

Jericho Wind, Inc.

## **Revision to the Water Assessment and Water Body Report – Jericho Wind Energy Centre**

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## Glossary of Terms

NextEra .....	NextEra Energy Canada, ULC
The Project.....	Jericho Wind Energy Centre
REA.....	Renewable Energy Approval

# 1. Introduction

Jericho Wind, Inc. (Jericho) is proposing to construct a wind energy project in the Municipality of Lambton Shores and the Township of Warwick, in Lambton County, Ontario and in the Municipality of North Middlesex, in Middlesex 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 Water Assessment and Water Body Report.

## 1.1 The Proponent

The Project will be owned and operated by Jericho, 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 Lambton Shores and the Township of Warwick, in Lambton County, Ontario and in the Municipality of North Middlesex, in Middlesex 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:

**UTM Co-ordinates**

Easting	Northing
420938	4761752
419681	4780912
456597	4777307
453312	4766484

## 2. Proposed Project Modifications

Jericho 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;
- Infrastructure or construction disturbance area added or changed to optimize project design/constructability;
- 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 <i>(related to Water Bodies)</i>	New Mitigation Measures <i>(related to Water Bodies)</i> <sup>1</sup>
A1	Addition of Turbine 106 and associated access road and collection line, extending northeast from Turbine 4.	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability.	<p>Water body present within 120 m buffer of turbine and infrastructure (Feature ID R4.16-D).</p> <p><b>Turbine</b></p> <ul style="list-style-type: none"> <li>• Increase to surface water temperature from reduced groundwater contribution if dewatering activities are required for excavation of turbine foundations.</li> <li>• Increase to streamflows 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.</li> <li>• Increased erosion, sedimentation and turbidity in watercourse from clearing and grubbing on adjacent lands for construction of turbine, pad and turnaround area.</li> <li>• Soil compaction, which may result in hardening of surfaces and increased runoff into watercourses.</li> <li>• Release / discharge of runoff from the construction area, which has the potential to transport sediment and nutrients into the watercourse.</li> <li>• Soil/water contamination by oils, grease and other materials from accidental spills and release of contaminants from construction equipment.</li> <li>• Increase in impervious surfaces from presence of turbine foundation, resulting in increased water temperatures, increased surface runoff and stream peak flows, and reduced infiltration, base flows and upwelling.</li> </ul> <p><b>Access Road</b></p> <ul style="list-style-type: none"> <li>• Increased erosion, sedimentation and turbidity from clearing and grubbing for construction of access roads.</li> <li>• Soil/water contamination by oils, grease and other materials from construction equipment.</li> <li>• Release / discharge of runoff from the construction area, which has the potential to transport sediment and nutrients into the watercourse.</li> <li>• Reduction of streamflow due to the withdrawal of surface water for construction activities such as dust suppression, equipment washing and land reclamation (e.g., hydroseeding).</li> <li>• Increase in impervious surfaces from presence of access road, resulting in increased water temperatures, increased surface runoff and stream peak flows, and reduced infiltration, base flows and upwelling.</li> </ul> <p><b>Collection Line</b></p> <ul style="list-style-type: none"> <li>• Soil / water contamination by oils, gasoline, grease and other materials from accidental spills and release of contaminants from equipment.</li> <li>• Release / discharge of runoff from the construction area, which has the potential to transport sediment and nutrients into the watercourse.</li> </ul>	<p><b>Turbine</b></p> <ul style="list-style-type: none"> <li>• Timing windows</li> <li>• Erosion and sediment control</li> <li>• Grading and excavation</li> <li>• Material stockpiling and handling</li> </ul> <p><b>Access Road</b></p> <ul style="list-style-type: none"> <li>• Timing Windows</li> <li>• Erosion and sediment control</li> <li>• Grading and excavation</li> <li>• Equipment use</li> <li>• Material stockpiling and handling</li> </ul> <p><b>Collection Line</b></p> <ul style="list-style-type: none"> <li>• Equipment use</li> <li>• Erosion and sediment control</li> </ul>
A2	Relocation of access road to Turbine 4 to travel northeast from Jericho Road, and relocation of collection line to Turbine 4 near Kennedy Line.	Construction disturbance area modified to reduce or eliminate impacts to archaeological resources.	No new effects identified.	n/a
A3	Relocation of access road and collection line to Turbine 6 to travel west from Northville Road and then north to Turbine 6; relocation of Turbine 6 construction disturbance area to the north.	Construction disturbance area modified to reduce or eliminate impacts to archaeological resources.	None – no water bodies identified in the new 120 m infrastructure buffer.	n/a
A4	Relocation of Turbine 19 construction disturbance area 19 m to the southwest and addition of access road construction disturbance area near Jericho Road.	Construction disturbance area modified to reduce or eliminate impacts to archaeological resources.	No new effects identified.	n/a
A5	Removal of access road and collection line to Turbine 24, addition of access road disturbance area between Turbine 22 and Turbine 24 and relocation of collection line to the access road disturbance area for Turbine 22.	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability.	<p>2 road crossings on the water body instead of 1(Feature ID R4.33-B). The potential environmental effects on the water body present in 120 m buffer and new access road crossing are listed below.</p> <p><b>Access Road</b></p> <ul style="list-style-type: none"> <li>• Obstruction of lateral flows in watercourses from water crossings.</li> <li>• Temporary disruption of substrates/habitat at locations where in-water work is required (culvert installations).</li> <li>• Degradation of fish habitat from culvert installation.</li> <li>• Increased erosion, sedimentation and turbidity from clearing and grubbing for construction of access roads.</li> <li>• Soil/water contamination by oils, grease and other materials from construction equipment.</li> <li>• Release / discharge of runoff from the construction area, which has the potential to transport sediment and nutrients into the watercourse.</li> <li>• Reduction of streamflow due to the withdrawal of surface water for construction activities such as dust suppression, equipment washing and land reclamation (e.g., hydroseeding).</li> <li>• Increase in impervious surfaces from presence of access road, resulting in increased water temperatures, increased surface runoff and stream peak flows, and reduced infiltration, base flows and upwelling.</li> <li>• Soil/water contamination by oils, grease and other materials from maintenance activities.</li> <li>• Obstruction of lateral flows in watercourses and other water bodies due to design of culverts and debris build-up at water crossings.</li> </ul>	<p><b>Access Road</b></p> <ul style="list-style-type: none"> <li>• Culvert Design</li> <li>• Isolated crossing</li> <li>• Timing Windows</li> <li>• Erosion and sediment control</li> <li>• Grading and excavation</li> <li>• Equipment use</li> <li>• Material stockpiling and handling</li> <li>• Water quality</li> <li>• Water management</li> <li>• Rehabilitation</li> </ul>

<sup>1</sup> 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**

<b>Label on Figure 2-1</b>	<b>Proposed Modification</b>	<b>Rationale for Proposed Modification</b>	<b>New Potential Environmental Effects (related to Water Bodies)</b>	<b>New Mitigation Measures (related to Water Bodies)<sup>1</sup></b>
<b>A6</b>	Removal of a portion of construction disturbance area for access road and collection line to Turbines 21, 23 and 25.	Construction disturbance area modified to reduce or eliminate impacts to archaeological resources.	No new effects identified.	n/a
<b>A7</b>	Removal of Turbine 5 and associated access road and collection line.	Turbine and associated infrastructure removed.	None – removal of turbine and infrastructure.	n/a
<b>B1</b>	Relocation of Turbine 7 and associated construction disturbance area 148 m to the east.	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability.	No new effects identified.	n/a
<b>B2</b>	Addition of collection line in Gordon Road right-of-way, north of the road to Turbine 27.	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability.	Water body present in 120 m buffer of collection line and within collection line crossing (Feature ID R3-C-1). <b>Collection Line</b> <ul style="list-style-type: none"> <li>• Release of pressurized drilling fluids into watercourses from fractures in substrate (also known as a 'frac-out').</li> <li>• Change to groundwater flow patterns which may affect groundwater discharge to watercourses.</li> <li>• Increase in erosion and sedimentation from the entry and exit drill holes required for the directional drilling activities. This will require clearing and grubbing of the land and removal of substrates from the drill hole.</li> <li>• Soil / water contamination by oils, gasoline, grease and other materials from accidental spills and release of contaminants from equipment.</li> <li>• Release / discharge of runoff from the construction area, which has the potential to transport sediment and nutrients into the watercourse.</li> </ul>	<b>Collection Line</b> <ul style="list-style-type: none"> <li>• Directional drilling</li> <li>• Water quality</li> <li>• Water management</li> <li>• Erosion and sediment control</li> </ul>
<b>B3</b>	Removal of Turbine 31 and associated access road and collection line.	Turbine and associated infrastructure removed.	None – removal of turbine and infrastructure.	
<b>B4</b>	Addition of Turbine 32 construction disturbance area 34 m to the north and removal of the southeast portion of construction disturbance area.	Construction disturbance area modified to reduce or eliminate impacts to archaeological resources.	None – no water bodies identified in the new 120 m infrastructure buffer.	
<b>C1</b>	Relocation of Turbine 26 and associated construction disturbance area 101 m east. Access road relocated to travel north through the substation construction disturbance area and collection line relocated to the southern property boundary; and addition of construction disturbance area in Thompson Line right-of-way.	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability.	Water body present in 120 m buffer of access road, and 120 m buffer of collection line and collection line crossing (Feature ID R4.16-A). <b>Access Road</b> <ul style="list-style-type: none"> <li>• Increased erosion, sedimentation and turbidity from clearing and grubbing for construction of access road.</li> <li>• Soil/water contamination by oils, grease and other materials from construction equipment.</li> <li>• Release / discharge of runoff from the construction area, which has the potential to transport sediment and nutrients into the watercourse.</li> <li>• Reduction of streamflow due to the withdrawal of surface water for construction activities such as dust suppression, equipment washing and land reclamation (e.g., hydroseeding).</li> <li>• Increase in impervious surfaces from presence of access road, resulting in increased water temperatures, increased surface runoff and stream peak flows, and reduced infiltration, base flows and upwelling.</li> <li>• Soil/water contamination by oils, grease and other materials from maintenance activities.</li> </ul> <b>Collection Line</b> <ul style="list-style-type: none"> <li>• Release of pressurized drilling fluids into watercourses from fractures in substrate (also known as a 'frac-out').</li> <li>• Change to groundwater flow patterns which may affect groundwater discharge to watercourses.</li> <li>• Increase in erosion and sedimentation from the entry and exit drill holes required for the directional drilling activities. This will require clearing and grubbing of the land and removal of substrates from the drill hole.</li> <li>• Soil / water contamination by oils, gasoline, grease and other materials from accidental spills and release of contaminants from equipment.</li> <li>• Release / discharge of runoff from the construction area, which has the potential to transport sediment and nutrients into the watercourse.</li> </ul>	<b>Access Road</b> <ul style="list-style-type: none"> <li>• Timing windows</li> <li>• Erosion and sediment control</li> <li>• Grading and excavation</li> <li>• Equipment use</li> <li>• Material stockpiling and handling</li> <li>• Water quality</li> <li>• Water management</li> </ul> <b>Collection Line</b> <ul style="list-style-type: none"> <li>• Directional drilling</li> <li>• Water quality</li> <li>• Water management</li> <li>• Erosion and sediment control</li> </ul>
<b>C2</b>	Relocation of access road to Turbine 18 31 m to the north.	Construction disturbance area modified to reduce or eliminate impacts to archaeological resources.	None – no water bodies identified in the new 120 m infrastructure buffer.	n/a
<b>C3</b>	Addition of construction disturbance area for access road and collection line to Turbine 41.	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability.	No new effects identified.	n/a
<b>C4</b>	Addition of a spare 170 mVA transformer to be stored within the existing footprint of the Jericho substation.	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability.	No new effects identified.	n/a
<b>D1</b>	Addition of construction disturbance area in the Northville Road right-of-way in two locations for collection line between Turbines 45 and 46.	New infrastructure or construction disturbance area added or changed to optimize project design/ constructability.	None – no water bodies identified in the new 120 m infrastructure buffer.	
<b>D2</b>	Removal of a portion of construction disturbance area for access road and collection line to Turbine 56.	Construction disturbance area modified to reduce or eliminate impacts to archaeological resources.	No new effects identified.	n/a

