construction disturbance. 	<p>Natural Heritage:</p> <ul style="list-style-type: none"> • For construction of the transmission line within 120 m of the Generalized Candidate Significant Wildlife Habitat Feature in Natural Area 609, mitigation measures are the same as described for other Generalized Candidate Significant Wildlife Habitat Features in Section 5.8.3 (Table 5.5) of the NHA. • For construction of the transmission line above ground spanning the Significant Wetland Feature WET-012: <ul style="list-style-type: none"> - For construction activities outside Significant Wetland WET-012: <ul style="list-style-type: none"> ▪ Install transmission line poles outside the boundaries of the Significant Wetland. Apply a minimum setback of 5 m during installation of transmission line poles. ▪ Where construction occurs within 30 m, install and maintain protective fencing to clearly define the construction area and prevent accidental damage to vegetation. ▪ Install sediment and erosion control fencing along edge of construction area as per Ontario Provincial Standard Specifications (OPSD 219.130). - For construction activities inside Significant Wetland WET-012: <ul style="list-style-type: none"> ▪ Pull the transmission line across the Significant Wetland either by helicopter or by hand with the use of a winch. If required, branches may be selectively removed under the supervision of an arborist or forester by hand-held equipment (e.g. chainsaws) and accessed by foot to prevent soil compaction. Cut branches will be left in place in the wetland but will be cut up to lie low on the ground. No heavy equipment will be used within the Significant Wetland. Construction activities within the Significant Wetland should take place in the winter (November 1 to March 15), if possible, or outside the breeding bird season (May 1 to July 31). If this is not possible, MNR will be consulted regarding additional mitigation measures that may be required. - Undertake weekly site inspections by an Environmental Monitor to ensure that protective fencing is intact and that there is no damage caused during construction. - Conduct a post-construction survey to confirm that the disturbance to Significant Wetland Feature WET-012 is minimal. <p>- Contingency Measures:</p> <ul style="list-style-type: none"> ▪ Repair protective fencing if damaged. ▪ Prune any damaged trees through implementation of proper arboricultural techniques, under supervision of an Arborist or Forester. ▪ If excessively disturbed areas are detected through the post-construction survey, restoration planting may be implemented as a contingency measure. These plantings should consist of suitable native wetland species such as nannyberry, silky dogwood, buttonbush, spicebush, or slender willow. - Monitor on-site conditions (<i>i.e.</i>, erosion and sediment control, flooding, etc.) by an Environmental Monitor where construction occurs within 30 m of the Significant Wetland on the following basis: <ul style="list-style-type: none"> ▪ Daily during active construction periods; ▪ Prior to, during and post forecasted large rainfall events (>20 millimetres in 24 hours) or significant snowmelt events (<i>i.e.</i>, spring freshet); ▪ Daily during extended rain or snowmelt periods; ▪ Monthly during inactive construction periods, where the site is left alone for 30 days or longer. <p>- Contingency Measures:</p> <ul style="list-style-type: none"> ▪ Suspend work if excessive flows of sediment discharges occur until additional mitigation measures are in place (e.g., install the extra erosion and sediment control materials kept on site, such as heavy duty silt fencing, straw bales, etc.). - Develop and implement emergency spills plan outlining steps to contain any chemicals or to avoid contamination of adjacent Significant Wetland feature.

Table 2-1 Summary of Project Modifications

Label on Figure 2-1	Proposed Modification	Rationale for Proposed Modification	New Potential Environmental Effects	New Mitigation Measures
				<ul style="list-style-type: none"> - Contractor to conduct routine inspections of construction equipment for leaks / spills. - Contingency Measures: <ul style="list-style-type: none"> ▪ Immediately stop all work until the spill is cleaned up. ▪ Notify MOE’s Spills Action Centre of any leaks or spills. ▪ If a spill enters Significant Wetland, collect and analyze water samples for appropriate parameters. ▪ Monitor daily until cleanup is completed. - Ensure all equipment, including clothing/boots, is thoroughly washed before entering the Significant Wetland to avoid introducing seeds or fragments of invasive species into the Significant Wetland.
G1	Addition of transmission line construction disturbance area on private property, west of London Road	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability	None – no new natural heritage, cultural heritage, or water body features within 120 m	N/A
G2	Addition of transmission line construction disturbance area on private property, west of London Road	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability	None – no new natural heritage, cultural heritage, or water body features within 120 m	N/A
G3	Addition of transmission line construction disturbance area in the Crediton Road right-of-way	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability	None – no new natural heritage, cultural heritage, or water body features within 120 m	N/A
G4	Removal of a portion of transmission line construction disturbance area on private property, south of Crediton Road and east of McTaggart Line	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability	None – removal of infrastructure	N/A
H1	Addition of transmission line construction disturbance area on private property, east of Hern Line	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability	<p>Natural Heritage:</p> <ul style="list-style-type: none"> • The transmission line is within 27 m of Significant Woodland Feature WOD-145. Potential effects of construction of the transmission line include: <ul style="list-style-type: none"> - Accidental intrusion into Significant Woodland resulting in damage to trees. - Changes in surface water drainage patterns resulting in effects to soil moisture and species composition of vegetation. - Increased erosion and sedimentation resulting from clearing and grubbing, excavation, backfilling and stockpiling. 	<p>Natural Heritage:</p> <ul style="list-style-type: none"> • For construction of the transmission line within 27 m of Significant Woodland Feature WOD-145: <ul style="list-style-type: none"> - Maintain 5 m setback from Significant Woodland, measured from the dripline of trees. - Where construction occurs within 30 m, install and maintain protective fencing to clearly define the construction area and prevent accidental damage to vegetation. - Undertake weekly site inspections by an Environmental Monitor to ensure that protective fencing is intact and that there is no damage caused during construction. - Contingency Measures: <ul style="list-style-type: none"> ▪ Repair protective fencing if damaged. ▪ Any damaged trees will be pruned through implementation of proper arboricultural techniques, under supervision of an Arborist or Forester. ▪ In the event that other woodland vegetation is damaged, habitat restoration will occur utilizing native species suited to the habitat within the disturbed area. - Ensure Best Management Practices are used to maintain current drainage patterns, including: <ul style="list-style-type: none"> ▪ Implement infiltration techniques to the maximum extent possible. ▪ Minimize paved surfaces & design roads to promote infiltration. ▪ Limit changes in land contours. - Conduct site inspection by Environmental Monitor following grading activities within 30 m of Significant Woodland. - Contingency Measures: <ul style="list-style-type: none"> ▪ If surface water drainage alterations are detected, undertake corrective measures to restore drainage patterns. - Install sediment and erosion control fencing along edge of construction area if within 30 m of a woodland, as per Ontario Provincial Standard Specifications (OPSD 219.130). - Monitor on-site conditions (<i>i.e.</i>, erosion and sediment control, flooding, etc.) by an Environmental Monitor where construction occurs within 30 m of a feature on the following basis: <ul style="list-style-type: none"> ▪ Weekly during active construction periods; ▪ Prior to, during and post forecasted large rainfall events (>20 millimetres in 24 hours) or significant snowmelt events (<i>i.e.</i>, spring freshet); ▪ Daily during extended rain or snowmelt periods; ▪ Monthly during inactive construction periods, where the site is left alone for 30 days or longer. - Contingency Measures: <ul style="list-style-type: none"> ▪ Suspend work if excessive flows of sediment discharges occur until additional mitigation measures are in place (<i>e.g.</i>, install the extra erosion and sediment control materials kept on site, such as heavy duty silt fencing, straw bales, etc.).

Table 2-1 Summary of Project Modifications

Label on Figure 2-1	Proposed Modification	Rationale for Proposed Modification	New Potential Environmental Effects	New Mitigation Measures
H2	Addition of transmission line construction disturbance area on private property, west of Sunshine Line	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability	None – no new natural heritage, cultural heritage, or water body features within 120 m	N/A
H3	Addition of transmission line construction disturbance area on private property, east of Sunshine Line	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability	None – no new natural heritage, cultural heritage, or water body features within 120 m	N/A
H4	Removal of a portion of transmission line construction disturbance area on private property, east of Sunshine Line	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability	None – no new natural heritage, cultural heritage, or water body features within 120 m	N/A
H5	Addition of transmission line construction disturbance area on private property, south of Dump Road and west of Sunshine Line,	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability	None – no new natural heritage, cultural heritage, or water body features within 120 m	N/A
H6	Addition of transmission line construction disturbance area on private property, south of Dump Road and west of Sunshine Line	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability	None – no new natural heritage, cultural heritage, or water body features within 120 m	N/A
H7	Addition of transmission line construction disturbance area on private property, on the south side of Dump Road, east of Plugtown Line	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability	None – no new natural heritage, cultural heritage, or water body features within 120 m	N/A
H8	Addition of transmission line construction disturbance area on private property, on the north side of Dump Road, west of Union Line and addition and removal of portions of the transmission line point of interconnect construction disturbance area	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability	None – no new natural heritage, cultural heritage, or water body features within 120 m	N/A
H9	Removal of a portion of transmission line construction disturbance area on private property, north of Crediton Road, and west of Hern Line	Construction disturbance area modified to reduce or eliminate impacts to archaeological resources	None – removal of infrastructure	N/A
N/A	Use of a spare 170 mVA transformer to be stored within the existing footprint of the Jericho Wind Energy Centre substation.	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability	N/A	N/A

Lake Huron

Legend

- Transmission Line Study Area
- Wind Energy Centre Study Area
- Properties
- Layout Modification Locations
- Change Map Extent
- August 2013 - 120m Area of Investigation
- January 2013 - 120m Area of Investigation

Turbines and Permanent Meteorological Tower

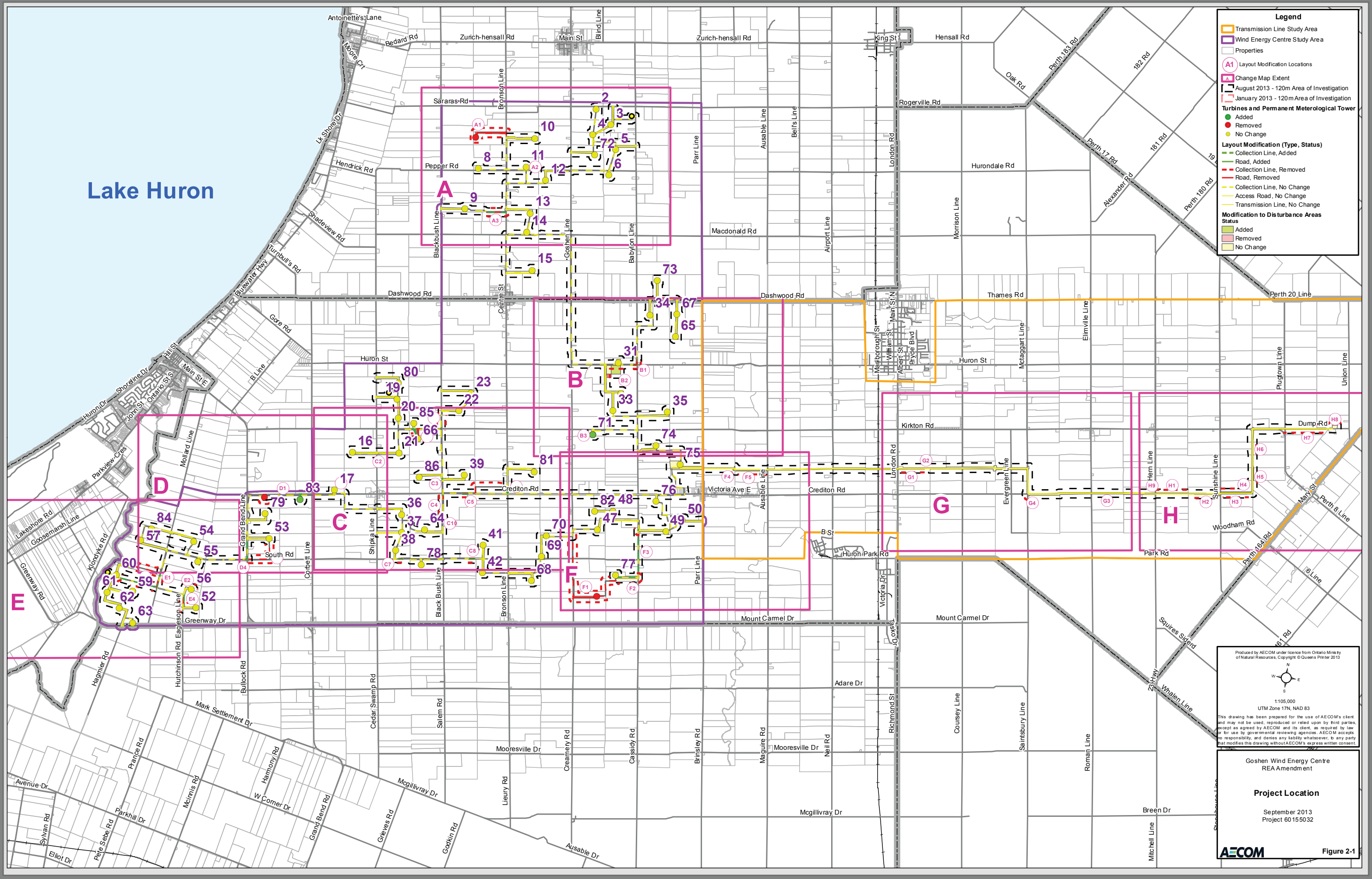
- Added
- Removed
- No Change

Layout Modification (Type, Status)

- Collection Line, Added
- Road, Added
- Collection Line, Removed
- Road, Removed
- Collection Line, No Change
- Access Road, No Change
- Transmission Line, No Change

Modification to Disturbance Areas Status

- Added
- Removed
- No Change



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1:105,000
UTM Zone 17N, NAD 83

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Goshen Wind Energy Centre
REA Amendment

Project Location

September 2013
Project 60155032

AECOM

Figure 2-1

3. Edits to the Construction Report

Table 3-1 documents the edits to the Construction Plan Report resulting from the modifications described in **Section 2**. The table includes the text from the original REA submission and edits to the text (underlined text represents additions and strikethrough text represents deletions). Updated figures are included in **Appendix C** of this Revision Report.