**Table 2-1 Summary of Project Modifications**

Label on Figure 2-1	Proposed Modification	Rationale for Proposed Modification	New Potential Environmental Effects <i>(related to Water Bodies)</i>	New Mitigation Measures <i>(related to Water Bodies)<sup>1</sup></i>
D3	Relocation of Turbine 46 access road to travel north from Cedar Point Line and collection to travel east along the southern property boundary; and addition of construction disturbance area for collection line in the Northville Road right-of-way.	Construction disturbance area modified to reduce or eliminate impacts to archaeological resources.	<p>Water body present in 120 m buffer for access road and collection line (Feature ID R4E and R4D).</p> <p><b>Access Road</b></p> <ul style="list-style-type: none"> <li>Increased erosion, sedimentation and turbidity from clearing and grubbing for construction of access road.</li> <li>Soil/water contamination by oils, grease and other materials from construction equipment.</li> <li>Release / discharge of runoff from the construction area, which has the potential to transport sediment and nutrients into the watercourse.</li> <li>Reduction of streamflow due to the withdrawal of surface water for construction activities such as dust suppression, equipment washing and land reclamation (e.g., hydroseeding).</li> <li>Increase in impervious surfaces from presence of access road, resulting in increased water temperatures, increased surface runoff and stream peak flows, and reduced infiltration, base flows and upwelling.</li> </ul> <p><b>Collection Line</b></p> <ul style="list-style-type: none"> <li>Increase in erosion and sedimentation from the entry and exit drill holes required for the directional drilling activities. This will require clearing and grubbing of the land and removal of substrates from the drill hole.</li> <li>Soil / water contamination by oils, gasoline, grease and other materials from accidental spills and release of contaminants from equipment.</li> <li>Release / discharge of runoff from the construction area, which has the potential to transport sediment and nutrients into the watercourse.</li> </ul>	<p><b>Access Road</b></p> <ul style="list-style-type: none"> <li>Erosion and sediment control</li> <li>Grading and excavation</li> <li>Equipment use</li> <li>Material stockpiling and handling</li> <li>Water quality</li> <li>Timing windows</li> <li>Water management</li> </ul> <p><b>Collection Line</b></p> <ul style="list-style-type: none"> <li>Erosion and sediment control</li> <li>Water management</li> <li>Equipment use</li> <li>Water quality</li> </ul>
D4	Addition of Turbine 112 and associated access road and collection line, extending south from Turbine 59.	New infrastructure or construction disturbance area added or changed to optimize project design/ constructability.	None – no water bodies identified in the new 120 m infrastructure buffer.	n/a
D5	Addition of construction disturbance area on private property to the north of Thomson Line to allow for installation of collection line and/or transmission line.	New infrastructure or construction disturbance area added or changed to optimize project design/ constructability.	None – no water bodies identified in the new 120 m infrastructure buffer.	n/a
D6	Addition of transmission line construction disturbance area on private property to allow for transmission line installation either in the Thomson Line right-of-way or on private property, within the disturbance area proposed to host collection line.	New infrastructure or construction disturbance area added or changed to optimize project design/ constructability.	No new effects identified.	n/a
D7	Addition of collection line disturbance area on private property to allow for collection line installation either in the Thomson Line right-of-way or on private property, within the disturbance area proposed to host the transmission line.	New infrastructure or construction disturbance area added or changed to optimize project design/ constructability.	No new effects identified.	n/a
D8	Addition of collection line disturbance area on private property to allow for collection line installation either in the Thomson Line right-of-way or on private property, within the disturbance area proposed to host the transmission line.	New infrastructure or construction disturbance area added or changed to optimize project design/ constructability.	None – no water bodies identified in the new 120 m infrastructure buffer.	n/a
D9	Addition of collection line disturbance area on private property to allow for collection line installation either in the Thomson Line right-of-way or on private property, within the disturbance area proposed to host the transmission line.	New infrastructure or construction disturbance area added or changed to optimize project design/ constructability.	No new effects identified.	n/a
D10	Relocation of transmission line construction disturbance area within natural areas located in the Thomson Line right-of-way.	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability.	No new effects identified.	n/a
E1	Removal of Turbine 77 and associated access road and collection line / Removal and addition of portions of construction disturbance area for access road and collection line to Turbines 78, 79 and 107.	Turbine and associated infrastructure removed / Construction disturbance area modified to reduce or eliminate impacts to archaeological resources.	No new effects identified.	n/a
E2	Addition of Turbine 107 and associated access road and collection line, extending south from Turbine 79.	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability.	None – no water bodies identified in the new 120 m infrastructure buffer.	n/a
E3	Relocation of Turbine 79 23 m to the east, within existing turbine construction disturbance area.	Construction disturbance area modified to reduce or eliminate impacts to archaeological resources.	No new effects identified.	n/a
E4	Addition of construction disturbance area on private property to the north of Thomson Line to allow for installation of collection line and/or transmission line.	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability.	None – no water bodies identified in the new 120 m infrastructure buffer.	n/a
E5	Relocation of transmission line construction disturbance area within natural areas located in the Thomson Line road right-of-way.	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability.	None – no water bodies identified in the new 120 m infrastructure buffer.	n/a
E6	Relocation of transmission line construction disturbance area within natural areas located in the Thomson Line/Elginfield Road right-of-way.	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability.	None – no water bodies identified in the new 120 m infrastructure buffer.	n/a



Table 2-1 Summary of Project Modifications

Label on Figure 2-1	Proposed Modification	Rationale for Proposed Modification	New Potential Environmental Effects (related to Water Bodies)	New Mitigation Measures (related to Water Bodies) <sup>1</sup>
F1	Removal of a portion of construction disturbance area for access road and collection line to Turbine 43.	Construction disturbance area modified to reduce or eliminate impacts to archaeological resources.	No new effects identified.	n/a
F2	Relocation of Turbine 44 access road 32 m to the west.	Construction disturbance area modified to reduce or eliminate impacts to archaeological resources.	No new effects identified.	n/a
F3	Relocation of Turbine 90 access road and collection line to the north, extending to Townsend Line and addition of collection line in the Townsend Line right-of-way.	Construction disturbance area modified to reduce or eliminate impacts to archaeological resources.	None – no water bodies identified in the new 120 m infrastructure buffer.	n/a
F4	Addition of Turbine 91 construction disturbance area 17 m to the west.	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability.	No new effects identified.	n/a
F5	Removal of a portion of construction disturbance area for access road and collection line to Turbine 92.	Construction disturbance area modified to reduce or eliminate impacts to archaeological resources.	No new effects identified.	n/a
F6	Removal of a portion of construction disturbance area for access road and collection line to Turbines 96 and 97.	Construction disturbance area modified to reduce or eliminate impacts to archaeological resources.	No new effects identified.	n/a
G1	Addition of Turbine 62 construction disturbance area to the west and addition of collection line disturbance area in two locations in the Northville Road right-of-way.	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability.	No new effects identified.	n/a
G2	Removal of the road and collection line to Turbine 63 and addition of road and collection line, extending west from Turbine 64 to Turbine 63.	Construction disturbance area modified to reduce or eliminate impacts to archaeological resources.	None – no water bodies identified in the new 120 m infrastructure buffer.	n/a
G3	Removal of collection line construction disturbance area north of Birnam Line.	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability.	None – no water bodies identified in the new 120 m infrastructure buffer.	n/a
G4	Relocation of collection line between Turbines 76 and 75 20 m to the south.	Construction disturbance area modified to reduce or eliminate impacts to archaeological resources.	None – no water bodies identified in the new 120 m infrastructure buffer.	
G5	Relocation of Turbine 76 access road and collection line 134 m to the west.	Construction disturbance area modified to reduce or eliminate impacts to archaeological resources.	No new effects identified. Removal of water body from 120 m infrastructure buffer however, 2 ponds remain in 120 m buffer.	
G6	Addition of Turbine 109 and associated construction disturbance area, access road and collection line; addition of collection line in Hickory Creek Line right-of-way.	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability.	Water body present within 120 m buffer of turbine (Feature ID 9.29-F). <b>Turbine</b> <ul style="list-style-type: none"> <li>• Increase to surface water temperature from reduced groundwater contribution if dewatering activities are required for excavation of turbine foundations.</li> <li>• Increase to streamflows 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.</li> <li>• Increased erosion, sedimentation and turbidity in watercourse from clearing and grubbing on adjacent lands for construction of turbine, pad and turnaround area.</li> <li>• Soil compaction, which may result in hardening of surfaces and increased runoff into watercourses.</li> <li>• Release / discharge of runoff from the construction area, which has the potential to transport sediment and nutrients into the watercourse.</li> <li>• Soil/water contamination by oils, grease and other materials from accidental spills and release of contaminants from construction equipment.</li> <li>• Increase in impervious surfaces from presence of turbine foundation, resulting in increased water temperatures, increased surface runoff and stream peak flows, and reduced infiltration, base flows and upwelling.</li> </ul>	<b>Turbine</b> <ul style="list-style-type: none"> <li>• Timing windows</li> <li>• Erosion and sediment control</li> <li>• Grading and excavation</li> <li>• Material stockpiling and handling</li> </ul>
H1	Addition of Turbine 108 and associated construction disturbance area.	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability.	No new effects identified.	n/a
H2	Relocation of collection line from private property to Birnam Line right-of-way.	Construction disturbance area modified to reduce or eliminate impacts to archaeological resources.	None – no water bodies identified in the new 120 m infrastructure buffer.	n/a
I1	Relocation of Turbine 105 20 m to the south and addition of construction disturbance area.	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability.	No new effects identified.	n/a
J1	Removal of Turbine 2 and associated access road and collection line.	Turbine and associated infrastructure removed	None – removal of turbine and infrastructure.	n/a



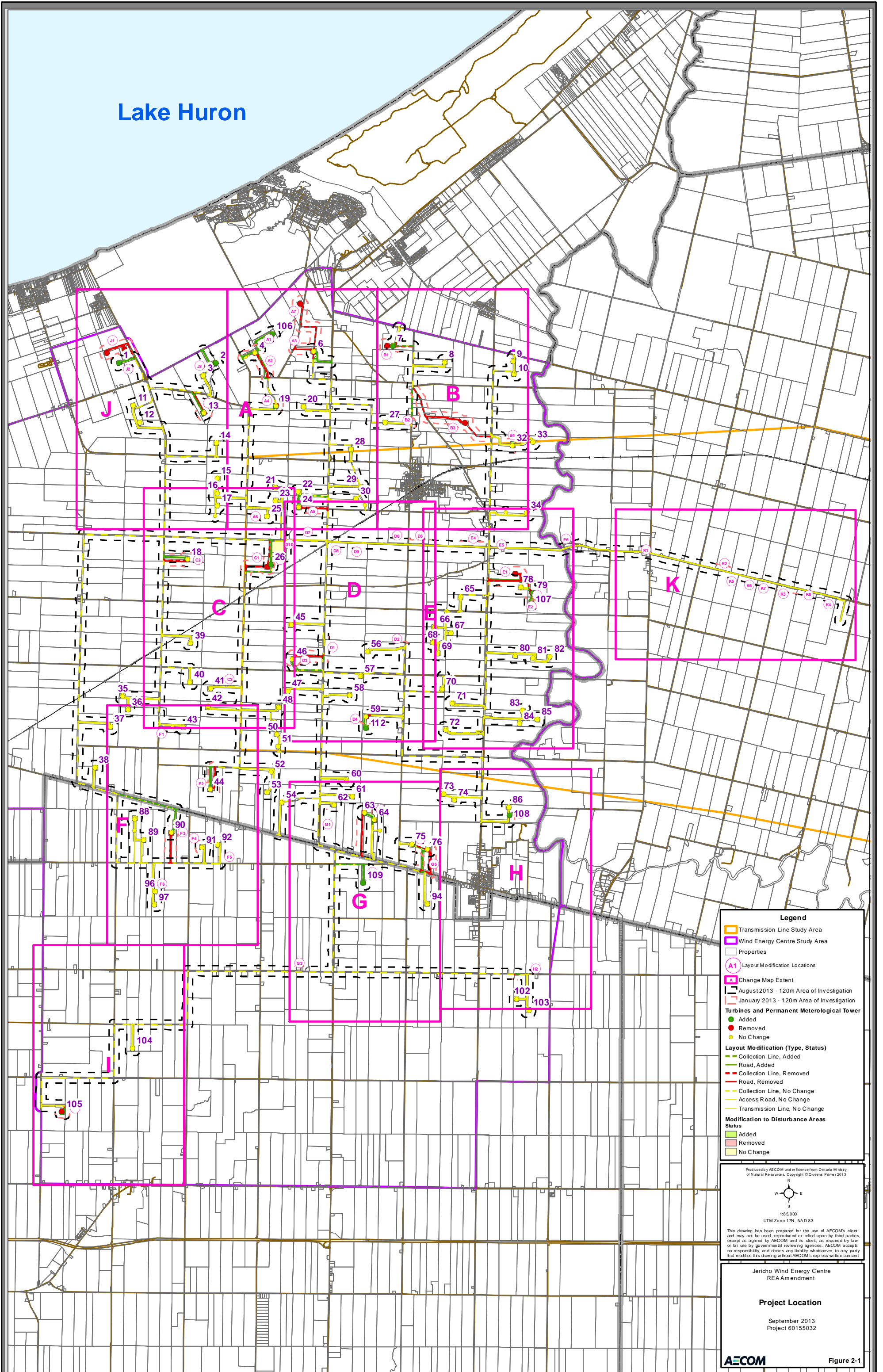
**Table 2-1 Summary of Project Modifications**

Label on Figure 2-1	Proposed Modification	Rationale for Proposed Modification	New Potential Environmental Effects <i>(related to Water Bodies)</i>	New Mitigation Measures <i>(related to Water Bodies)<sup>1</sup></i>
J2	Relocation of Turbine 1 and associated construction disturbance area, access road and collection line.	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability.	Water body present within 120 m buffer of turbine (Feature ID R5.8). <b>Turbine</b> <ul style="list-style-type: none"> <li>• Increase to surface water temperature from reduced groundwater contribution if dewatering activities are required for excavation of turbine foundations.</li> <li>• Increase to streamflows 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.</li> <li>• Increased erosion, sedimentation and turbidity in watercourse from clearing and grubbing on adjacent lands for construction of turbine, pad and turnaround area.</li> <li>• Soil compaction, which may result in hardening of surfaces and increased runoff into watercourses.</li> <li>• Release / discharge of runoff from the construction area, which has the potential to transport sediment and nutrients into the watercourse.</li> <li>• Soil/water contamination by oils, grease and other materials from accidental spills and release of contaminants from construction equipment.</li> <li>• Increase in impervious surfaces from presence of turbine foundation, resulting in increased water temperatures, increased surface runoff and stream peak flows, and reduced infiltration, base flows and upwelling.</li> </ul>	<b>Turbine</b> <ul style="list-style-type: none"> <li>• Timing windows</li> <li>• Erosion and sediment control</li> <li>• Grading and excavation</li> <li>• Material stockpiling and handling</li> </ul>
J3	Addition of Turbine 2 and associated construction disturbance area, access road and collection line.	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability.	Water body present within 120 m buffer of turbine (Feature ID R4-J). <b>Turbine</b> <ul style="list-style-type: none"> <li>• Increase to surface water temperature from reduced groundwater contribution if dewatering activities are required for excavation of turbine foundations .</li> <li>• Increase to streamflows 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.</li> <li>• Increased erosion, sedimentation and turbidity in watercourse from clearing and grubbing on adjacent lands for construction of turbine, pad and turnaround area.</li> <li>• Soil compaction, which may result in hardening of surfaces and increased runoff into watercourses.</li> <li>• Release / discharge of runoff from the construction area, which has the potential to transport sediment and nutrients into the watercourse.</li> <li>• Soil/water contamination by oils, grease and other materials from accidental spills and release of contaminants from construction equipment.</li> <li>• Increase in impervious surfaces from presence of turbine foundation, resulting in increased water temperatures, increased surface runoff and stream peak flows, and reduced infiltration, base flows and upwelling.</li> </ul>	<b>Turbine</b> <ul style="list-style-type: none"> <li>• Timing windows</li> <li>• Erosion and sediment control</li> <li>• Grading and excavation</li> <li>• Material stockpiling and handling</li> </ul>
J4	Relocation of Turbine 13 construction disturbance area 14 m southwest.	Construction disturbance area modified to reduce or eliminate impacts to archaeological resources.	No new effects identified.	n/a
K1	Relocation of transmission line construction disturbance area within natural areas located in the Elginfield Road right-of-way.	New infrastructure or construction disturbance area added or changed to optimize project design/ constructability.	None – no water bodies identified in the new 120 m infrastructure buffer.	n/a
K2	Addition of transmission line of construction disturbance area on private property to the north of Elginfield Road, east of Pete Sebe Road.	New infrastructure or construction disturbance area added or changed to optimize project design/ constructability.	None – no water bodies identified in the new 120 m infrastructure buffer.	n/a
K3	Addition of transmission line construction disturbance area on private property to the south of Elginfield Road, east of Roddick Road.	New infrastructure or construction disturbance area added or changed to optimize project design/ constructability.	No new effects identified.	n/a
K1	Relocation of transmission line construction disturbance area within natural areas located in the Elginfield Road right-of-way.	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability.	No new effects identified.	n/a
K2	Addition of transmission line of construction disturbance area on private property to the north of Elginfield Road, east of Pete Sebe Road.	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability.	No new effects identified.	n/a
K3	Addition of transmission line construction disturbance area on private property to the south of Elginfield Road, east of Roddick Road.	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability.	No new effects identified.	n/a
K4	Addition of transmission line construction disturbance area on private property to the south of Elginfield Road, west of Kerwood Road.	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability.	No new effects identified.	n/a
K5	Relocation of transmission line construction disturbance area within natural areas located in the Elginfield Road right-of-way.	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability.	No new effects identified.	n/a

**Table 2-1 Summary of Project Modifications**

<b>Label on Figure 2-1</b>	<b>Proposed Modification</b>	<b>Rationale for Proposed Modification</b>	<b>New Potential Environmental Effects (related to Water Bodies)</b>	<b>New Mitigation Measures (related to Water Bodies)<sup>1</sup></b>
<b>K6</b>	Relocation of transmission line construction disturbance area within natural areas located in the Elginfield Road right-of-way.	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability.	No new effects identified.	n/a
<b>K7</b>	Relocation of transmission line construction disturbance area within natural areas located in the Elginfield Road right-of-way.	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability.	No new effects identified.	n/a
<b>K8</b>	Relocation of transmission line construction disturbance area within natural areas located in the Elginfield Road right-of-way.	Infrastructure or construction disturbance area added or changed to optimize project design/ constructability.	No new effects identified.	n/a

Lake Huron



**Legend**

- Transmission Line Study Area
- Wind Energy Centre Study Area
- Properties
- A1 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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UTM Zone 17N, NAD 83

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Jericho Wind Energy Centre  
REA Amendment

**Project Location**

September 2013  
Project 60155032

**AECOM**

Figure 2-1

### 3. Edits to the Water Assessment and Water Body Report

**Table 3-1** documents the edits to the Water Assessment and Water Body Report resulting from the modifications described above. 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. A summary table documenting the results of additional site investigations related to the modifications is included in **Appendix D**.