Table 3-1 Edits to the Construction Plan Report

Section / Page	Original Text	Revised Text (<u>Underlined text</u> represents additions and strikethrough text represents deletions)
Section 1 / page 1	Although NextEra is seeking a Renewable Energy Approval (REA) for up to 72 wind turbines, only 63 will be constructed for the Project.	Although NextEra is seeking a Renewable Energy Approval (REA) for up to 72 <u>70</u> wind turbines, only 63 will be constructed for the Project.
Section 2 / page 5	Up to 71 GE 1.6-100 Wind Turbine generator locations and pad mounted step-up transformers and one GE 1.56-100 Wind Turbine generator location and pad mounted step-up transformer (however, only 63 turbines will be constructed)	Up to 71 <u>69</u> GE 1.6-100 Wind Turbine generator locations and pad mounted step-up transformers and one GE 1.56-100 Wind Turbine generator location and pad mounted step-up transformer (however, only 63 turbines will be constructed)
Section 2.2 / page 10	The proposed Project will consist of up to 71 GE 1.6-100 Wind Turbines and one GE 1.56-100 Wind Turbines with a nameplate capacity of 102 MW (however, only 63 turbines will be constructed).	The proposed Project will consist of up to 71 <u>69</u> GE 1.6-100 Wind Turbines and one GE 1.56-100 Wind Turbines with a nameplate capacity of 102 MW (however, only 63 turbines will be constructed).
Section 3 / page 16	This description of effects was completed for all 72 turbines and associated infrastructure shown on the Project Location figures.	This description of effects was completed for all 72 <u>70</u> turbines and associated infrastructure shown on the Project Location figures.
Section 3.1 / page 16	In 2011 and 2012, pedestrian surveys were conducted within the Project Study Area in support of the Stage 2 Archaeological Assessment, according to the 2011 <i>Standards and Guidelines for Consultant Archaeologists</i> issued by the Ontario Ministry of Tourism, Culture and Sport (MTCS) (Government of Ontario, 2011). A total of 62 archaeological sites were identified and 33 sites have been recommended for further Stage 3 archaeological assessment.	In 2011 and 2012, pedestrian surveys were conducted within the Project Study Area in support of the Stage 2 Archaeological Assessment, according to the 2011 <i>Standards and Guidelines for Consultant Archaeologists</i> issued by the Ontario Ministry of Tourism, Culture and Sport (MTCS) (Government of Ontario, 2011). A total of 62 archaeological sites were identified and 33 sites have been <u>were</u> recommended for further Stage 3 archaeological assessment. <u>Based on further Stage 2 Archeological Assessment in 2013, 2 additional sites were identified, of which no additional sites have been recommended for Stage 3 Archaeological Assessment.</u>
Section 3.1 / page 16	A Cultural Heritage Assessment (Golder, 2012) was also completed to identify built heritage and cultural heritage landscape resources related to the Euro-Canadian land use in the area dating prior to 1970. All work was carried out in accordance with the Ontario <i>Heritage Act</i> , the <i>Provincial Policy Statement</i> , and the <i>Environmental Assessment Act</i> . The report identified 135 structures (67 houses and 68 barns or barn complexes) as greater than 40 years old within the Project Study Area and as having general historical interest contributing to the character of the vernacular rural landscape. When applying the criteria set out in <i>Ontario Regulation 9/06</i> , 99 of these structures (49 houses and 53 barns) were determined to have cultural heritage value or interest. Following the evaluation of anticipated impacts, both direct and indirect, according to <i>InfoSheet #5</i> (Government of Ontario, 2006), no anticipated impacts were identified. As there are no anticipated impacts to the cultural heritage features, no further work is recommended.	A Cultural Heritage Assessment (Golder, 2012) was also completed to identify built heritage and cultural heritage landscape resources related to the Euro-Canadian land use in the area dating prior to 1970. All work was carried out in accordance with the Ontario <i>Heritage Act</i> , the <i>Provincial Policy Statement</i> , and the <i>Environmental Assessment Act</i> . The report <u>and its addenda (December 2012 and September 2013)</u> identified 135 <u>145</u> structures (67 <u>73</u> houses and 68 <u>72</u> barns or barn complexes) as greater than 40 years old within the Project Study Area and as having general historical interest contributing to the character of the vernacular rural landscape. When applying the criteria set out in <i>Ontario Regulation 9/06</i> , 99 <u>109</u> of these structures (49 <u>52</u> houses and 53 <u>57</u> barns) were determined to have cultural heritage value or interest. Following the evaluation of anticipated impacts, both direct and indirect, according to <i>InfoSheet #5</i> (Government of Ontario, 2006), no anticipated impacts were identified. As there are no anticipated impacts to the cultural heritage features, no further work is recommended.
Section 3.2 / page 17	The potential effects, mitigation measures, residual effects and monitoring commitments regarding the natural heritage features (including Significant Wetlands, woodlands, valleylands, and wildlife habitat) were identified and evaluated in the Natural Heritage Assessment Report and Environmental Effects Monitoring Plan (AECOM, 2013) prepared based on the <i>Natural Heritage Assessment Guide for Renewable Energy Projects</i> (Government of Ontario, 2010) and submitted to the Ontario Ministry of Natural Resources (MNR) for review and sign-off.	The potential effects, mitigation measures, residual effects and monitoring commitments regarding the natural heritage features (including Significant Wetlands, woodlands, valleylands, and wildlife habitat) were identified and evaluated in the Natural Heritage Assessment <u>and Environmental Impact Study (NHA and EIS) Report and Environmental Effects Monitoring Plan (AECOM, 2013) prepared based on the <i>Natural Heritage Assessment Guide for Renewable Energy Projects</i> (Government of Ontario, 2010) and submitted to the Ontario Ministry of Natural Resources (MNR) for review and sign-off. <u>AECOM later prepared a NHA and EIS Addendum in respect to modifications to the Project Location proposed after the original submission of the NHA and EIS to MNR. MNR issued confirmation and re-confirmation letters on January 15 and 16, 2013, respectively, stating that the NHA and EIS Report and the NHA and EIS Report Addendum met all requirements in accordance with the REA regulation for this Project.</u> <u>Two Addenda to the NHA and EIS Report were subsequently prepared to address modifications to the Project Location proposed after MNR confirmation and re-confirmation of the NHA and EIS and were submitted to MNR for review on September 16, 2013. The MNR provided a confirmation letter on October 22, 2013, stating that the Second NHA Addendum met all requirements in accordance with the REA regulation for this Project. Based on further modifications to the Project Location, AECOM subsequently submitted to the MNR the NHA and EIS Third Addendum on November 15, 2013 for review. The MNR provided a confirmation letter on November 15, 2013, stating that the Third NHA Addendum met all requirements in accordance with the REA regulation for this Project.</u></u>
Table 3-2 / page 18	14 wetland units or wetland complexes were treated as significant and included in the EIS.	14 <u>13</u> wetland units or wetland complexes were treated as significant and included in the EIS.
Table 3-2 / page 18	65 woodlands were determined to be significant or treated as significant and therefore included in the EIS.	65 <u>66</u> woodlands were determined to be significant or treated as significant and therefore included in the EIS.
Table 3-2 / page 18	4 amphibian woodland breeding habitats	4 <u>5</u> amphibian woodland breeding habitats
Table 3-2 / page 18	<ul style="list-style-type: none"> • 2 waterfowl stopover and staging areas (terrestrial); • 11 bat maternity colonies; • 2 turtle wintering areas; • 8 reptile hibernacula; • One deer wintering congregation area; • One deer movement corridor; and, • 4 amphibian woodland breeding habitats. 	<ul style="list-style-type: none"> • 2 <u>Waterfowl stopover and staging areas (terrestrial);</u> • 11 bat maternity colonies; • 2 <u>reptile hibernacula;</u> • 8 <u>7</u> reptile hibernacula; • One deer wintering congregation area; • One deer movement corridor; and, • 4 <u>3</u> amphibian woodland breeding habitats.
Table 3-2 / page 18	<ul style="list-style-type: none"> • Waterfowl nesting areas; • Reptile hibernacula; • Bat maternity colonies; • Amphibian woodland breeding habitat; • Amphibian wetland breeding habitat; • Habitats of plant species of conservation concern (numerous); • Habitat of bird species of conservation concern (numerous); • Mature forest stands; • Rare vegetation communities; • Turtle nesting area; • Turtle wintering areas; • Woodland raptor nesting habitat; • Woodland area-sensitive bird breeding habitat; • Terrestrial crayfish habitat; and • Seeps and springs. 	<ul style="list-style-type: none"> • <u>Waterfowl stopover and staging areas (terrestrial);</u> • Waterfowl nesting areas; • Reptile hibernacula; • Bat maternity colonies; • Amphibian woodland breeding habitat; • Amphibian wetland breeding habitat; • Habitats of plant species of conservation concern (numerous); • Habitat of bird species of conservation concern (numerous); • Mature forest stands; • Rare vegetation communities; • Turtle nesting area; • Turtle wintering areas; • Woodland raptor nesting habitat; • Woodland area-sensitive bird breeding habitat; • Terrestrial crayfish habitat; and • Seeps and springs.