**Table 3-1 Edits to the Water Assessment and Water Body Report**

Section / Page	Original Text	Revised Text ( <u>Underlined</u> text represents additions and <del>strikethrough</del> text represents deletions)																								
Section 1.2 / page 3	<p>The proposed Project Location is shown on Figure 1-2, and includes the locations of the components of the Project listed below.</p> <ul style="list-style-type: none"> <li>97 GE 1.6-100 Wind Turbine generator locations and pad mounted step-up transformers (however, only approximately 92 turbines will ultimately be constructed);</li> </ul>	<p>The proposed Project Location is shown on Figure 1-2, and includes the locations of the components of the Project listed below.</p> <ul style="list-style-type: none"> <li><u>97</u> <del>99</del> GE 1.6-100 Wind Turbine generator locations and pad mounted step-up transformers (however, only approximately 92 turbines will ultimately be constructed);</li> </ul>																								
Section 1.2 / page 3	<p>The above mentioned Project components, with the exception of the common 115 kV transmission line from the Bornish switchyard to the PCC, are depicted in the Project Location figure below (please refer to <b>Appendix A</b> for the Water Assessment and Water Body Report for the Parkhill Interconnect Project).</p>	<p>The above mentioned Project components, with the exception of the common 115 kV transmission line from the Bornish switchyard to the PCC, are depicted in the Project Location figure below (please refer to <b>Appendix A</b> for the Water Assessment and Water Body Report for the Parkhill Interconnect Project).</p> <p><u>The location of access roads, entrances to the site, underground or overhead distribution or transmission facilities, and other project facilities, with the exception of turbines and substations, and/or any construction disturbance areas associated with the Facility, may be altered or moved by up to 20 metres from the locations specified in this Report, provided the appropriate Ministries have been consulted, including, the Ministry of Natural Resources and the Ministry of Tourism, Culture and Sport and the Renewable Energy Approvals Director of the Ministry of the Environment is satisfied with the proposed adjustments.</u></p>																								
Section 3.3 / page 26	<p>Data collected during the Records Review stage, in particular the NRVIS layer mapping overlaid with natural features mapping and the locations of project components, as well as air photo interpretation, determined that there were a total of 162 locations where the Project Location overlapped with a water body or potential water body.</p> <p>Of these 162 sites, 136 locations were identified as potential permanent or intermittent streams within the Project Location, while the remaining 26 sites were identified as potential ponds. These were included in the mapping for site investigations as it is important to assess their current ecological function and to determine whether they meet the criteria for REA water body after field assessment. Therefore a total of 162 sites were carried forward to field investigations as shown in Table 3-11.</p>	<p>Data collected during the Records Review stage, in particular the NRVIS layer mapping overlaid with natural features mapping and the locations of project components, as well as air photo interpretation, determined that there were a total of <del>162</del> <u>166</u> locations where the Project Location overlapped with a water body or potential water body.</p> <p>Of these <del>162</del> <u>166</u> sites, <del>136</del> <u>139</u> locations were identified as potential permanent or intermittent streams within the Project Location, while the remaining <del>26</del> <u>27</u> sites were identified as potential ponds. These were included in the mapping for site investigations as it is important to assess their current ecological function and to determine whether they meet the criteria for REA water body after field assessment. Therefore a total of <del>162</del> <u>166</u> sites were carried forward to field investigations as shown in Table 3-11.</p>																								
Section 3.3 / page 26	<p>Table 3-11</p> <table border="1" data-bbox="351 883 1516 923"> <tr> <td><b>Within 120 m of the average annual high water mark of a permanent or intermittent stream</b></td> <td><b>162</b></td> </tr> </table>	<b>Within 120 m of the average annual high water mark of a permanent or intermittent stream</b>	<b>162</b>	<p>Table 3-11</p> <table border="1" data-bbox="1675 883 2837 923"> <tr> <td><b>Within 120 m of the average annual high water mark of a permanent or intermittent stream</b></td> <td><b><u>162</u></b></td> </tr> </table>	<b>Within 120 m of the average annual high water mark of a permanent or intermittent stream</b>	<b><u>162</u></b>																				
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Section 4.4.2, Table 4-2/ page 33		*addition of 4 Site investigation tables, see <b>Appendix C</b>																								
Section 4.4.2/page 227	<p>A total of 194 features were assessed during the water body assessment. Of these, there were a total of 116 features that were determined to be REA water bodies, classified as High, Moderate and Low sensitivity and will be carried forward to the Effects Assessment. The remaining 78 features were classified as non-REA water bodies and were not carried forward to the Effects Assessment. The majority of features classified as non-REA were found to be tiled or buried watercourses and ponds that were dugout and/or man-made. Of the 78 non-REA features, 36 are tiled, grassed waterways, or temporarily channels for surface drainage, 22 of which will be crossed by collection lines and 17 that will be crossed by access roads</p>	<p>A total of <del>194</del> <u>198</u> features were assessed during the water body assessment. Of these, there were a total of <del>116</del> <u>119</u> features that were determined to be REA water bodies, classified as High, Moderate and Low sensitivity and will be carried forward to the Effects Assessment. The remaining <del>78</del> <u>79</u> features were classified as non-REA water bodies and were not carried forward to the Effects Assessment. The majority of features classified as non-REA were found to be tiled or buried watercourses and ponds that were dugout and/or man-made. Of the <del>78</del> <u>79</u> non-REA features, 36 are tiled, grassed waterways, or temporarily channels for surface drainage, 22 of which will be crossed by collection lines and 17 that will be crossed by access roads</p>																								
Section 4.4.3/page 227	<p>Alternative site investigations were conducted for 104 features, with physical site investigations being conducted at 89 locations (access to roadside or adjacent properties), and 15 site assessments using air photo interpretation. These Alternative Site Investigations were completed as land access to all or partial number of land parcels required to complete the full water body assessment was not granted. <b>Appendix F</b> provides a summary of the Alternative Site Investigations conducted for the Jericho Wind Energy Centre</p>	<p>Alternative site investigations were conducted for <del>104</del> <u>106</u> features, with physical site investigations being conducted at <del>89</del> <u>91</u> locations (access to roadside or adjacent properties), and 15 site assessments using air photo interpretation. These Alternative Site Investigations were completed as land access to all or partial number of land parcels required to complete the full water body assessment was not granted. <b>Appendix F</b> provides a summary of the Alternative Site Investigations conducted for the Jericho Wind Energy Centre</p>																								
Section 4.5/page 227	<p>A total of 32 new features were identified after site investigations, of these 27 were pond features and 5 were new watercourses</p>	<p>A total of <del>32</del> <u>33</u> new features were identified after site investigations, of these <del>27</del> <u>28</u> were pond features and 5 were new watercourses</p>																								
Section 4.6/page 227-228	<p>A total of 162 potential water bodies (26 ponds, 136 watercourses) were identified in the vicinity of the Project Location during the Records Review and carried forward to Site Investigations. During site investigations, 32 additional features were found identified and assessed for a total of 194 features.</p> <p>Of the 194 features investigated:</p> <ul style="list-style-type: none"> <li>78 were identified as non-REA water bodies because they did not fit the REA definition of a water body as outlined in Section 1.3 of this report.</li> <li>A total of 116 features were carried forward to the Effects Assessment. This is summarized below in Table 4-3.</li> </ul>	<p>A total of <del>162</del> <u>166</u> potential water bodies (<del>26</del> <u>27</u> ponds, <del>136</del> <u>139</u> watercourses) were identified in the vicinity of the Project Location during the Records Review and carried forward to Site Investigations. During site investigations, 32 additional features were found identified and assessed for a total of <del>194</del> <u>198</u> features.</p> <p>Of the <del>194</del> <u>198</u> features investigated:</p> <ul style="list-style-type: none"> <li><del>78</del> <u>79</u> were identified as non-REA water bodies because they did not fit the REA definition of a water body as outlined in Section 1.3 of this report.</li> <li>A total of <del>116</del> <u>119</u> features were carried forward to the Effects Assessment. This is summarized below in Table 4-3.</li> </ul>																								
Section 4.6/page 228	<p><b>Table 4-3 Summary of Water Bodies in the Project Study Area Confirmed through Site Investigations and Carried Forward to Effects Assessment</b></p> <table border="1" data-bbox="453 1641 1572 1830"> <thead> <tr> <th>Process stage</th> <th>Number of Water Bodies</th> </tr> </thead> <tbody> <tr> <td>Features identified through Records Review</td> <td>162</td> </tr> <tr> <td>Additional features identified through site investigations</td> <td>32</td> </tr> <tr> <td>Total sites visited for field investigations</td> <td>=194</td> </tr> <tr> <td>Features identified as non-REA water bodies</td> <td>(79)</td> </tr> <tr> <td>Features identified as REA water bodies carried forward to Effects Assessment</td> <td>=116</td> </tr> </tbody> </table>	Process stage	Number of Water Bodies	Features identified through Records Review	162	Additional features identified through site investigations	32	Total sites visited for field investigations	=194	Features identified as non-REA water bodies	(79)	Features identified as REA water bodies carried forward to Effects Assessment	=116	<p><b>Table 4-3 Summary of Water Bodies in the Project Study Area Confirmed through Site Investigations and Carried Forward to Effects Assessment</b></p> <table border="1" data-bbox="1780 1641 2899 1830"> <thead> <tr> <th>Process stage</th> <th>Number of Water Bodies</th> </tr> </thead> <tbody> <tr> <td>Features identified through Records Review</td> <td><del>162</del> <u>166</u></td> </tr> <tr> <td>Additional features identified through site investigations</td> <td>32</td> </tr> <tr> <td>Total sites visited for field investigations</td> <td>=<del>194</del> <u>198</u></td> </tr> <tr> <td>Features identified as non-REA water bodies</td> <td>(79)</td> </tr> <tr> <td>Features identified as REA water bodies carried forward to Effects Assessment</td> <td>=<del>116</del> <u>119</u></td> </tr> </tbody> </table>	Process stage	Number of Water Bodies	Features identified through Records Review	<del>162</del> <u>166</u>	Additional features identified through site investigations	32	Total sites visited for field investigations	= <del>194</del> <u>198</u>	Features identified as non-REA water bodies	(79)	Features identified as REA water bodies carried forward to Effects Assessment	= <del>116</del> <u>119</u>
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**Table 3-1 Edits to the Water Assessment and Water Body Report**

Section / Page	Original Text	Revised Text ( <u>Underlined</u> text represents additions and <del>strikethrough</del> text represents deletions)																		
Section 4.6/page 228	<p>With regard to the location of the Project Components in relation to the 116 REA water bodies:</p> <ul style="list-style-type: none"> <li>• 25 are located within 120 m of a wind turbine;</li> <li>• 62 are crossed by a collection line, with an additional 25 located within 120 m of a collection line;</li> <li>• 19 are crossed by an access road, with an additional 24 located within 120 m of an access road;</li> <li>• 19 are crossed by overhead wires for a transmission line and 8 are located within 120 m of the transmission line;</li> <li>• 2 are located within 120 m of the substation and laydown area; and,</li> <li>• 2 are located within 120 m of meteorological towers</li> </ul> <p>Please note that many of the 116 water bodies intersect more than one Project Component.</p>	<p>With regard to the location of the Project Components in relation to the <del>446</del> <u>119</u> REA water bodies:</p> <ul style="list-style-type: none"> <li>• <u>25</u> <del>27</del> are located within 120 m of a wind turbine;</li> <li>• <del>62</del> <u>64</u> are crossed by a collection line, with an additional <u>25</u> <del>28</del> located within 120 m of a collection line;</li> <li>• <u>49</u> <del>21</del> are crossed by an access road, with an additional <u>24</u> <del>28</del> located within 120 m of an access road;</li> <li>• <u>17</u> are crossed by overhead wires for a transmission line and <u>8</u> <del>10</del> are located within 120 m of the transmission line;</li> <li>• 2 are located within 120 m of the substation and laydown area; and,</li> <li>• 2 are located within 120 m of meteorological towers</li> </ul> <p>Please note that many of the <del>446</del> <u>119</u> water bodies intersect more than one Project Component.</p>																		
Section 5.2.1 / page 241	<p>Although Jericho Wind, Inc. is seeking an REA for up to 97 turbine locations, approximately 92 turbines are proposed to be constructed for the Project.</p>	<p>Although Jericho Wind, Inc. is seeking an REA for up to <del>97</del> <u>99</u> turbine locations, approximately 92 turbines are proposed to be constructed for the Project.</p>																		
Section 5.2.1 / page 242	<p>There are 25 water bodies located within 120 m of the Project Location for turbines (measured from the tip of blades (see Section 1.2 for further details)).</p>	<p>There are <del>25</del> <u>27</u> water bodies located within 120 m of the Project Location for turbines (measured from the tip of blades (see Section 1.2 for further details)).</p>																		
Section 5.2.2 / page 243	<p>In the Project Location, there are 19 water bodies that will require a watercourse crossing through installation of a culvert. There are 25 water bodies located within the 120 m buffer of an access road (Figure 4-2).</p>	<p>In the Project Location, there are <del>49</del> <u>21</u> water bodies that will require a watercourse crossing through installation of a culvert. There are 25 water bodies located within the 120 m buffer of an access road (Figure 4-2).</p>																		
Section 5.2.3 / page 244	<p>There are 62 locations where collection lines will be installed via horizontal directional drilling underneath water bodies. There are 26 additional water bodies located within the 120 m of collection lines (Figure 4-2).</p>	<p>There are <del>62</del> <u>64</u> locations where collection lines will be installed via horizontal directional drilling underneath water bodies. There are <del>26</del> <u>28</u> additional water bodies located within the 120 m of collection lines (Figure 4-2).</p>																		
Section 5.2.4 / page 246	<p>There are 19 water body crossings associated with the installation of the overhead transmission line and 8 additional water bodies located within 120 m of the transmission line (Figure 4-2).</p>	<p>There are <del>49</del> <u>17</u> water body crossings associated with the installation of the overhead transmission line and <del>8</del> <u>10</u> additional water bodies located within 120 m of the transmission line (Figure 4-2).</p>																		
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Construction and Decommissioning	Road Crossing	<ul style="list-style-type: none"> <li>• <b>Moderate Sensitivity</b> – R2.10-B, R3.22, R4-D, R4.16-B, R4.33-B, R4.8-B, R4.8-D, R4.25-B, R4.61-B, R5.8, R6.18-B, R6.18-D, R9.29-C, R9.29-D, R9.29-F</li> <li>• <b>Low Sensitivity</b> – R3.70, R4.36, R4.58, R8.10</li> </ul>																		
	Access Road and Associated Buffer	<p><u>Road Crossing</u></p> <ul style="list-style-type: none"> <li>• <b>Moderate Sensitivity</b> – R2.10-B, R3.22, R4-D, <u>R4-E, R4.16-A, R4.16-B, R4.16-D, R4.33-B, R4.8-B, R4.8-D, R4.25-B, R4.61-B, R5.8, R6.18-B, R6.18-D, R9.29-C, R9.29-D, R9.29-F</u></li> <li>• <b>Low Sensitivity</b> – R3.70, R4.36, R4.58, R8.10</li> </ul> <p><u>Within 120 m of an access road</u></p> <ul style="list-style-type: none"> <li>• <b>High Sensitivity</b> – <del>R2.18</del> <u>R2.73, P2.18</u></li> <li>• <b>Moderate Sensitivity</b> – R2.102, R2.76, R3-C, R3-D, R4-B, R4-C, R4-I, R4.11-B, R4.16-C, R4.25-A, R4.25-C, R4.31, R4.59, R4.8-E, R6-B, R6.20-A, R9-B</li> <li>• <b>Low</b> – R4-E, R4.22, R4.51, P3.44</li> </ul>																		
Operations	Road Crossing	<ul style="list-style-type: none"> <li>• <b>Moderate Sensitivity</b> – R2.10-B, R3.22, R4-D, R4.16-B, R4.33-B, R4.8-B, R4.8-D, R4.25-B, R4.61-B, R5.8, R6.18-B, R6.18-D, R9.29-C, R9.29-D, R9.29-F</li> <li>• <b>Low Sensitivity</b> – R3.70, R4.36, R4.58, R8.10</li> </ul>																		

**Table 3-1 Edits to the Water Assessment and Water Body Report**

Section / Page	Original Text			Revised Text ( <u>Underlined</u> text represents additions and <del>strikethrough</del> text represents deletions)														
	Activity	Project Component	Water Body Location and Sensitivity	Activity	Project Component	Water Body Location and Sensitivity												
Table 5-4/ page 257	Construction	Collection Line Crossing	<ul style="list-style-type: none"> <li>• <b>High Sensitivity</b> – R2.14</li> <li>• <b>Moderate Sensitivity</b> – R2.10-B, R2.131, R2.179, R2.186, R2.192, R2.27, R3-A, R3-B, R3-D, R3.28, R3.53, R3.22, R3.66, R4-C, R4-D, R4-F, R4-G, R4-H, R4.25-A, R4.25-B, R4.11-B, R4.16-B, R4.33-A, R4.33-B, R4.50, R4.8-A, R4.8-B, R4.8-D, R4.61-B, R4.61-C, R5, R5.8, R6.18-B, R6.18-C, R6.18-D, R6.20-B, R6-C, R8.12, R9.29-A, R9.29-B, R9.29-D, R9.29-F, R12.54-A, P6.3</li> <li>• <b>Low Sensitivity</b> – R2.140-B, R2.28, R2.281, R2.34, R3.38, R3.46, R3.70, R4-A, R4.36, R4.58, R4.61-A, R4.62, R4.8-C, R5.10, R8.10, R12.54-B</li> </ul>	Construction	Collection Line Crossing	<ul style="list-style-type: none"> <li>• <del>High Sensitivity</del> – <del>R2.14</del></li> <li>• <b>Moderate Sensitivity</b> – R2.10-B, R2.131, R2.179, R2.186, R2.192, <del>R2.27</del>, R3-A, R3-B, R3-D, R3.28, R3.53, R3.22, R3.66, R4-C, R4-D, R4-F, R4-G, R4-H, R4.25-A, R4.25-B, R4.11-B, <u>R4.16-A</u>, R4.16-B, R4.33-A, R4.33-B, R4.50, R4.8-A, R4.8-B, R4.8-D, R4.61-B, R4.61-C, R5, R5.8, R6.18-B, R6.18-C, R6.18-D, R6.20-B, R6-C, R8.12, R9.29-A, R9.29-B, R9.29-D, R9.29-F, R12.54-A, P6.3, <u>R3-C-1</u></li> <li>• <b>Low Sensitivity</b> – R2.140-B, R2.28, R2.281, R2.34, R3.38, R3.46, R3.70, R4-A, R4.36, R4.58, R4.61-A, R4.62, R4.8-C, R5.10, R8.10, R12.54-B</li> </ul>												
		Collection Line Crossing and Associated Buffer	<p><u>Collection Line Crossing</u></p> <ul style="list-style-type: none"> <li>• <b>High Sensitivity</b> – R2.14</li> <li>• <b>Moderate Sensitivity</b> – R2.10-B, R2.131, R2.179, R2.186, R2.192, R2.27, R3-A, R3-B, R3-D, R3.28, R3.53, R3.22, R3.66, R4-C, R4-D, R4-F, R4-G, R4-H, R4.25-A, R4.25-B, R4.11-B, R4.16-B, R4.33-A, R4.33-B, R4.50, R4.8-A, R4.8-B, R4.8-D, R4.61-B, R4.61-C, R5, R5.8, R6.18-B, R6.18-C, R6.18-D, R6.20-B, R6-C, R8.12, R9.29-A, R9.29-B, R9.29-D, R9.29-F, R12.54-A, P6.3</li> <li>• <b>Low Sensitivity</b> – R2.140-B, R2.28, R2.281, R2.34, R3.38, R3.46, R3.70, R4-A, R4.36, R4.58, R4.61-A, R4.62, R4.8-C, R5.10, R8.10, R12.54-B</li> </ul> <p><u>Within 120 m of construction of a collection line</u></p> <ul style="list-style-type: none"> <li>• <b>High Sensitivity</b> – R2.18, P2.136, P2.18</li> <li>• <b>Moderate Sensitivity</b> –R2.76, R3.73, R3.74, R4-I, R4.16-C, R4.25-C, R4.31, R4.8-E, R6.20-A,</li> <li>• <b>Low Sensitivity</b> –R3.64, R4-E, R4.27, R4.22, R4.51, R4.60, R6.18-A, R9.29-E, P2.142, P2.30, P3.44, P4.47, P12.22</li> </ul>			Collection Line Crossing and Associated Buffer	<p><u>Collection Line Crossing</u></p> <ul style="list-style-type: none"> <li>• <del>High Sensitivity</del> – <del>R2.14</del></li> <li>• <b>Moderate Sensitivity</b> – R2.10-B, R2.131, R2.179, R2.186, R2.192, <del>R2.27</del>, R3-A, R3-B, R3-D, R3.28, R3.53, R3.22, R3.66, R4-C, R4-D, R4-F, R4-G, R4-H, R4.25-A, R4.25-B, R4.11-B, <u>R4.16-A</u>, R4.16-B, R4.33-A, R4.33-B, R4.50, R4.8-A, R4.8-B, R4.8-D, R4.61-B, R4.61-C, R5, R5.8, R6.18-B, R6.18-C, R6.18-D, R6.20-B, R6-C, R8.12, R9.29-A, R9.29-B, R9.29-D, R9.29-F, R12.54-A, P6.3, <u>R3-C-1</u></li> <li>• <b>Low Sensitivity</b> – R2.140-B, R2.28, R2.281, R2.34, R3.38, R3.46, R3.70, R4-A, R4.36, R4.58, R4.61-A, R4.62, R4.8-C, R5.10, R8.10, R12.54-B</li> </ul> <p><u>Within 120 m of construction of a collection line</u></p> <ul style="list-style-type: none"> <li>• <b>High Sensitivity</b> – R2.18, P2.136, P2.18</li> <li>• <b>Moderate Sensitivity</b> –R2.76, R3.73, R3.74, <u>R4-D</u>, R4-I, <u>R4.16-A</u>, R4.16-C, <u>R4.16-D</u>, R4.25-C, R4.31, R4.8-E, R6.20-A,</li> <li>• <b>Low Sensitivity</b> –R3.64, R4-E, R4.27, R4.22, R4.51, R4.60, R6.18-A, R9.29-E, P2.142, P2.30, P3.44, P4.47, P12.22</li> </ul>											
	Operation / Decommissioning	N/A	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	Operation / Decommissioning	N/A		<ul style="list-style-type: none"> <li>• N/A</li> </ul>											
Section 6/ page 269	Through a combination of Records Review, aerial photography interpretation, reconnaissance site visits, and site investigations, a total of 116 REA water bodies were identified in the Jericho Project Study Area.			Through a combination of Records Review, aerial photography interpretation, reconnaissance site visits, and site investigations, a total of <del>116</del> <u>119</u> REA water bodies were identified in the Jericho Project Study Area.														
Appendix E				Add: Scanned field notes of sites visited in July 2013.														
Appendix G				Add:														
				<table border="1"> <tr> <td>June 20, 2013</td> <td>R4.16-D, P4.51, R3-C-1</td> <td>16.9°C; 0 mm of precipitation</td> <td>10:00-16:30</td> <td>C. Boros A. Arsenault</td> <td>C. Boros</td> </tr> <tr> <td>July 12, 2013</td> <td>R4-J</td> <td>20.7°C; 0 mm of precipitation</td> <td>9:50-10:50</td> <td>S. Lohnes J. Piette</td> <td>S. Lohnes</td> </tr> </table>			June 20, 2013	R4.16-D, P4.51, R3-C-1	16.9°C; 0 mm of precipitation	10:00-16:30	C. Boros A. Arsenault	C. Boros	July 12, 2013	R4-J	20.7°C; 0 mm of precipitation	9:50-10:50	S. Lohnes J. Piette	S. Lohnes
June 20, 2013	R4.16-D, P4.51, R3-C-1	16.9°C; 0 mm of precipitation	10:00-16:30	C. Boros A. Arsenault	C. Boros													
July 12, 2013	R4-J	20.7°C; 0 mm of precipitation	9:50-10:50	S. Lohnes J. Piette	S. Lohnes													
Appendix J				Add:														
				<table border="1"> <tr> <td>P4.51</td> <td>New feature observed – previously unmapped</td> <td>A dugout pond was observed</td> </tr> </table>			P4.51	New feature observed – previously unmapped	A dugout pond was observed									
P4.51	New feature observed – previously unmapped	A dugout pond was observed																

Note: \*No site investigation tables need to be removed from Table 4-2. All Feature write ups are still relevant.