Table 3-1 Edits to the Construction Plan Report

Section / Page	Original Text	Revised Text (<u>Underlined text</u> represents additions and strikethrough text represents deletions)
Table 3-4 / page 23	<p>Potential Effect Accidental intrusion into turtle wintering areas causing habitat damage.</p> <p>Performance Objectives</p> <ul style="list-style-type: none"> • Avoid accidental intrusion into habitat. <p>Mitigation Strategy</p> <ul style="list-style-type: none"> • Clearly delineate habitat boundaries within 10 m of the habitat boundary using protective fencing to ensure that construction activities occur outside the habitat boundaries. <p>Residual Effects</p> <ul style="list-style-type: none"> • Disruption to turtle wintering habitats avoided through habitat delineation and fencing. • Negligible residual effects. <p>Monitoring Plan and Contingency Measures</p> <ul style="list-style-type: none"> • Undertake weekly site inspections by an Environmental Monitor to ensure that protective fencing is intact and that there is no damage caused during construction. • Contingency Measures: <ul style="list-style-type: none"> ▪ Repair protective fencing if damaged. ▪ Consultation with MNR to determine additional contingency measures if necessary. 	<p>Potential Effect Accidental intrusion into turtle wintering areas causing habitat damage.</p> <p>Performance Objectives</p> <ul style="list-style-type: none"> • — Avoid accidental intrusion into habitat. <p>Mitigation Strategy</p> <ul style="list-style-type: none"> • — Clearly delineate habitat boundaries within 10 m of the habitat boundary using protective fencing to ensure that construction activities occur outside the habitat boundaries. <p>Residual Effects</p> <ul style="list-style-type: none"> • — Disruption to turtle wintering habitats avoided through habitat delineation and fencing. • — Negligible residual effects. <p>Monitoring Plan and Contingency Measures</p> <ul style="list-style-type: none"> • — Undertake weekly site inspections by an Environmental Monitor to ensure that protective fencing is intact and that there is no damage caused during construction. • — Contingency Measures: <ul style="list-style-type: none"> ▪ — Repair protective fencing if damaged. ▪ — Consultation with MNR to determine additional contingency measures if necessary.
Table 3-4 / page 25	<p>Potential Effect Increased erosion and sedimentation resulting from clearing and grubbing, excavation, backfilling and stockpiling near Significant Wetlands and/or woodlands.</p> <p>Mitigation Strategy</p> <ul style="list-style-type: none"> • For construction of access roads at Turtle Over-Wintering Habitat Features: fence area as far from pond and as close to road as possible and install sediment and erosion control fencing at fenced area location. • For construction of the transmission line at Azure Bluet Habitat Feature, Turtle Over-Wintering Habitat Feature and Amphibian Woodland Breeding Habitat Features: <ul style="list-style-type: none"> ▪ Fence area as far from pond and as close to transmission line disturbance area as possible. ▪ Install sediment and erosion control fencing at fenced area location. 	<p>Potential Effect Increased erosion and sedimentation resulting from clearing and grubbing, excavation, backfilling and stockpiling near Significant Wetlands and/or woodlands.</p> <p>Mitigation Strategy</p> <ul style="list-style-type: none"> • — For construction of access roads at Turtle Over-Wintering Habitat Features: fence area as far from pond and as close to road as possible and install sediment and erosion control fencing at fenced area location. • For construction of the transmission line at Azure Bluet Habitat Feature, Turtle Over-Wintering Habitat Feature and Amphibian Woodland Breeding Habitat Features: <ul style="list-style-type: none"> ▪ — Fence area as far from pond and as close to transmission line disturbance area as possible. ▪ — Install sediment and erosion control fencing at fenced area location.
Table 3-4 / page 27	<p>Potential Effect Disruption of Tundra Swans in stopover and staging habitat due to construction/ decommissioning activities in waterfowl stopover and staging areas.</p> <p>Performance Objectives</p> <ul style="list-style-type: none"> • Avoid disruption of Tundra Swan during migration. <p>Mitigation Strategy</p> <ul style="list-style-type: none"> • Schedule construction activities within 300 m of the stopover and staging habitat to occur outside the important period of staging Tundra Swan (March 1 to April 15). If this is not possible, MNR will be consulted regarding mitigation measures that may be required. • Clearly delineate work area using erosion fencing or similar barrier to avoid accidental damage to staging habitat. • Restore temporary construction areas to pre-construction conditions as soon as possible (e.g., re-vegetate formerly naturally vegetated areas with native plants). <p>Residual Effects</p> <ul style="list-style-type: none"> • Disruption of Tundra Swans will be minimized through the application of mitigation measures. • Negligible residual effects. <p>Monitoring Plan and Contingency Measures No monitoring or contingency measures required as long as construction occurs outside migration period.</p>	<p>Potential Effect Disruption of Tundra Swans in stopover and staging habitat due to construction/ decommissioning activities in waterfowl stopover and staging areas.</p> <p>Performance Objectives</p> <ul style="list-style-type: none"> • — Avoid disruption of Tundra Swan during migration. <p>Mitigation Strategy</p> <ul style="list-style-type: none"> • — Schedule construction activities within 300 m of the stopover and staging habitat to occur outside the important period of staging Tundra Swan (March 1 to April 15). If this is not possible, MNR will be consulted regarding mitigation measures that may be required. • — Clearly delineate work area using erosion fencing or similar barrier to avoid accidental damage to staging habitat. • — Restore temporary construction areas to pre-construction conditions as soon as possible (e.g., re-vegetate formerly naturally vegetated areas with native plants). <p>Residual Effects</p> <ul style="list-style-type: none"> • — Disruption of Tundra Swans will be minimized through the application of mitigation measures. • — Negligible residual effects. <p>Monitoring Plan and Contingency Measures No monitoring or contingency measures required as long as construction occurs outside migration period.</p>
Table 3-4 / page 27	<p>Potential Effect Changes to surface water drainage patterns resulting in indirect effects on waterfowl stopover and staging areas.</p> <p>Performance Objectives</p> <ul style="list-style-type: none"> • Minimize changes in surface water drainage patterns. <p>Mitigation Strategy</p> <ul style="list-style-type: none"> • Ensure Best Management Practices are used to maintain current drainage patterns, including: • Implement infiltration techniques to the maximum extent possible. • Minimize paved surfaces and design roads to promote infiltration. • Limit changes in land contours. 	<p>Potential Effect Changes to surface water drainage patterns resulting in indirect effects on waterfowl stopover and staging areas.</p> <p>Performance Objectives</p> <ul style="list-style-type: none"> • — Minimize changes in surface water drainage patterns. <p>Mitigation Strategy</p> <ul style="list-style-type: none"> • — Ensure Best Management Practices are used to maintain current drainage patterns, including: • — Implement infiltration techniques to the maximum extent possible. • — Minimize paved surfaces and design roads to promote infiltration. • — Limit changes in land contours.

Table 3-1 Edits to the Construction Plan Report

Section / Page	Original Text	Revised Text (<u>Underlined text</u> represents additions and strikethrough text represents deletions)
	<p>Residual Effects</p> <ul style="list-style-type: none"> Habitat damage avoided through maintaining surface water drainage patterns. Low likelihood and limited magnitude of effect as a result. <p>Monitoring Plan and Contingency Measures</p> <ul style="list-style-type: none"> Site inspection by Environmental Monitor following grading activities within 30 m of stopover and staging area. Contingency Measures: <ul style="list-style-type: none"> If surface water drainage alterations are detected, undertake corrective measures to restore drainage pattern. 	<p>Residual Effects</p> <ul style="list-style-type: none"> Habitat damage avoided through maintaining surface water drainage patterns. Low likelihood and limited magnitude of effect as a result. <p>Monitoring Plan and Contingency Measures</p> <ul style="list-style-type: none"> Site inspection by Environmental Monitor following grading activities within 30 m of stopover and staging area. Contingency Measures: <ul style="list-style-type: none"> If surface water drainage alterations are detected, undertake corrective measures to restore drainage pattern.
Table 3-4 / page 29	<p>Potential Effect</p> <p>Disruption or possible mortality of turtles moving between wintering ponds and other areas.</p> <p>Performance Objectives</p> <ul style="list-style-type: none"> Minimize disruption of turtle movement. <p>Mitigation Strategy</p> <ul style="list-style-type: none"> Fence area as far from pond and as close to proposed road as possible. Post speed limits (30 km/hr) and turtle crossing signage along relevant construction access roads. To avoid collisions with turtles, schedule construction activities within 30 m to occur during daylight hours and not during the period of emergence (March 15 to May 31). If construction must occur during this timing window, conduct area searches for turtles daily prior to construction activities. <p>Residual Effects</p> <ul style="list-style-type: none"> Disruption and/or mortality minimized through construction timing and speed limits. Low likelihood of occurring and limited magnitude. <p>Monitoring Plan and Contingency Measures</p> <ul style="list-style-type: none"> If construction occurs within 30 m of a turtle wintering area (if determined to be significant) between March 15 and May 31, conduct area searches for turtles by a qualified Biologist prior to soil stripping or grubbing, as well as daily prior to construction activities by the Contractor within the construction footprint. Contingency Measures: <ul style="list-style-type: none"> Turtles encountered within the construction area will be moved to a safe location (nearby pond) under the direction of the Environmental Monitor or a qualified Biologist. 	<p>Potential Effect</p> <p>Disruption or possible mortality of turtles moving between wintering ponds and other areas.</p> <p>Performance Objectives</p> <ul style="list-style-type: none"> Minimize disruption of turtle movement. <p>Mitigation Strategy</p> <ul style="list-style-type: none"> Fence area as far from pond and as close to proposed road as possible. Post speed limits (30 km/hr) and turtle crossing signage along relevant construction access roads. To avoid collisions with turtles, schedule construction activities within 30 m to occur during daylight hours and not during the period of emergence (March 15 to May 31). If construction must occur during this timing window, conduct area searches for turtles daily prior to construction activities. <p>Residual Effects</p> <ul style="list-style-type: none"> Disruption and/or mortality minimized through construction timing and speed limits. Low likelihood of occurring and limited magnitude. <p>Monitoring Plan and Contingency Measures</p> <ul style="list-style-type: none"> If construction occurs within 30 m of a turtle wintering area (if determined to be significant) between March 15 and May 31, conduct area searches for turtles by a qualified Biologist prior to soil stripping or grubbing, as well as daily prior to construction activities by the Contractor within the construction footprint. Contingency Measures: <ul style="list-style-type: none"> Turtles encountered within the construction area will be moved to a safe location (nearby pond) under the direction of the Environmental Monitor or a qualified Biologist.
Table 3-4 / page 29	<p>Potential Effect</p> <p>Increased erosion and sedimentation resulting from clearing and grubbing, backfilling and stockpiling resulting from access road construction near turtle wintering areas.</p> <p>Performance Objectives</p> <ul style="list-style-type: none"> Minimize erosion and sedimentation in wintering pond. <p>Mitigation Strategy</p> <ul style="list-style-type: none"> Install sediment and erosion control fencing along edge of construction area if within 30 m of habitat feature as per Ontario Provincial Standards Specifications (OPSD 219.130). <p>Residual Effects</p> <ul style="list-style-type: none"> Erosion and sedimentation mitigated through sediment and erosion control fencing. Moderate likelihood; if erosion and sedimentation occur, negative effects may be measurable but would likely represent a small change relative to existing conditions. <p>Monitoring Plan and Contingency Measures</p> <ul style="list-style-type: none"> Monitor on-site conditions (i.e., erosion and sediment control, spills, flooding, etc.) by an Environmental Monitor where construction occurs within 30 m of a feature on the following basis: <ul style="list-style-type: none"> Weekly during active construction periods; Prior to, during and post forecasted large rainfall events (>20 millimetres in 24 hours) or significant snowmelt events (i.e., spring freshet); Daily during extended rain or snowmelt periods; Monthly during inactive construction periods, if the site is left alone for 30 days or longer. Contingency Measures: <ul style="list-style-type: none"> Suspend work if excessive flows of sediment discharges occur until additional mitigation measures are in place (e.g., install the extra erosion and sediment control materials kept on site, such as heavy duty silt fencing, straw bales, etc.). 	<p>Potential Effect</p> <p>Increased erosion and sedimentation resulting from clearing and grubbing, backfilling and stockpiling resulting from access road construction near turtle wintering areas.</p> <p>Performance Objectives</p> <ul style="list-style-type: none"> Minimize erosion and sedimentation in wintering pond. <p>Mitigation Strategy</p> <ul style="list-style-type: none"> Install sediment and erosion control fencing along edge of construction area if within 30 m of habitat feature as per Ontario Provincial Standards Specifications (OPSD 219.130). <p>Residual Effects</p> <ul style="list-style-type: none"> Erosion and sedimentation mitigated through sediment and erosion control fencing. Moderate likelihood; if erosion and sedimentation occur, negative effects may be measurable but would likely represent a small change relative to existing conditions. <p>Monitoring Plan and Contingency Measures</p> <ul style="list-style-type: none"> Monitor on-site conditions (i.e., erosion and sediment control, spills, flooding, etc.) by an Environmental Monitor where construction occurs within 30 m of a feature on the following basis: <ul style="list-style-type: none"> Weekly during active construction periods; Prior to, during and post forecasted large rainfall events (>20 millimetres in 24 hours) or significant snowmelt events (i.e., spring freshet); Daily during extended rain or snowmelt periods; Monthly during inactive construction periods, if the site is left alone for 30 days or longer. Contingency Measures: <ul style="list-style-type: none"> Suspend work if excessive flows of sediment discharges occur until additional mitigation measures are in place (e.g., install the extra erosion and sediment control materials kept on site, such as heavy duty silt fencing, straw bales, etc.).