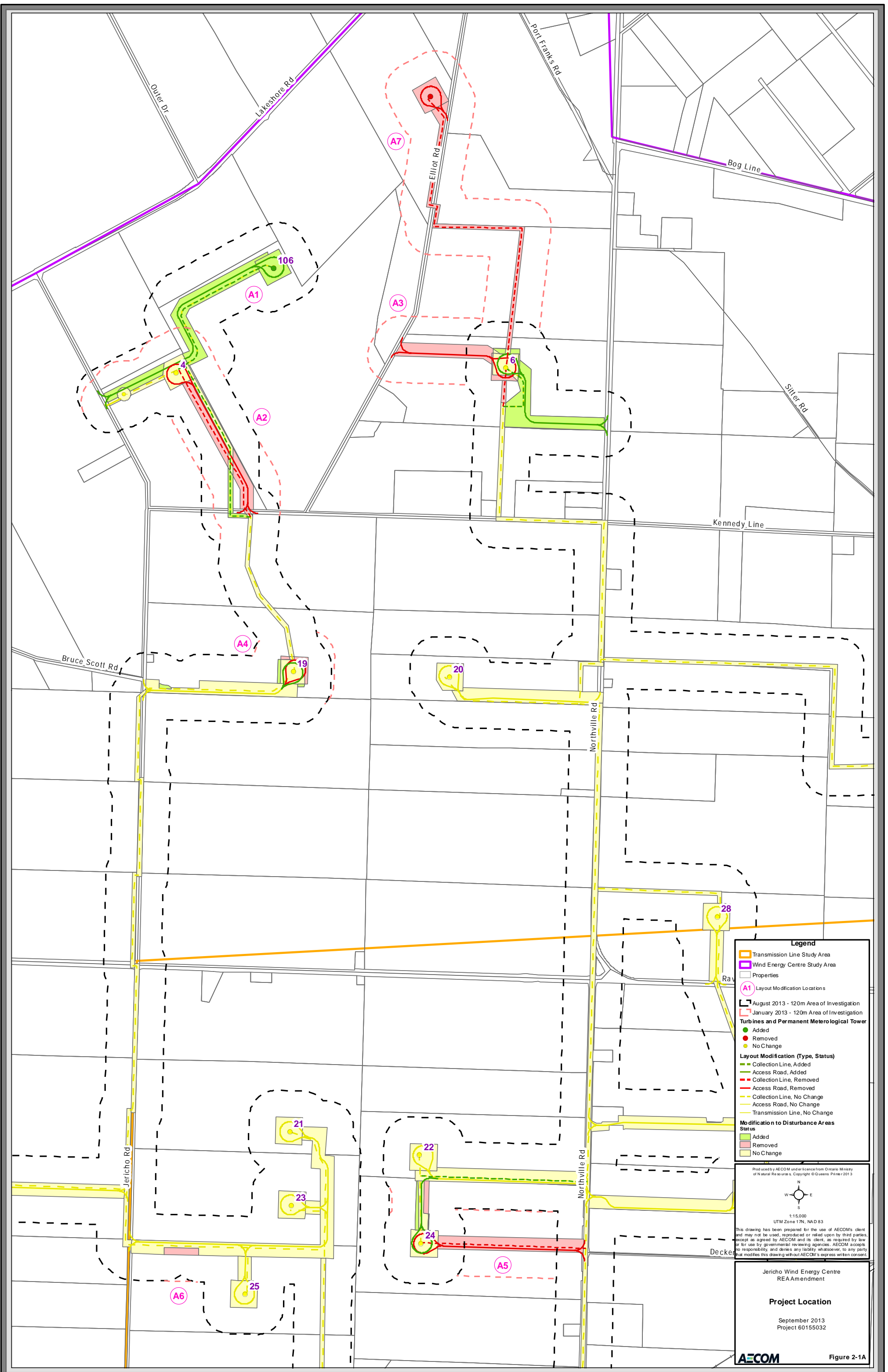


## 4. Summary and Conclusions

The Project modifications described in this REA Revision Report do not change the overall conclusion of the Water Assessment and Water Body Report which states that “all of the potential effects from the construction and operation of this Project can be mitigated so that the effect on the water bodies are reduced to no residual effects, or low in the case of water body crossings”.

# Appendix A

## Project Modifications



**Legend**

- Transmission Line Study Area
- Wind Energy Centre Study Area
- Properties
- (A1) Layout Modification Locations
- 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
- Access Road, Added
- Collection Line, Removed
- Access Road, Removed
- Collection Line, No Change
- Access Road, No Change
- Transmission Line, No Change

**No Modification to Disturbance Areas Status**

- Added
- Removed
- No Change

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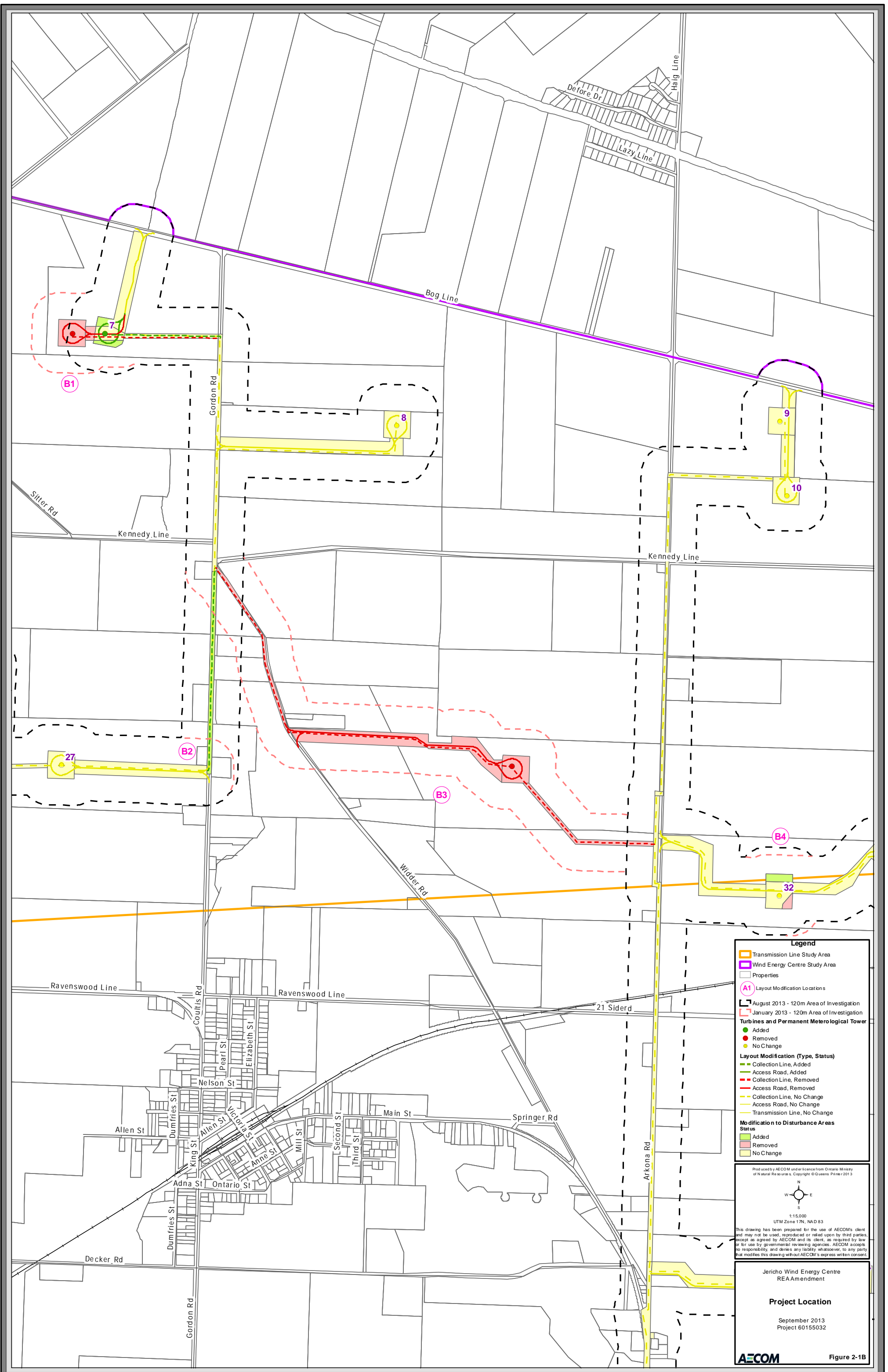
Jericho Wind Energy Centre  
REA Amendment

**Project Location**

September 2013  
Project 60155032

**AECOM**

Figure 2-1A



**Legend**

- Transmission Line Study Area
- Wind Energy Centre Study Area
- Properties
- A1 Layout Modification Locations
- 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
- Access Road, Added
- Collection Line, Removed
- Access Road, Removed
- Collection Line, No Change
- Access Road, No Change
- Transmission Line, No Change

**No Modification to Disturbance Areas Status**

- Added
- Removed
- No Change

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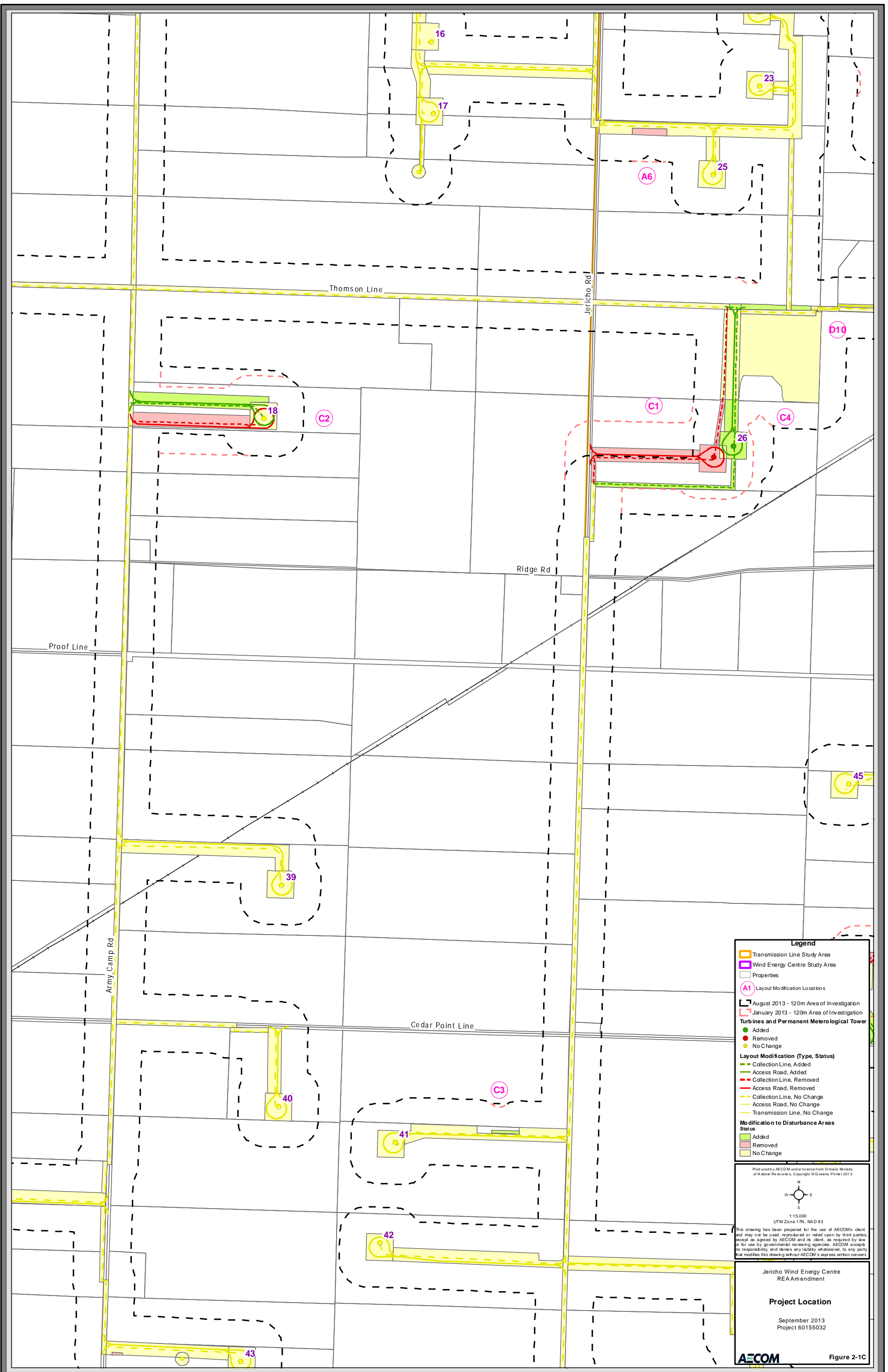
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REA Amendment