Table 3-1 Edits to the Construction Plan Report

Section / Page	Original Text	Revised Text (<u>Underlined text</u> represents additions and strikethrough text represents deletions)
Table 3-4 / page 29	<p>Potential Effect Changes to surface water drainage patterns causing indirect effects on turtle wintering areas.</p> <p>Performance Objectives</p> <ul style="list-style-type: none"> Minimize indirect effects on wintering habitat through changes to surface water drainage patterns. <p>Mitigation Strategy</p> <ul style="list-style-type: none"> Ensure no grade changes within 30 m of pond. <p>Residual Effects</p> <ul style="list-style-type: none"> Indirect effects to habitat minimized by maintaining grade. Low likelihood of occurring and limited magnitude. <p>Monitoring Plan and Contingency Measures</p> <ul style="list-style-type: none"> Inspect locations following completion of access roads by an Environmental Monitor to ensure no grade changes. Monitor condition of the pond during on-site monitoring events at frequency described for sediment and erosion control. Contingency Measures: <ul style="list-style-type: none"> If surface water drainage alterations are detected, undertake corrective measures to restore drainage pattern. 	<p>Potential Effect Changes to surface water drainage patterns causing indirect effects on turtle wintering areas.</p> <p>Performance Objectives</p> <ul style="list-style-type: none"> Minimize indirect effects on wintering habitat through changes to surface water drainage patterns. <p>Mitigation Strategy</p> <ul style="list-style-type: none"> Ensure no grade changes within 30 m of pond. <p>Residual Effects</p> <ul style="list-style-type: none"> Indirect effects to habitat minimized by maintaining grade. Low likelihood of occurring and limited magnitude. <p>Monitoring Plan and Contingency Measures</p> <ul style="list-style-type: none"> Inspect locations following completion of access roads by an Environmental Monitor to ensure no grade changes. Monitor condition of the pond during on-site monitoring events at frequency described for sediment and erosion control. Contingency Measures: <ul style="list-style-type: none"> If surface water drainage alterations are detected, undertake corrective measures to restore drainage pattern.
Table 3-4 / page 33		<p>Potential Effect <u>Accidental intrusion into Significant Wetland WET-012 resulting in damage to vegetation and disturbance to wildlife.</u></p> <p>Performance Objective</p> <ul style="list-style-type: none"> <u>Avoid accidental damage to Significant Wetland.</u> <p>Mitigation Strategy <u>For construction activities outside Significant Wetland WET-012:</u></p> <ul style="list-style-type: none"> <u>Install transmission line poles outside the boundaries of the Significant Wetland. Apply a minimum setback of 5 m during installation of transmission line poles.</u> <u>Where construction occurs within 30 m, install and maintain protective fencing to clearly define the construction area and prevent accidental damage to vegetation.</u> <p><u>For construction activities inside Significant Wetland WET-012:</u></p> <ul style="list-style-type: none"> <u>Pull the transmission line across the Significant Wetland either by helicopter or by hand with the use of a winch. If required, branches may be selectively removed under the supervision of an arborist or forester by hand-held equipment (e.g. chainsaws) and accessed by foot to prevent soil compaction. Cut branches will be left in place in the wetland but will be cut up to lie low on the ground. No heavy equipment will be used within the Significant Wetland. Construction activities within the Significant Wetland should take place in the winter (November 1 to March 15), if possible, or outside the breeding bird season (May 1 to July 31). If this is not possible, MNR will be consulted regarding additional mitigation measures that may be required.</u> <p>Residual Effects</p> <ul style="list-style-type: none"> <u>Accidental damage will be avoided through clear delineation of boundaries and protective fencing.</u> <u>Negligible residual effects.</u> <p>Monitoring Plan and Contingency Measures</p> <ul style="list-style-type: none"> <u>Undertake weekly site inspections by an Environmental Monitor to ensure that protective fencing is intact and that there is no damage caused during construction.</u> <u>Conduct a post-construction survey to confirm that the disturbance to Significant Wetland Feature WET-012 is minimal.</u> Contingency Measures: <ul style="list-style-type: none"> <u>Repair protective fencing if damaged.</u> <u>Prune any damaged trees through implementation of proper arboricultural techniques, under supervision of an Arborist or Forester.</u> <u>If excessively disturbed areas are detected through the post-construction survey, restoration planting may be implemented as a contingency measure. These plantings should consist of suitable native wetland species such as nannyberry, silky dogwood, buttonbush, spicebush, or slender willow.</u>

Table 3-1 Edits to the Construction Plan Report

Section / Page	Original Text	Revised Text (<u>Underlined text</u> represents additions and strikethrough text represents deletions)
Table 3-4 / page 33		<p>Potential Effect <u>Increased erosion and sedimentation resulting from clearing and grubbing, excavation, backfilling and stockpiling during construction of the transmission line in Significant Wetland WET-012.</u></p> <p>Performance Objective <ul style="list-style-type: none"> <u>Minimize erosion and sedimentation from clearing, grubbing, excavation, backfilling and stockpiling.</u> </p> <p>Mitigation Strategy <u>For construction activities outside the Significant Wetland:</u> <ul style="list-style-type: none"> <u>Install transmission line poles outside the boundaries of the Significant Wetland. Apply a minimum setback of 5 m during installation of transmission line poles.</u> <u>Install sediment and erosion control fencing along edge of construction area as per Ontario Provincial Standard Specifications (OPSD 219.130).</u> <u>For construction activities inside the Significant Wetland:</u> <ul style="list-style-type: none"> <u>Pull the transmission line across the Significant Wetland by hand or by helicopter. No heavy equipment will be used within the Significant Wetland.</u> </p> <p>Residual Effects <ul style="list-style-type: none"> <u>Sedimentation avoided or minimized through application of mitigation measures.</u> <u>Minimal residual effects.</u> </p> <p>Monitoring Plan and Contingency Measures <ul style="list-style-type: none"> <u>Monitor on-site conditions (i.e., erosion and sediment control, flooding, etc.) by an Environmental Monitor where construction occurs within 30 m of the Significant Wetland on the following basis:</u> <ul style="list-style-type: none"> <u>Daily during active construction periods;</u> <u>Prior to, during and post forecasted large rainfall events (>20 millimetres in 24 hours) or significant snowmelt events (i.e., spring freshet);</u> <u>Daily during extended rain or snowmelt periods;</u> <u>Monthly during inactive construction periods, where the site is left alone for 30 days or longer.</u> Contingency Measures: <ul style="list-style-type: none"> <u>Suspend work if excessive flows of sediment discharges occur until additional mitigation measures are in place (e.g., install the extra erosion and sediment control materials kept on site, such as heavy duty silt fencing, straw bales, etc.).</u> </p>
Table 3-4 / page		<p>Potential Effect <u>Risk of soil or water contamination in Significant Wetland WET-012 resulting from accidental spills of fuel, etc.</u></p> <p>Performance Objective <u>Minimize soil or water contamination.</u></p> <p>Mitigation Strategy <ul style="list-style-type: none"> <u>Develop and implement emergency spills plan outlining steps to contain any chemicals or to avoid contamination of adjacent Significant Wetland feature.</u> </p> <p>Residual Effects <ul style="list-style-type: none"> <u>Soil and water contamination avoided or minimized through application of mitigation measures.</u> <u>Low likelihood and limited magnitude of effect as a result.</u> </p> <p>Monitoring Plan and Contingency Measures <ul style="list-style-type: none"> <u>Contractor to conduct routine inspections of construction equipment for leaks / spills.</u> <u>Develop an emergency spills plan.</u> Contingency Measures: <ul style="list-style-type: none"> <u>Immediately stop all work until the spill is cleaned up.</u> <u>Notify MOE's Spills Action Centre of any leaks or spills.</u> <u>If a spill enters Significant Wetland, collect and analyze water samples for appropriate parameters.</u> <u>Monitor daily until cleanup is completed.</u> </p>

Table 3-1 Edits to the Construction Plan Report

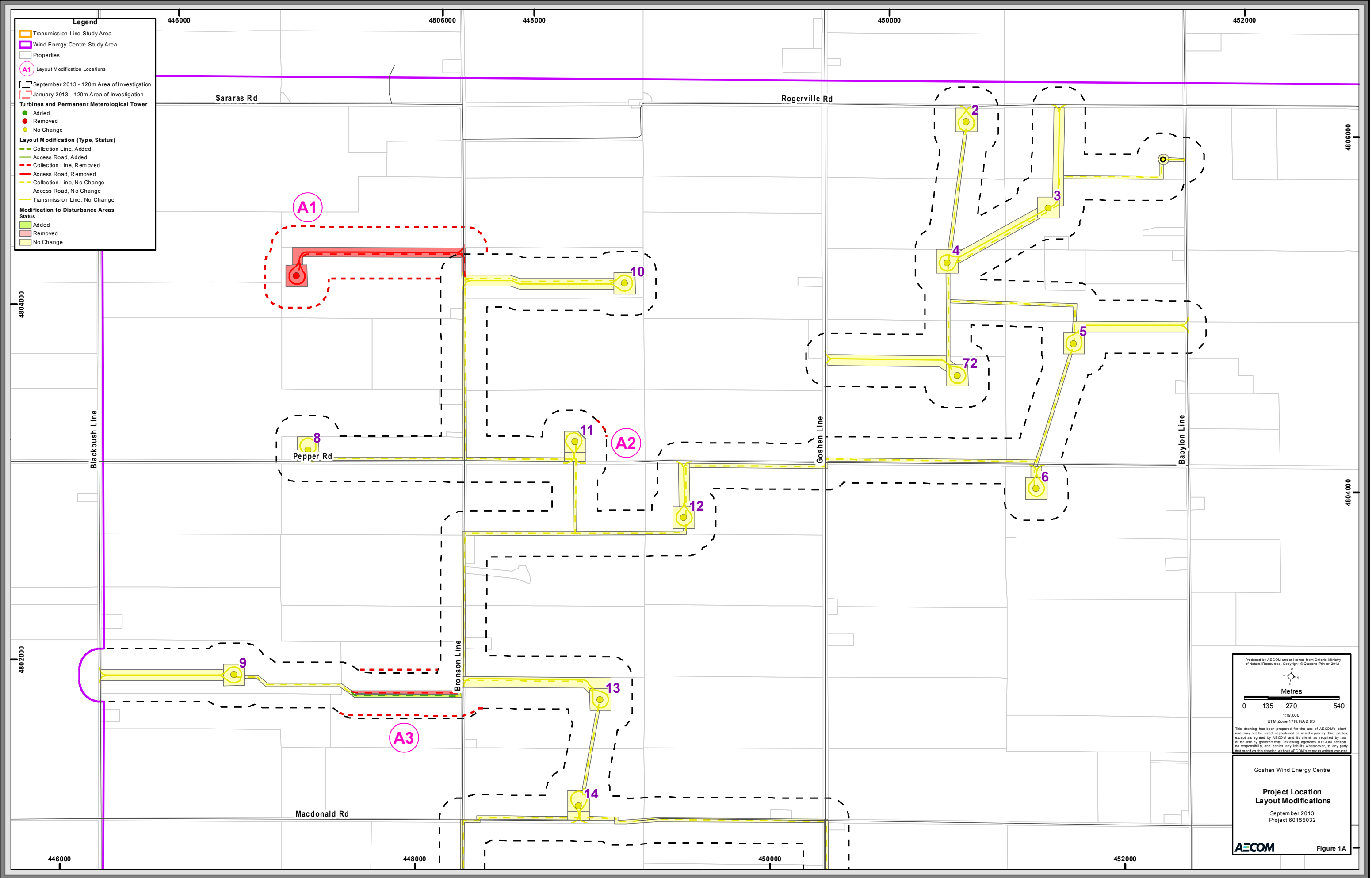
Section / Page	Original Text	Revised Text (<u>Underlined text</u> represents additions and strikethrough text represents deletions)																																																																																
Table 3-4 / page 33		<p>Potential Effect <u>Risk of spread of invasive species into Significant Wetland WET-012 as a result of construction disturbance.</u></p> <p>Performance Objective <ul style="list-style-type: none"> <u>Avoid spread of invasive species into Significant Wetland.</u> </p> <p>Mitigation Strategy <ul style="list-style-type: none"> <u>Ensure all equipment, including clothing/boots, is thoroughly washed before entering the Significant Wetland to avoid introducing seeds or fragments of invasive species into the Significant Wetland.</u> </p> <p>Residual Effects <ul style="list-style-type: none"> <u>Spread of invasive species avoided or minimized through the application of mitigation measures.</u> <u>Low likelihood and limited magnitude of effect as a result.</u> </p> <p>Monitoring Plan and Contingency Measures <ul style="list-style-type: none"> <u>Daily monitoring of areas where construction activities are occurring within the Significant Wetland by Environmental Monitor.</u> <u>Conduct post-construction survey, as described above.</u> </p>																																																																																
Section 3.3 / page 34	<p>Following the Records Review and Site Investigation, 83 water bodies were identified.</p> <p>Based on a sensitivity ranking conducted by AECOM, 1 water body was classified as high sensitivity (i.e., not very resilient to environmental change); 45 water bodies were moderate sensitivity; and 37 water bodies were low sensitivity.</p>	<p>Following the Records Review and Site Investigation, 83 <u>82</u> water bodies were identified.</p> <p>Based on a sensitivity ranking conducted by AECOM, 1 water body was classified as high sensitivity (i.e., not very resilient to environmental change); 45 water bodies were moderate sensitivity; and 37 <u>36</u> water bodies were low sensitivity.</p>																																																																																
Table 3-10 / page 47	<table border="1"> <thead> <tr> <th>Owner</th> <th>Area (ha)</th> <th>Licence Class</th> <th>Status</th> <th>Distance to Closest Project Infrastructure</th> </tr> </thead> <tbody> <tr> <td>McCann Construction Inc.</td> <td>40.47</td> <td>Class A > 20000 tonnes</td> <td>Active</td> <td>330m</td> </tr> <tr> <td>Prout Farms</td> <td>90.60</td> <td>Class A > 20000 tonnes</td> <td>Active</td> <td>1.2km</td> </tr> <tr> <td>Jennison Construction Ltd.</td> <td>11.24</td> <td>Class A > 20000 tonnes</td> <td>Surrendered</td> <td>2.2km</td> </tr> <tr> <td>Scott, Alan E.</td> <td>47.50</td> <td>Class A > 20000 tonnes</td> <td>Surrendered</td> <td>370m</td> </tr> <tr> <td>McCann Redi-Mix Inc.</td> <td>8.78</td> <td>Class A > 20000 tonnes</td> <td>Active</td> <td>7km</td> </tr> <tr> <td>The Municipality of South Huron</td> <td>16.13</td> <td>Class A > 20000 tonnes</td> <td>Surrendered</td> <td>1km</td> </tr> <tr> <td>Taylor, Jeffrey</td> <td>23.76</td> <td>Class A > 20000 tonnes</td> <td>Active</td> <td>1.2km</td> </tr> </tbody> </table>	Owner	Area (ha)	Licence Class	Status	Distance to Closest Project Infrastructure	McCann Construction Inc.	40.47	Class A > 20000 tonnes	Active	330m	Prout Farms	90.60	Class A > 20000 tonnes	Active	1.2km	Jennison Construction Ltd.	11.24	Class A > 20000 tonnes	Surrendered	2.2km	Scott, Alan E.	47.50	Class A > 20000 tonnes	Surrendered	370m	McCann Redi-Mix Inc.	8.78	Class A > 20000 tonnes	Active	7km	The Municipality of South Huron	16.13	Class A > 20000 tonnes	Surrendered	1km	Taylor, Jeffrey	23.76	Class A > 20000 tonnes	Active	1.2km	<table border="1"> <thead> <tr> <th>Owner</th> <th>Area (ha)</th> <th>Licence Class</th> <th>Status</th> <th>Distance to Closest Project Infrastructure</th> </tr> </thead> <tbody> <tr> <td>McCann Construction Inc.</td> <td>40.47</td> <td>Class A > 20000 tonnes</td> <td>Active</td> <td>330 <u>305</u> m</td> </tr> <tr> <td>Prout Farms</td> <td>90.60</td> <td>Class A > 20000 tonnes</td> <td>Active</td> <td>1.2 km</td> </tr> <tr> <td>Jennison Construction Ltd.</td> <td>11.24</td> <td>Class A > 20000 tonnes</td> <td>Surrendered</td> <td>2.2 km</td> </tr> <tr> <td>Scott, Alan E.</td> <td>47.50</td> <td>Class A > 20000 tonnes</td> <td>Surrendered</td> <td>370 m</td> </tr> <tr> <td>McCann Redi-Mix Inc.</td> <td>8.78</td> <td>Class A > 20000 tonnes</td> <td>Active</td> <td>7 <u>550</u> km</td> </tr> <tr> <td>The Municipality of South Huron</td> <td>16.13</td> <td>Class A > 20000 tonnes</td> <td>Surrendered</td> <td>1 km</td> </tr> <tr> <td>Taylor, Jeffrey</td> <td>23.76</td> <td>Class A > 20000 tonnes</td> <td>Active</td> <td>1.2 km</td> </tr> </tbody> </table>	Owner	Area (ha)	Licence Class	Status	Distance to Closest Project Infrastructure	McCann Construction Inc.	40.47	Class A > 20000 tonnes	Active	330 <u>305</u> m	Prout Farms	90.60	Class A > 20000 tonnes	Active	1.2 km	Jennison Construction Ltd.	11.24	Class A > 20000 tonnes	Surrendered	2.2 km	Scott, Alan E.	47.50	Class A > 20000 tonnes	Surrendered	370 m	McCann Redi-Mix Inc.	8.78	Class A > 20000 tonnes	Active	7 <u>550</u> km	The Municipality of South Huron	16.13	Class A > 20000 tonnes	Surrendered	1 km	Taylor, Jeffrey	23.76	Class A > 20000 tonnes	Active	1.2 km
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Section 3.9 / page 48	<p>The remaining pit/quarry of the three identified is located approximately 530 m north of the access road between Turbines 7 and 10, close to the northern boundary of the Wind Energy Centre Study Area.</p>	<p>The remaining pit/quarry of the three identified is located approximately 530 m north of the access road between <u>for</u> Turbines 7 and 10, close to the northern boundary of the Wind Energy Centre Study Area.</p>																																																																																

4. Summary and Conclusions


The Project modifications described in this REA Revision Report do not change the overall conclusion of the Construction Plan Report which states that “this Project can be constructed and installed without any significant adverse residual effects”.

Appendix A

Project Modifications



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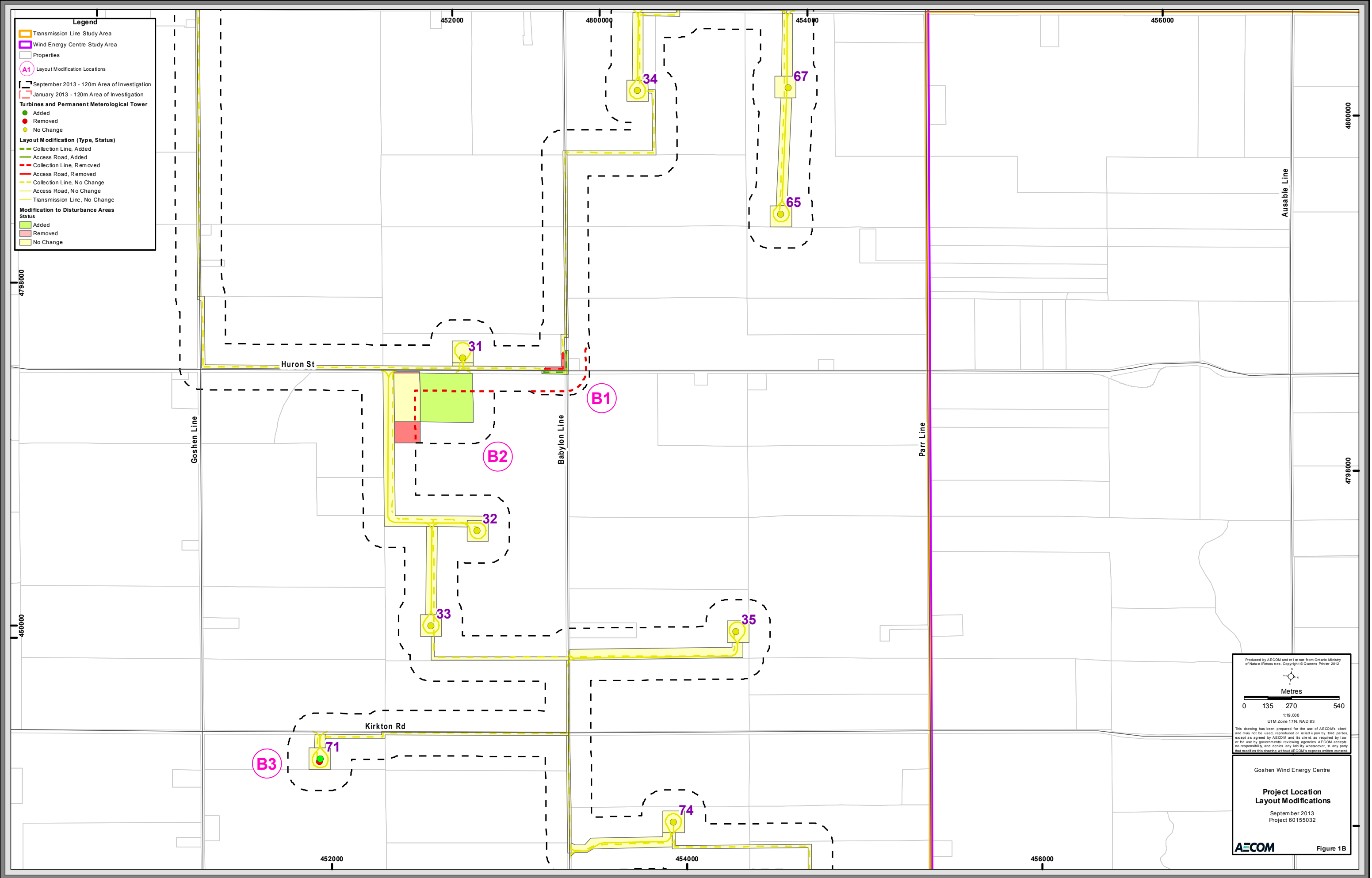

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Goshen Wind Energy Centre

**Project Location
Layout Modifications**

September 2013
Project 60155032



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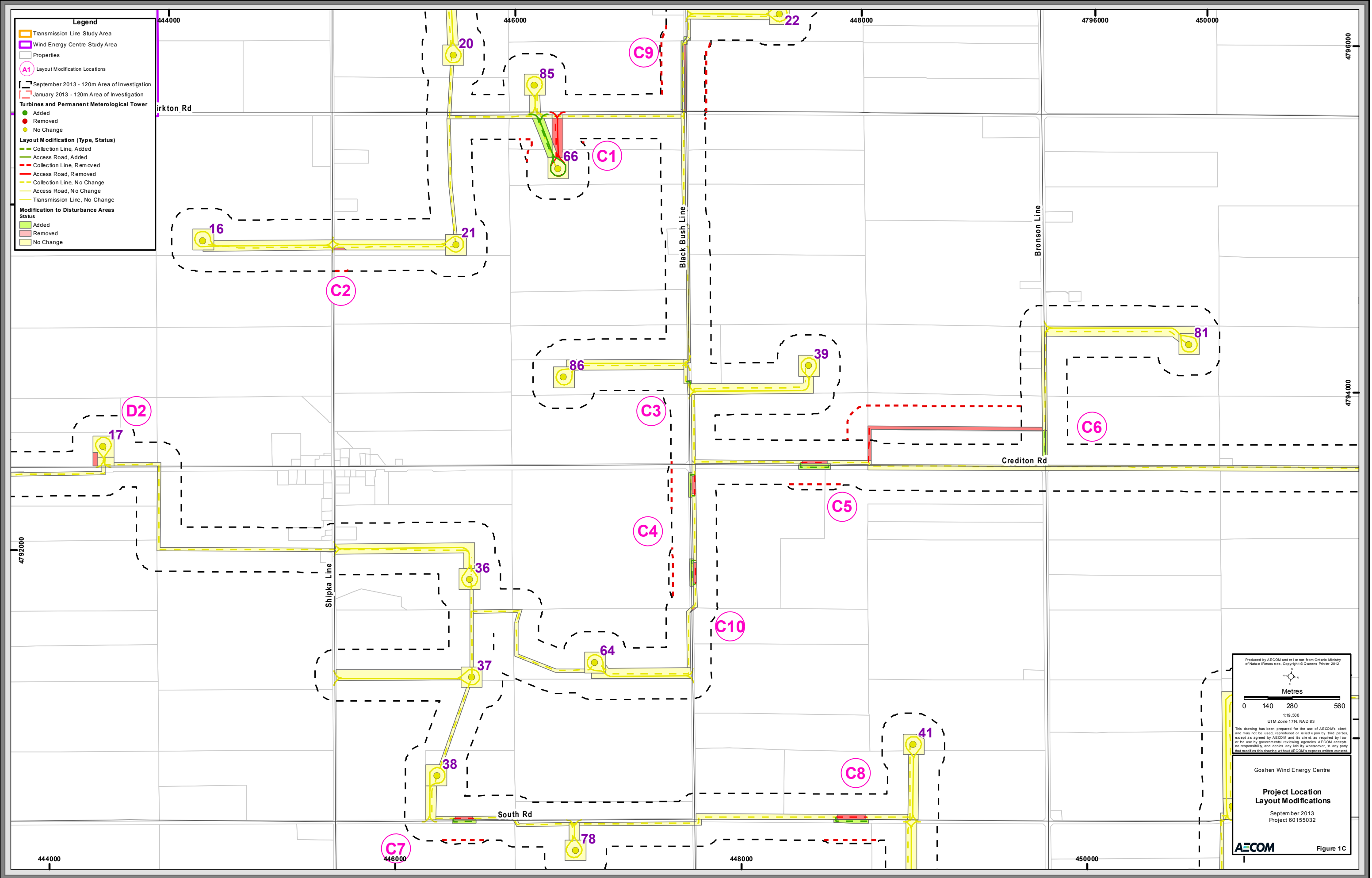
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Goshen Wind Energy Centre

**Project Location
Layout Modifications**

September 2013
Project 60155032

AECOM Figure 1B



Legend

- Transmission Line Study Area
- Wind Energy Centre Study Area
- Properties
- A1 Layout Modification Locations
- September 2013 - 120m Area of Investigation
- January 2013 - 120m Area of Investigation

Turbines and Permanent Meteorological Tower

- Added
- Removed
- No Change

Layout Modification (Type, Status)

- Collection Line, Added
- Access Road, Added
- Collection Line, Removed
- Access Road, Removed
- Collection Line, No Change
- Access Road, No Change
- Transmission Line, No Change