**Project Location**

September 2013  
Project 60155032

**AECOM** Figure 2-1B



**Legend**

- Transmission Line Study Area
- Wind Energy Centre Study Area
- Properties
- A1 Layout Modification Locations
- 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
- 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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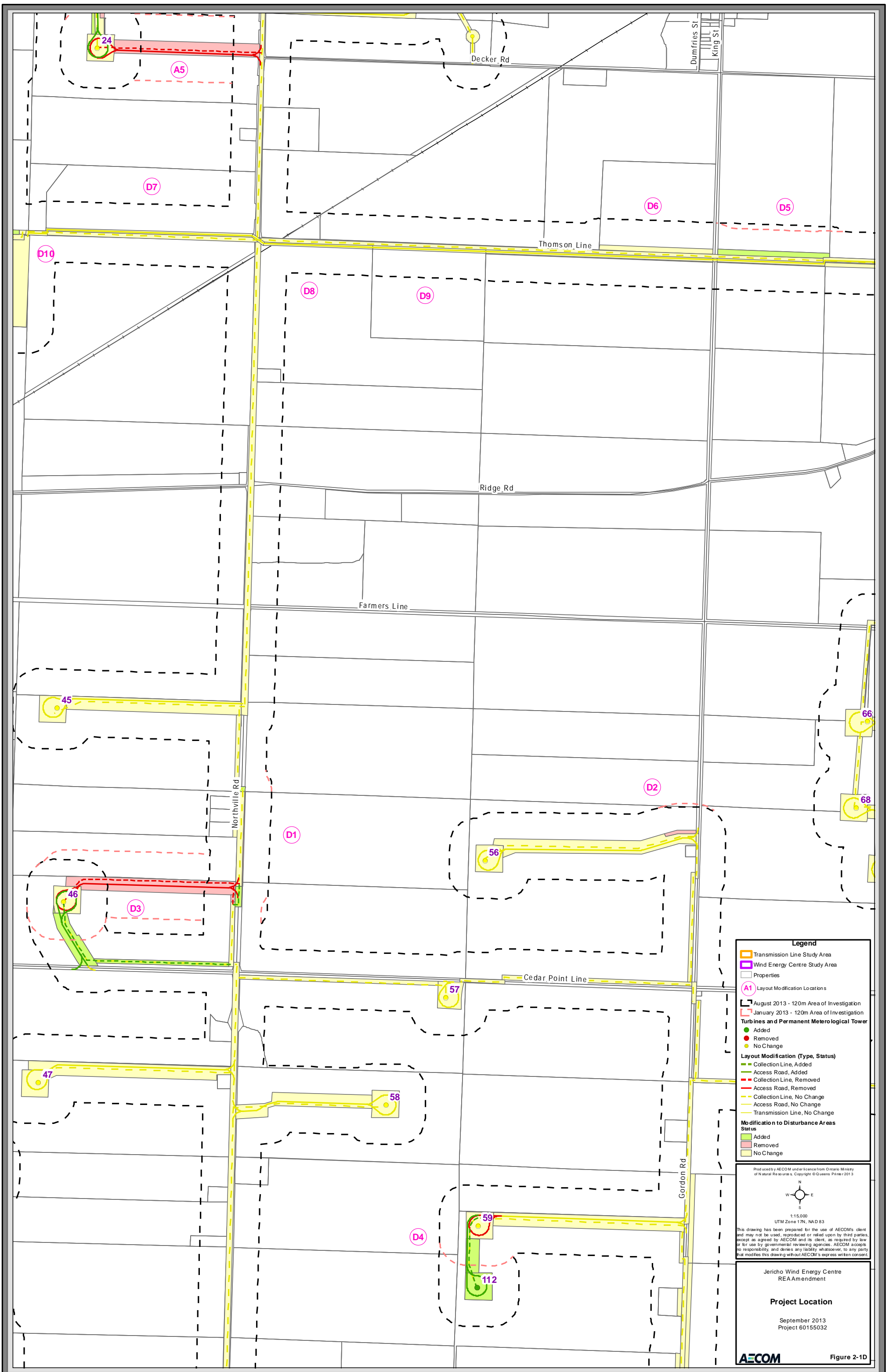
Jericho Wind Energy Centre  
REA Amendment

**Project Location**

September 2013  
Project 60155032

**AECOM**

Figure 2-1C



**Legend**

- Transmission Line Study Area
- Wind Energy Centre Study Area
- Properties
- A1 Layout Modification Locations
- 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
- Access Road, Added
- Collection Line, Removed
- Access Road, Removed
- Collection Line, No Change
- Access Road, No Change
- Transmission Line, No Change

**No Modification to Disturbance Areas Status**

- Added
- Removed
- No Change

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Jericho Wind Energy Centre  
REA Amendment

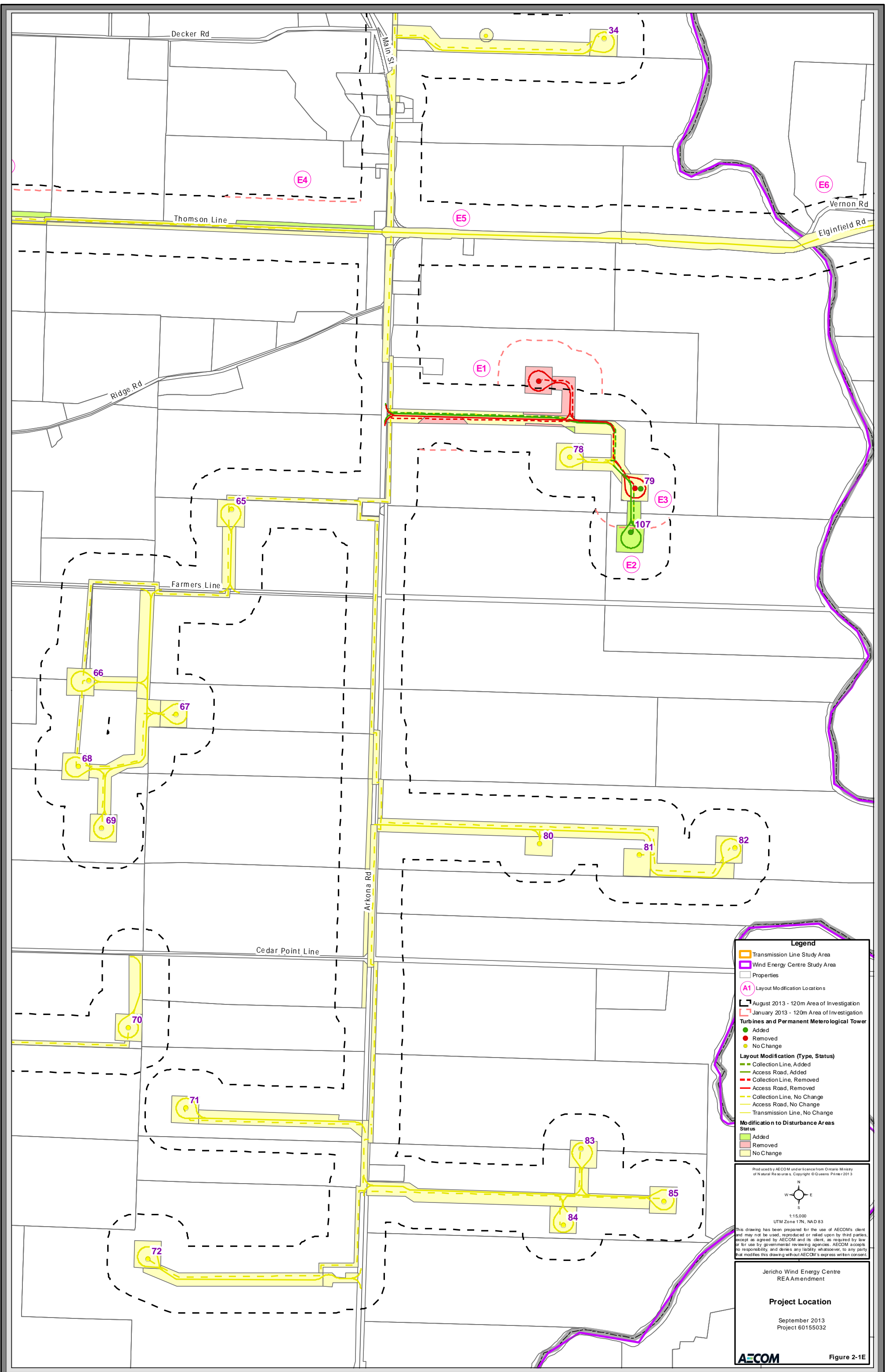
**Project Location**

September 2013  
Project 60155032

**AECOM**

Figure 2-1D





**Legend**

- Transmission Line Study Area
- Wind Energy Centre Study Area
- Properties
- A1 Layout Modification Locations
- 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
- Access Road, Added
- Collection Line, Removed
- Access Road, Removed
- Collection Line, No Change
- Access Road, No Change
- Transmission Line, No Change