Modification to Disturbance Areas Status

- Added
- Removed
- No Change

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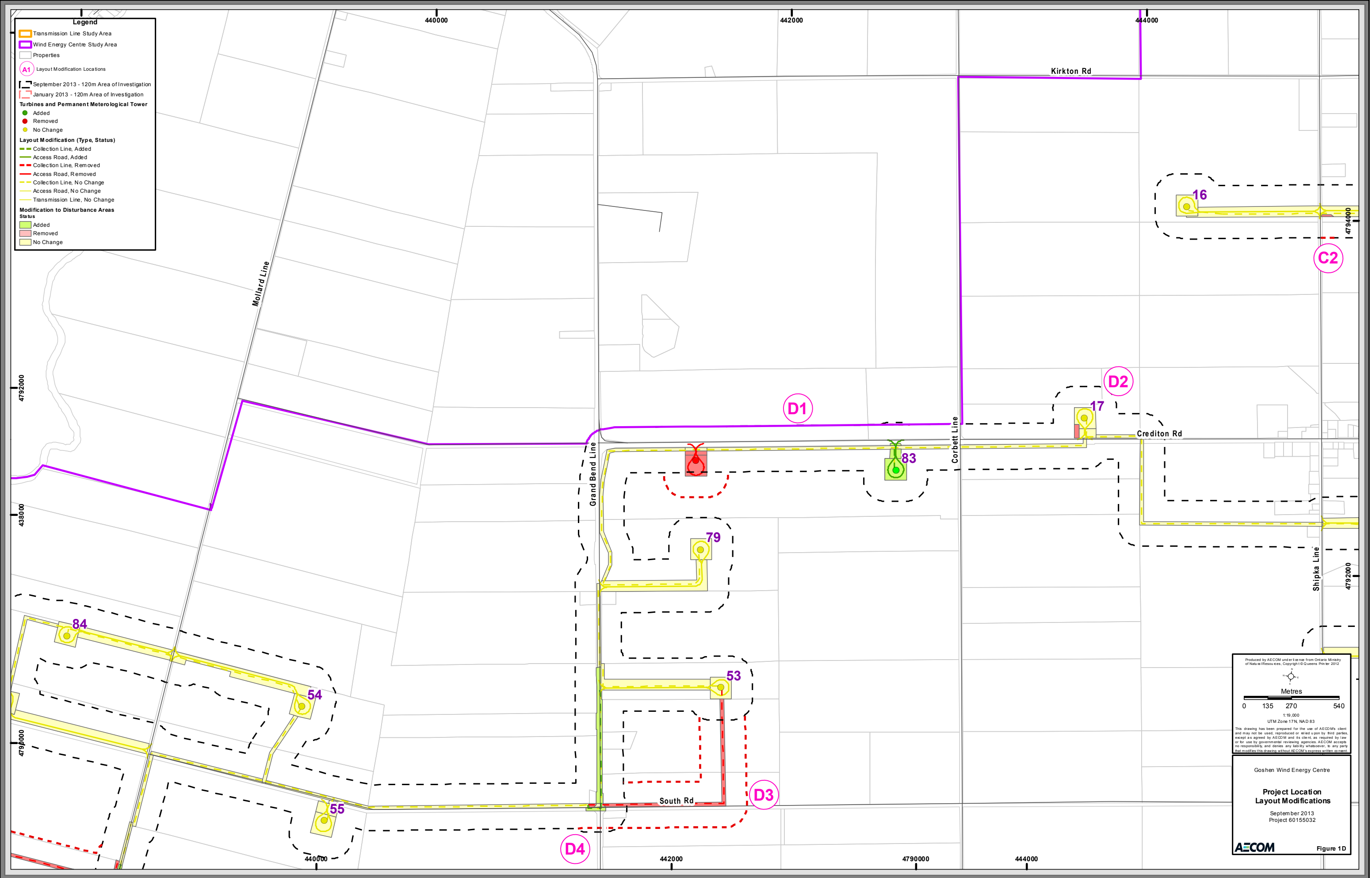
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Goshen Wind Energy Centre

**Project Location
Layout Modifications**

September 2013
Project 60155032

AECOM Figure 1C



Legend

- Transmission Line Study Area
- Wind Energy Centre Study Area
- Properties
- A1 Layout Modification Locations
- September 2013 - 120m Area of Investigation
- January 2013 - 120m Area of Investigation

Turbines and Permanent Meteorological Tower

- Added
- Removed
- No Change

Layout Modification (Type, Status)

- Collection Line, Added
- Access Road, Added
- Collection Line, Removed
- Access Road, Removed
- Collection Line, No Change
- Access Road, No Change
- Transmission Line, No Change

Modification to Disturbance Areas Status

- Added
- Removed
- No Change

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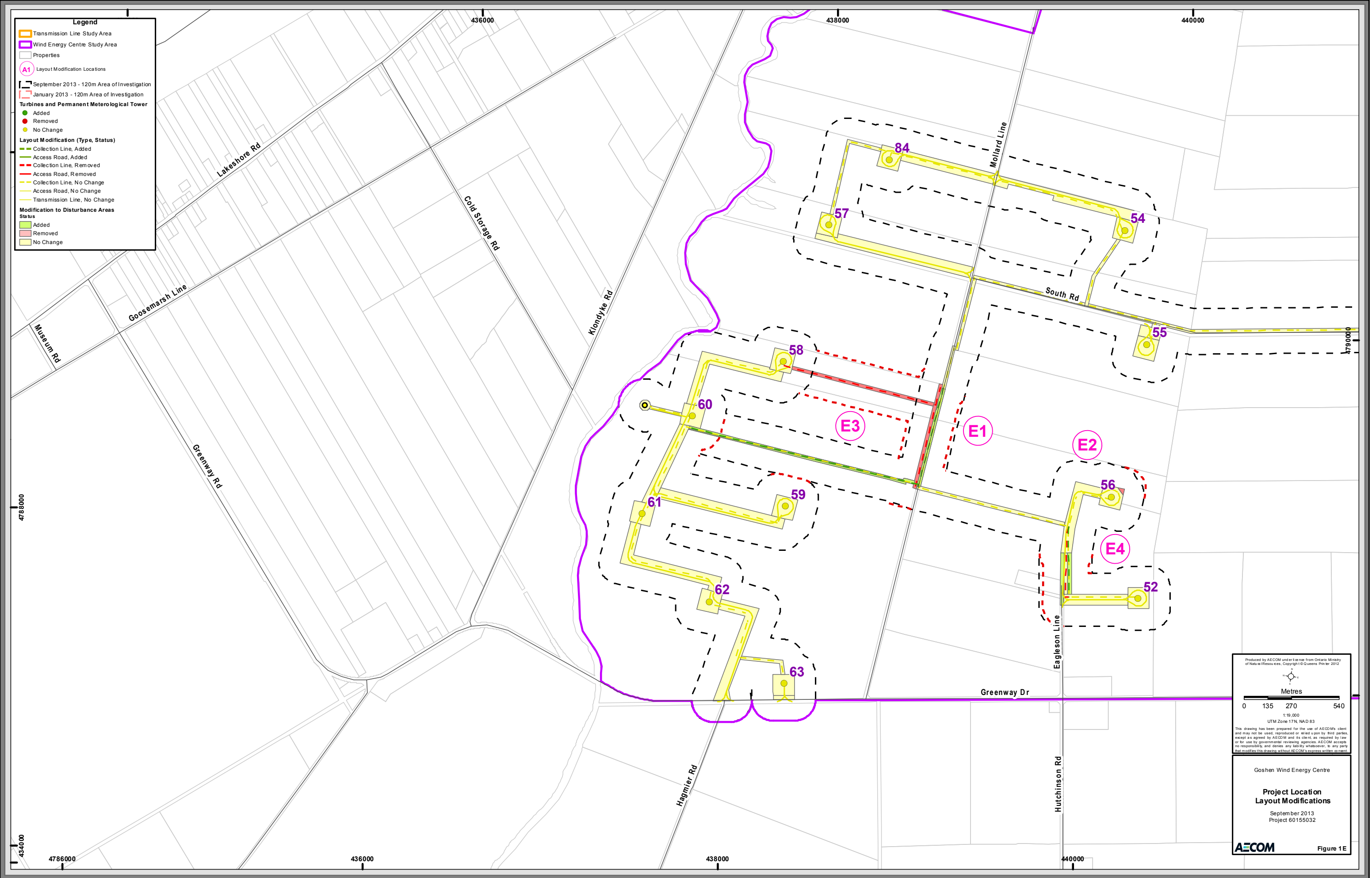
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Goshen Wind Energy Centre

**Project Location
Layout Modifications**

September 2013
Project 60155032

AECOM Figure 1D



Legend

- Transmission Line Study Area
- Wind Energy Centre Study Area
- Properties
- A1 Layout Modification Locations
- September 2013 - 120m Area of Investigation
- January 2013 - 120m Area of Investigation
- Turbines and Permanent Meteorological Tower**
- Added
- Removed
- No Change
- Layout Modification (Type, Status)**
- Collection Line, Added
- Access Road, Added
- Collection Line, Removed
- Access Road, Removed
- Collection Line, No Change
- Access Road, No Change
- Transmission Line, No Change
- Modification to Disturbance Areas Status**
- Added
- Removed
- No Change

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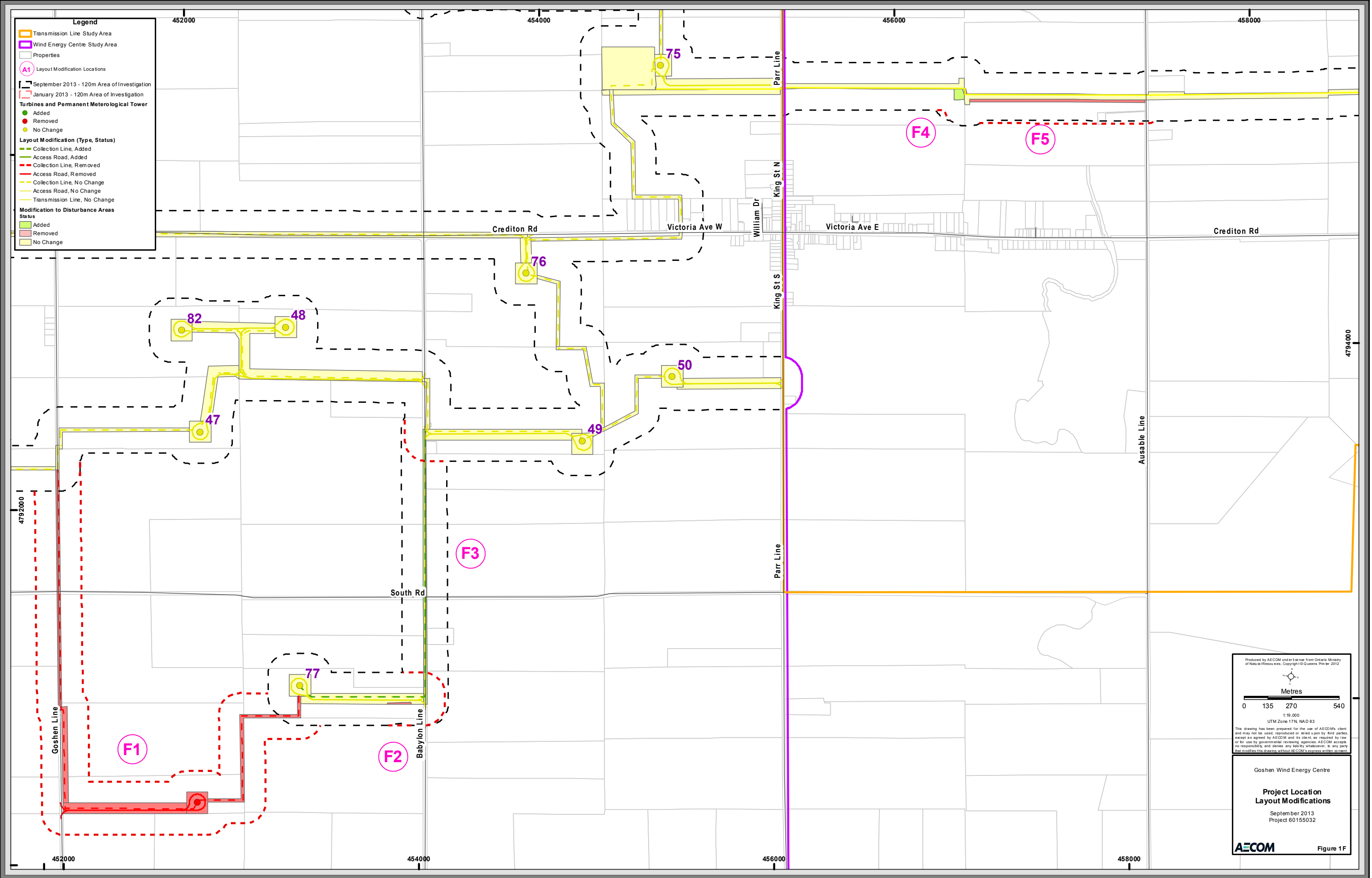
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Goshen Wind Energy Centre

**Project Location
Layout Modifications**

September 2013
Project 60155032

AECOM Figure 1E



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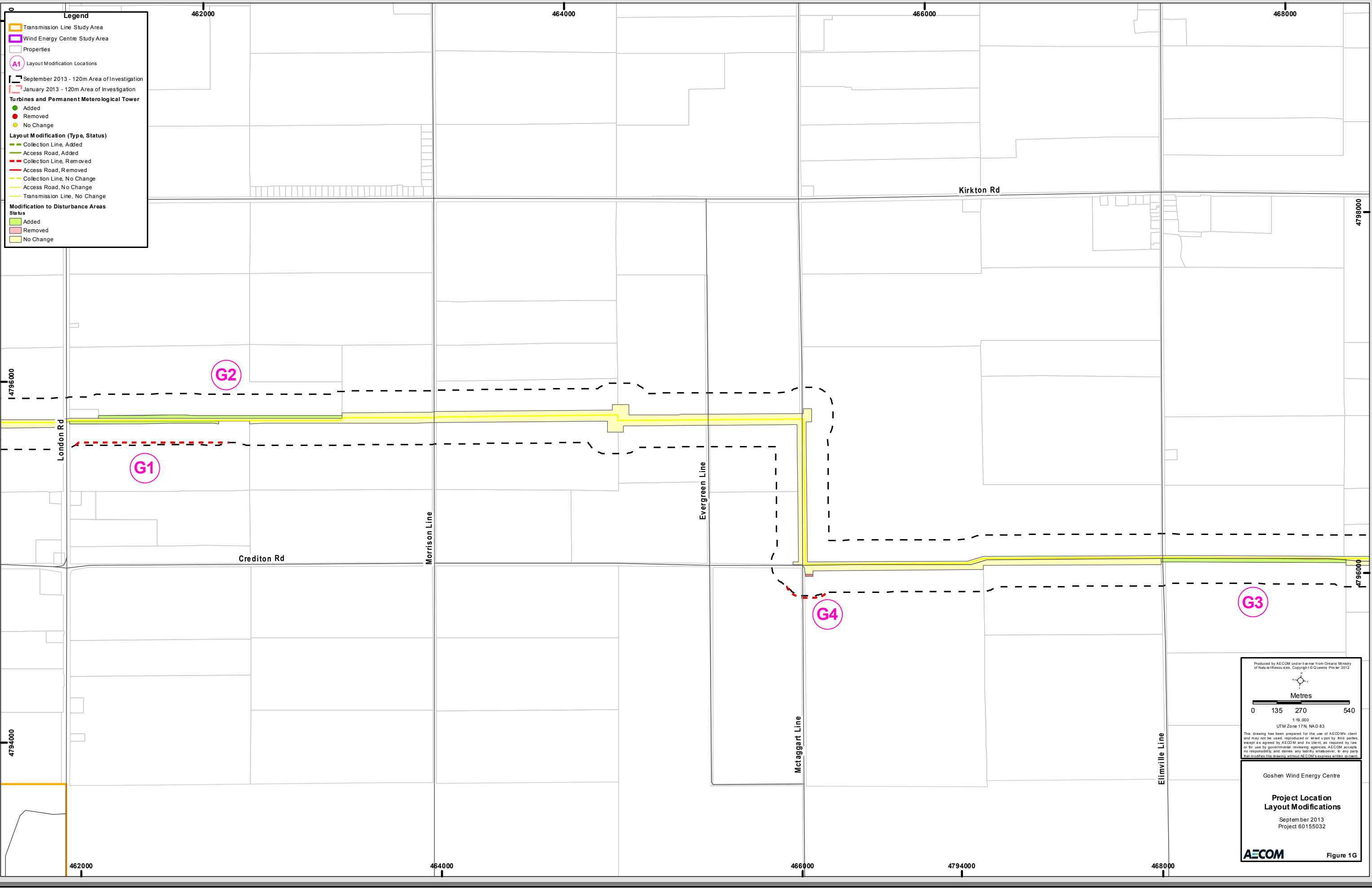
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Goshen Wind Energy Centre

**Project Location
Layout Modifications**

September 2013
Project 60155032

AECOM Figure 1F



Legend

- Transmission Line Study Area
- Wind Energy Centre Study Area
- Properties
- A1 Layout Modification Locations
- September 2013 - 120m Area of Investigation
- January 2013 - 120m Area of Investigation

Turbines and Permanent Meteorological Tower

- Added
- Removed
- No Change

Layout Modification (Type, Status)

- Collection Line, Added
- Access Road, Added
- Collection Line, Removed
- Access Road, Removed
- Collection Line, No Change
- Access Road, No Change
- Transmission Line, No Change

Modification to Disturbance Areas Status

- Added
- Removed
- No Change

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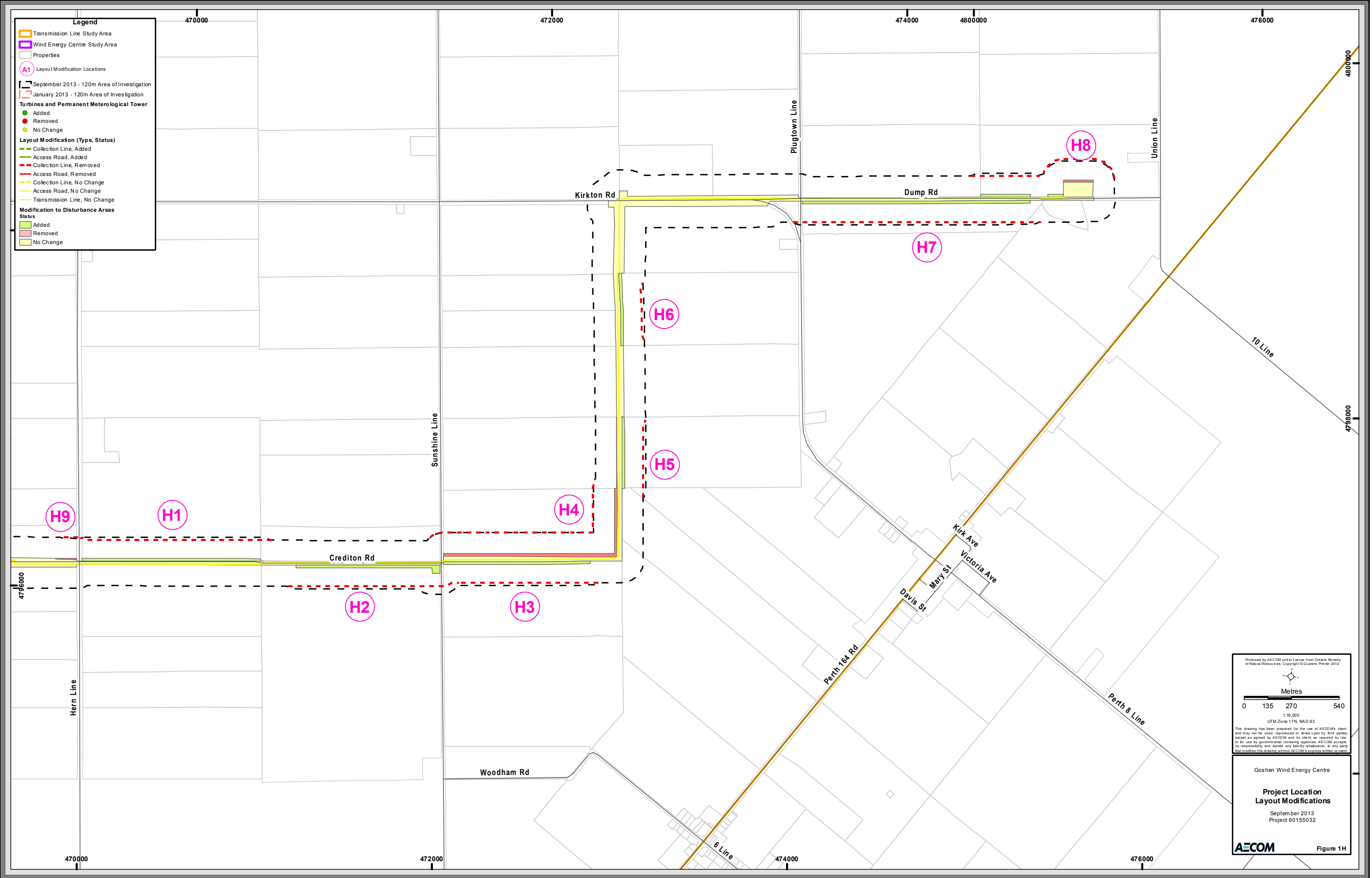
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Goshen Wind Energy Centre

**Project Location
Layout Modifications**

September 2013
Project 60155032

AECOM Figure 1G



Legend

- Transmission Line Study Area
- Wind Energy Centre Study Area
- Properties
- A1 Layout Modification Locations
- September 2013 - 120m Area of Investigation
- January 2013 - 120m Area of Investigation

Turbines and Permanent Meteorological Tower

- Added
- Removed
- No Change

Layout Modification (Type, Status)

- Collection Line, Added
- Collection Line, Removed
- Collection Line, No Change
- Access Road, Added
- Access Road, Removed
- Access Road, No Change
- Transmission Line, No Change

Modification to Disturbance Areas Status

- Added
- Removed
- No Change

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Goshen Wind Energy Centre

**Project Location
Layout Modifications**

September 2013
Project 60155032

AECOM Figure 1H

Appendix B

Water Body Mitigation Measures

Mitigation Measures

Mitigation techniques are proposed to offset possible effects of the construction, decommissioning and operation activities of the Goshen Wind Energy Centre. Mitigation measures recommended to minimize risk associated with potential impacts to the water bodies include the implementation of standard Best Management Practices (BMPs), as described below.

BMPs are work practices that outline acceptable practices to follow when carrying out certain activities. DFO has developed a series of operational statements (BMPs) as guidelines to avoid conditions that may harmfully alter aquatic habitat. The following are applicable to this Project:

Work Area

- Stabilize banks where necessary, minimizing the area and duration of soil exposure.
- Operate machinery on land and in a manner that minimizes disturbance to stream banks.
- Erect sediment fencing around water bodies and areas to be avoided (i.e., near unstable banks, vegetation communities).
- Locate staging areas away from watercourses to limit risk of impacts to aquatic habitat.

Equipment Use

- Ensure machinery arrives on site in a clean, washed condition and is maintained free of fluid leaks.
- Minimize vehicle traffic on exposed soils, avoid compacting or other hardening of natural ground surface, and avoid the movement of heavy machinery on areas with sensitive slopes.
- Locate site maintenance, vehicle washing and refuelling stations where contaminants are handled at least 30 m away from water bodies.
- Implement vehicle and equipment cleaning procedures and practices to minimize or eliminate the discharge of pollutants from vehicle/ equipment cleaning operations to watercourses.
- Limit speed of vehicles near watercourse crossings.

Erosion and Sediment Control

- Develop and implement an erosion and sediment control plan before commencement of construction.
- Utilize erosion blankets, erosion control fencing, straw bales, etc., where necessary to mitigate potential excessive erosion and sedimentation. Ensure any materials placed in floodline are free from silt and other such particles. Keep extra erosion and sediment control materials on site (e.g., heavy duty silt fencing, strawbales).
- Keep sediment and erosion control measures in place until disturbed areas have been stabilized (i.e., re-vegetated).
- Schedule grading to avoid times of high runoff volumes where possible. Temporarily suspend work during storm events to avoid excessive flows of sediment discharges.
- Direct discharged water to an appropriately sized energy dissipating outlet device to prevent erosion at the point of discharge.

Maintenance

- Maintain and repair permanent and temporary erosion and sediment control measures as needed to ensure continued performance of their intended function for the duration of the works.
- Remove temporary erosion and sediment control measures after the final site stabilization is achieved.
- Permanently stabilize disturbed soil resulting from removal of BMPs or vegetation.

Material Stockpiling and Handling

- Store any stockpiled materials away from water bodies to prevent deleterious substances from inadvertently discharging to the environment.
- Dispose of any waste material from construction activities by authorized and approved off-site vendors.

Grading and Excavation

- Minimize changes in land contours and natural drainage to maintain timing and quantity of flows.

Construction Timing Windows

- Time construction within 30 m of watercourses to avoid periods of habitat use to the extent possible. These timing windows are applied to protect fish from any works in and around water during spawning, migration and other critical life history stages. Construction timing windows are based on site specific criteria such as type of fish species present, thermal regime and fish spawning times (spring or fall). The generic restricted in-water work timing windows established by DFO are:
 - Fall Spawning Period – October 1st to May 31st
 - Spring Spawning Period – May 1st to July 15th
- Specific fisheries timing windows will be developed in co-operation with ABCA and UTRCA.

Isolated Crossing

- In-water works for permanent water bodies must occur in the dry via dry conditions and dam and pump method to maintain fish passage during in-water works. For intermittent water bodies, work is preferred to be completed in the dry and carried out during seasonally dry times or when the water body is frozen to the bottom.
- Develop and implement a fish rescue plan for dewatering areas. This will include appropriate sized end-of-pipe fish screen to prevent potential losses of fish due to entrainment or impingement as outlined in the DFO – Freshwater Intake End-of-Pipe Fish Screen Guideline.

Stream Flow

- Design and install culverts to prevent creation of barriers to fish movement and maintain bankfull channel functions.
- Design culverts to accommodate high flows of the watercourse.
- Embed the culvert below the streambed to maintain lateral flow.
- Install adequate gravel base to maintain flow of shallow groundwater.
- Locate crossings within straight sections of the stream, perpendicular to the bank. Avoid crossings on meander bends, braided streams and any other unstable areas.
- Use only clean material (i.e., rock or coarse gravel) for approaches to culverts.
- Regularly maintain culverts to ensure no debris build-up is impeding stream flow.

Water Quality

- Develop a spill response plan and train staff on associated procedures.
- Maintain emergency spill kits on site.
- Pass groundwater from dewatering activities (if required) through a sediment filtration system prior to being discharged to a watercourse.
- Control soil / water contamination through best management practices.
- Install a temporary storage basin to allow water to infiltrate, or use permanent stormwater management facilities as necessary for dewatering discharge.

Water Management

- Control rate and timing of water pumping; pump from deep wells to infiltration galleries adjacent to water bodies or wetlands.
- Control rate and timing of water pumping from surface water features.
- Control quantity and quality of surface water runoff using best management practices, and implement infiltration techniques to the extent possible.
- Restrict taking groundwater and surface water during drought conditions.
- Regulate the discharge of water-taking to ensure that there is no flooding in the downstream area and no soil erosion, or stream channel scouring is caused at the point of discharge. The water taker will use a discharge diffuser or other energy dissipation device, if necessary, to mitigate flows which physically alter the stream channel or banks.
- Install siltation control measures that are sufficient for the volumes pumped at both the taking location upstream of the construction site and (if necessary) the discharge site. All measures will be taken to properly maintain these control devices throughout the construction period.

Directional Drilling

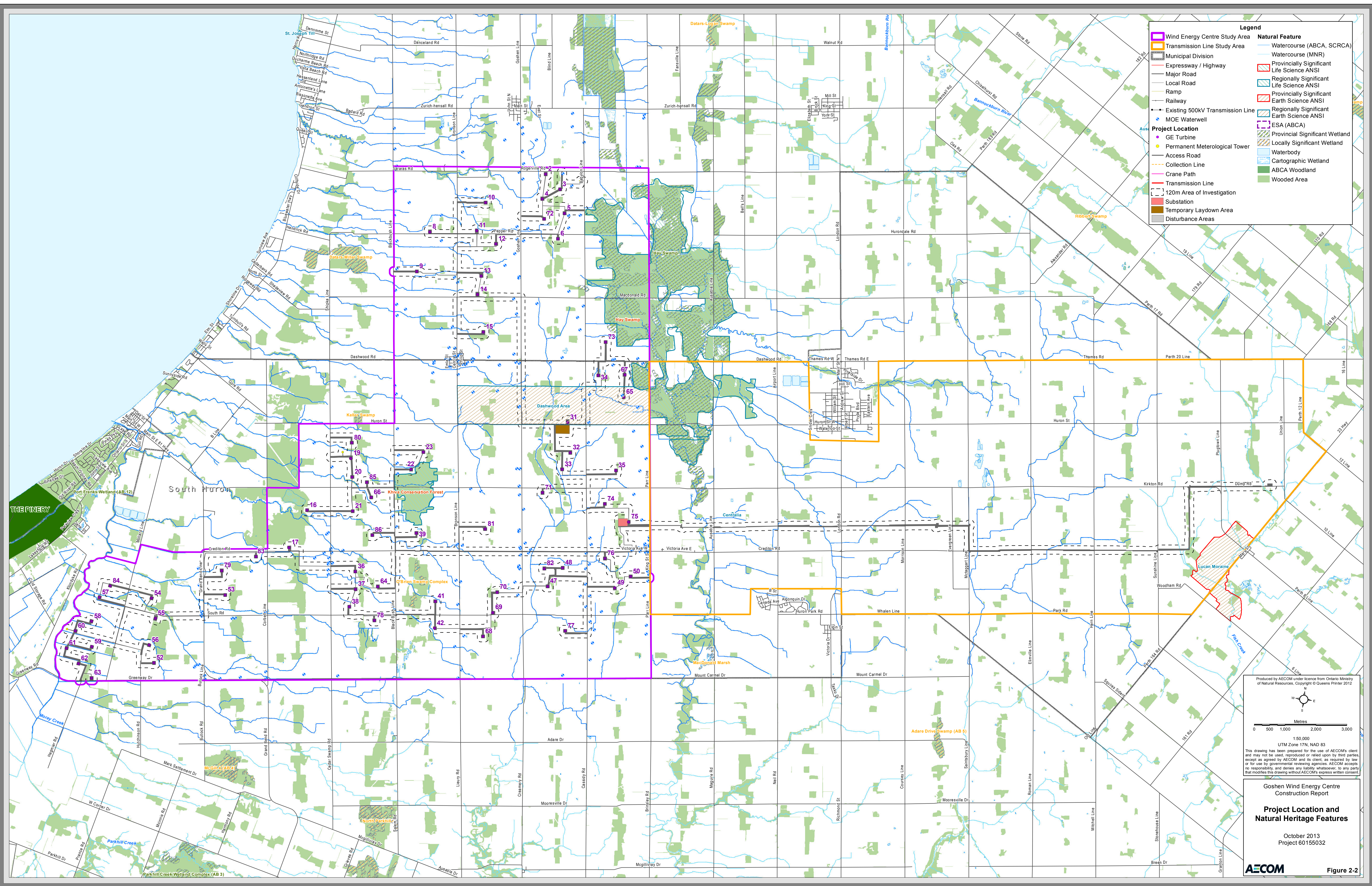
- Conduct all drilling by licensed drillers in accordance with Regulation 903 under *Ontario Water Resources Act*, R.S.O. 1990.
- Locate drill entry and exit pits at least 30 m from water bodies.
- Collect drill cuttings as they are generated, and place in a soil bin or bag for off-site disposal.
- Ensure drill depth is at an appropriate depth below the water body to reduce the risk of a 'frac-out'.
- Monitor water bodies for signs of surface disturbance.
- Develop a 'frac-out' contingency plan prior to the start of construction outlining protocols to monitor, contain and clean up a 'frac-out'.

Rehabilitation

- Re-vegetate and restore the turbine staging area following turbine installation with tiling (if desired by the owner).
- Restore and maintain vegetative buffers around water bodies including within the foundation footprint where possible.
- Restore & maintain vegetative buffers around water bodies including within the temporary construction areas.
- Keep vegetation removal to a minimum.
- Add suitable stream substrates (e.g., gravel or rip rap) to stabilize sediment and provide cover.

Appendix C

Revised Figures for the
Construction Plan Report



Legend

Wind Energy Centre Study Area	Watercourse (ABCA, SCRCA)
Transmission Line Study Area	Watercourse (MNR)
Municipal Division	Provincially Significant Life Science ANSI
Expressway / Highway	Regionally Significant Life Science ANSI
Major Road	Provincially Significant Earth Science ANSI
Local Road	Regionally Significant Earth Science ANSI
Ramp	ESA (ABCA)
Railway	Provincially Significant Wetland
Existing 500kV Transmission Line	Locally Significant Wetland
MOE Waterwell	Waterbody
GE Turbine	Cartographic Wetland
Permanent Meteorological Tower	ABCA Woodland
Access Road	Wooded Area
Collection Line	
Crane Path	
Transmission Line	
Substation	
Temporary Laydown Area	
Disturbance Areas	

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0 500 1,000 2,000 3,000
Metres

1:50,000

UTM Zone 17N, NAD 83

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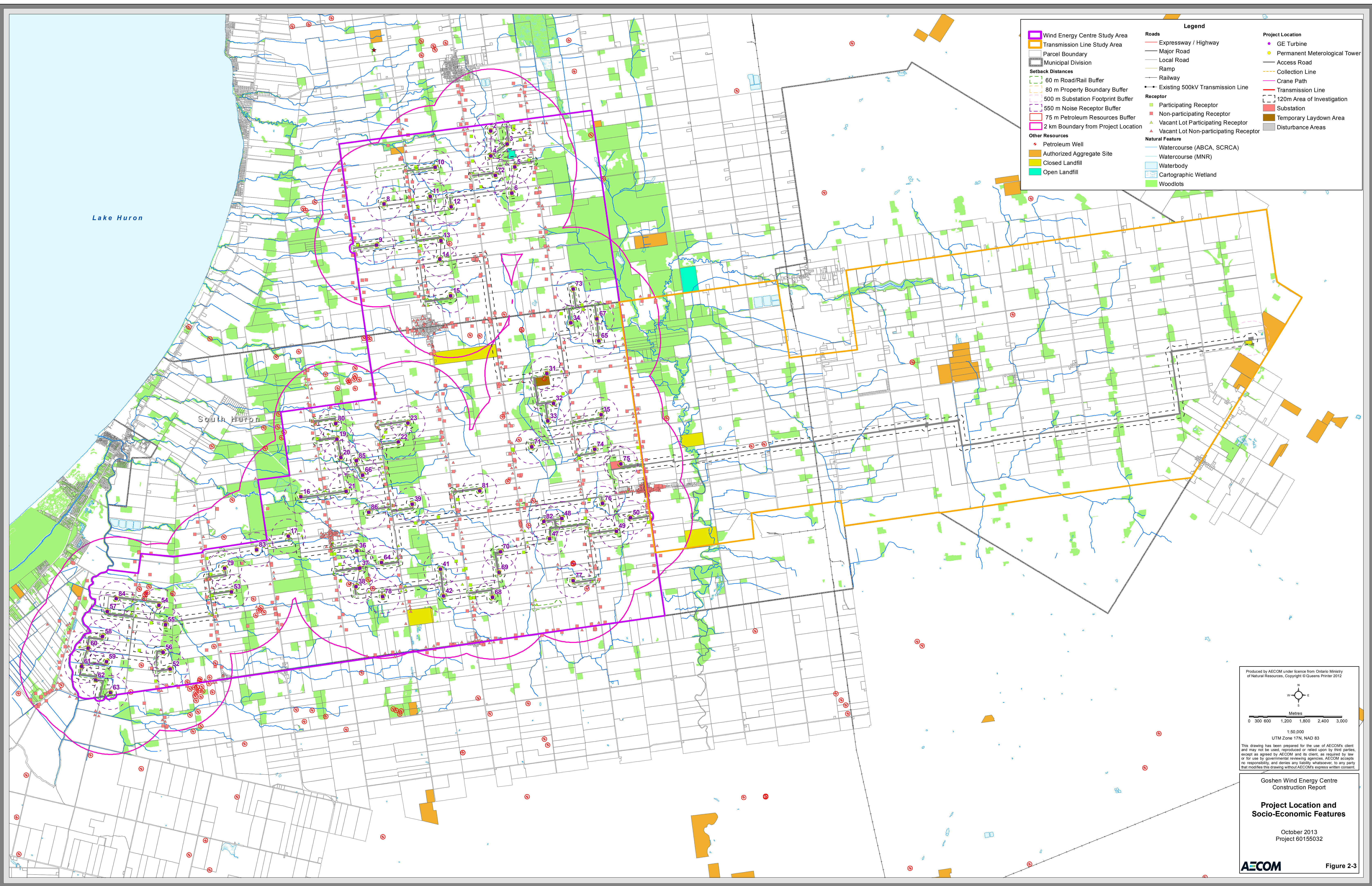
Goshen Wind Energy Centre
Construction Report

**Project Location and
Natural Heritage Features**

October 2013
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Figure 2-2



Legend

 Wind Energy Centre Study Area	 Expressway / Highway	● GE Turbine
 Transmission Line Study Area	 Major Road	● Permanent Meteorological Tower
 Parcel Boundary	 Local Road	 Access Road
 Municipal Division	 Ramp	 Collection Line
Setback Distances	 Railway	 Crane Path
 60 m Road/Rail Buffer	 Existing 500kV Transmission Line	 Transmission Line
 80 m Property Boundary Buffer	 Receptor	 120m Area of Investigation
 500 m Substation Footprint Buffer	 Participating Receptor	 Substation
 550 m Noise Receptor Buffer	 Non-participating Receptor	 Temporary Laydown Area
 75 m Petroleum Resources Buffer	 Vacant Lot Participating Receptor	 Disturbance Areas
 2 km Boundary from Project Location	 Vacant Lot Non-participating Receptor	
Other Resources	● Petroleum Well	
 Authorized Aggregate Site	 Watercourse (ABCA, SCRCA)	
 Closed Landfill	 Watercourse (MNR)	
 Open Landfill	 Waterbody	
	 Cartographic Wetland	
	 Woodlots	

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Metres
0 300 600 1,200 1,800 2,400 3,000

1:50,000
UTM Zone 17N, NAD 83

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Goshen Wind Energy Centre
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**Project Location and
Socio-Economic Features**

October 2013
Project 60155032

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