**No Modification to Disturbance Areas Status**

- Added
- Removed
- No Change

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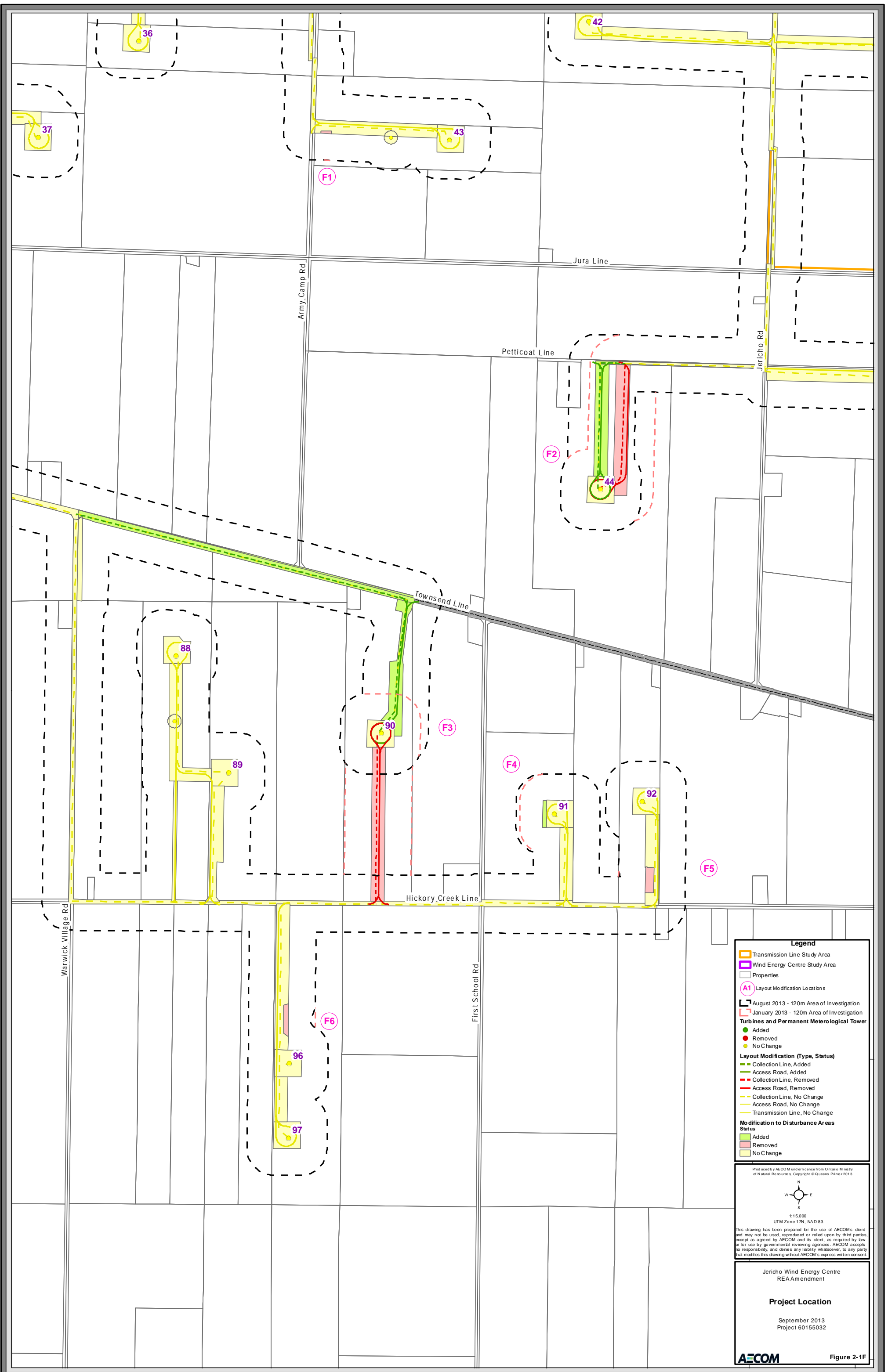
Jericho Wind Energy Centre  
REA Amendment

**Project Location**

September 2013  
Project 60155032

**AECOM** Figure 2-1E





**Legend**

- Transmission Line Study Area
- Wind Energy Centre Study Area
- Properties
- A1 Layout Modification Locations
- 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
- Access Road, Added
- Collection Line, Removed
- Access Road, Removed
- Collection Line, No Change
- Access Road, No Change
- Transmission Line, No Change

**No Modification to Disturbance Areas Status**

- Added
- Removed
- No Change

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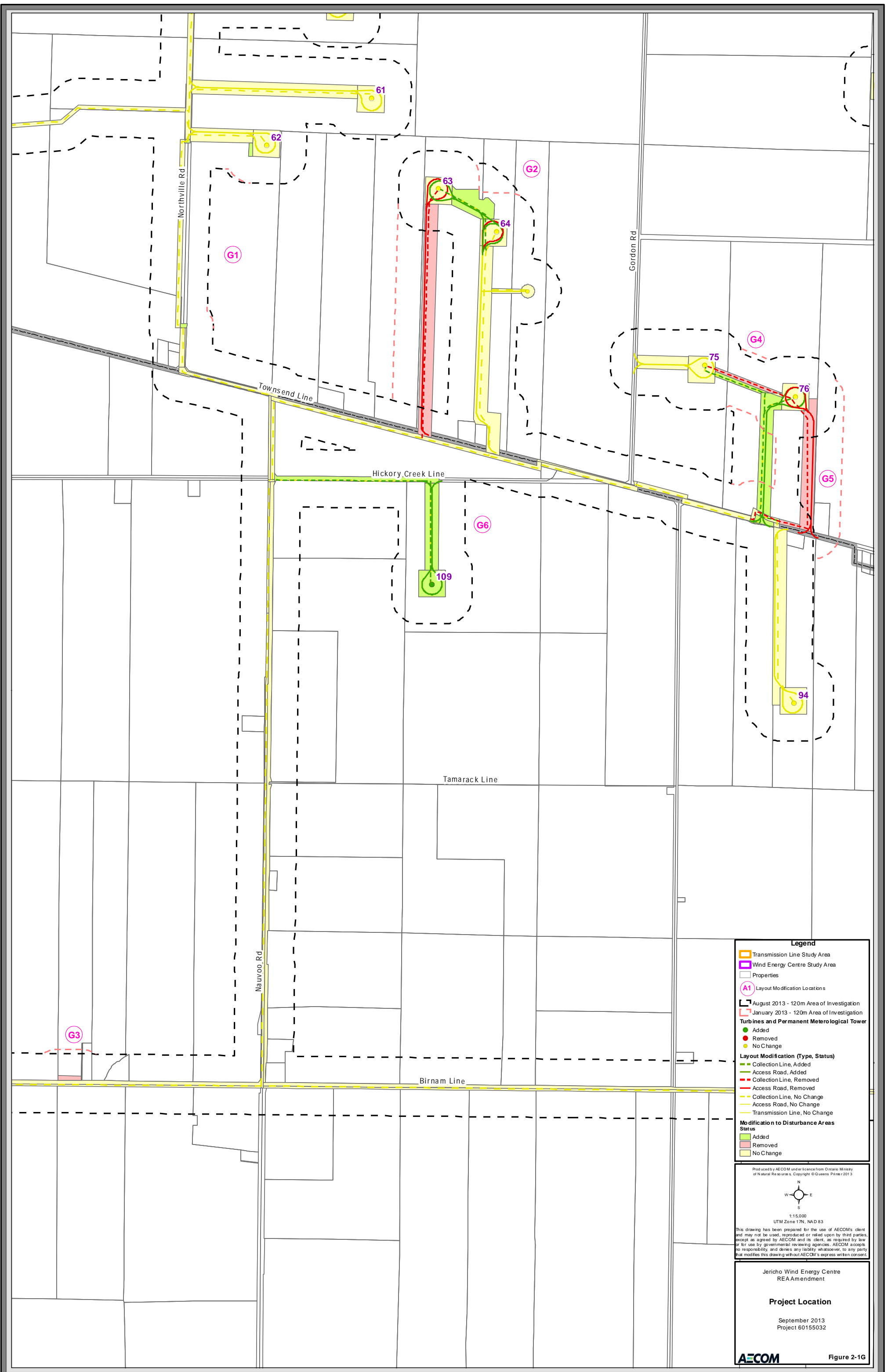
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Jericho Wind Energy Centre  
REA Amendment

**Project Location**

September 2013  
Project 60155032

**AECOM** Figure 2-1F



**Legend**

- Transmission Line Study Area
- Wind Energy Centre Study Area
- Properties
- (A1) Layout Modification Locations
- 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
- Access Road, Added
- Collection Line, Removed
- Access Road, Removed
- Collection Line, No Change
- Access Road, No Change
- Transmission Line, No Change

**No Modification to Disturbance Areas Status**

- Added
- Removed
- No Change

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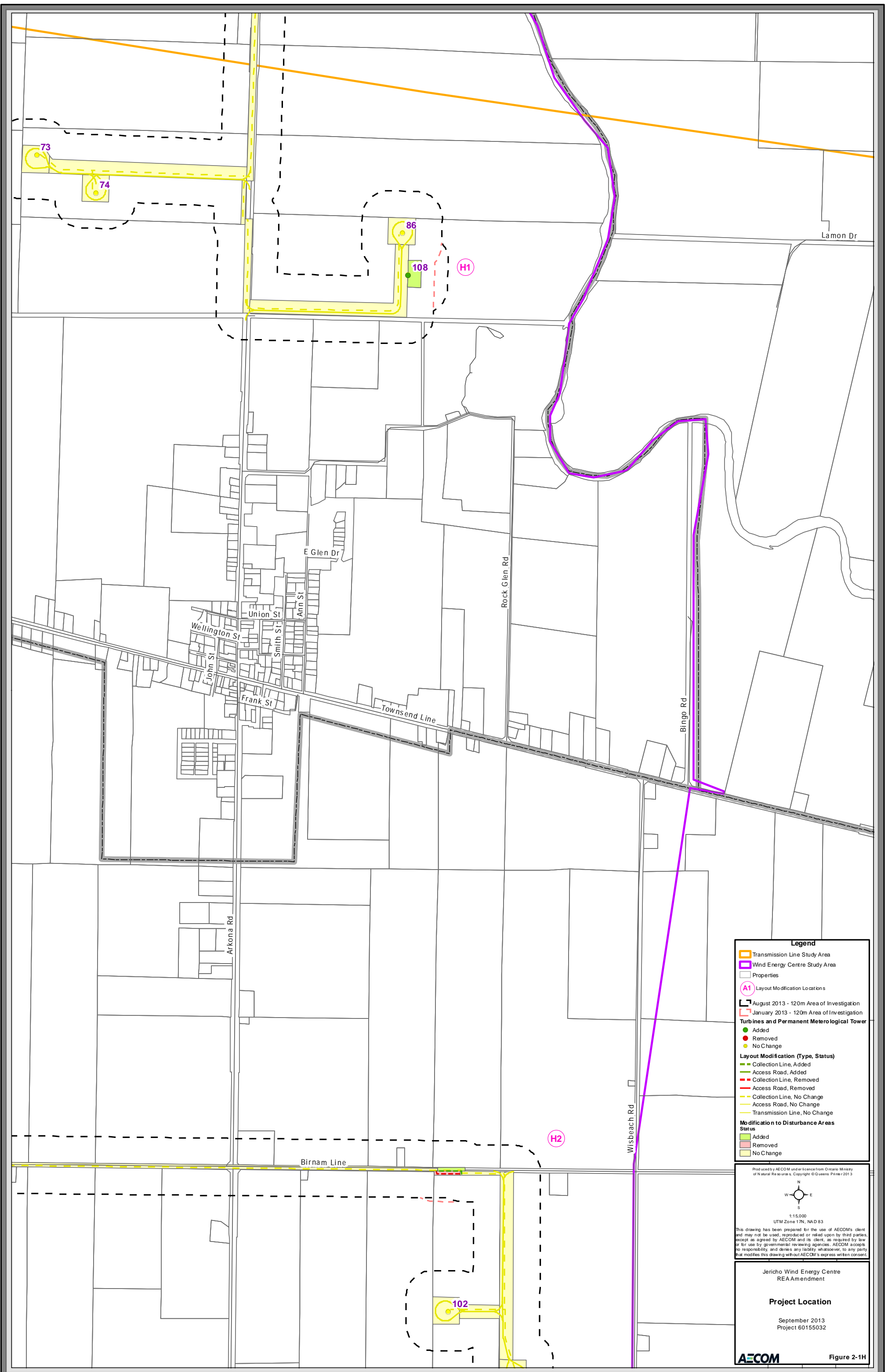
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Jericho Wind Energy Centre  
REA Amendment

**Project Location**

September 2013  
Project 60155032

Figure 2-1G



**Legend**

- Transmission Line Study Area
- Wind Energy Centre Study Area
- Properties
- A1 Layout Modification Locations
- 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
- Access Road, Added
- Collection Line, Removed
- Access Road, Removed
- Collection Line, No Change
- Access Road, No Change
- Transmission Line, No Change

**No Modification to Disturbance Areas Status**

- Added
- Removed
- No Change

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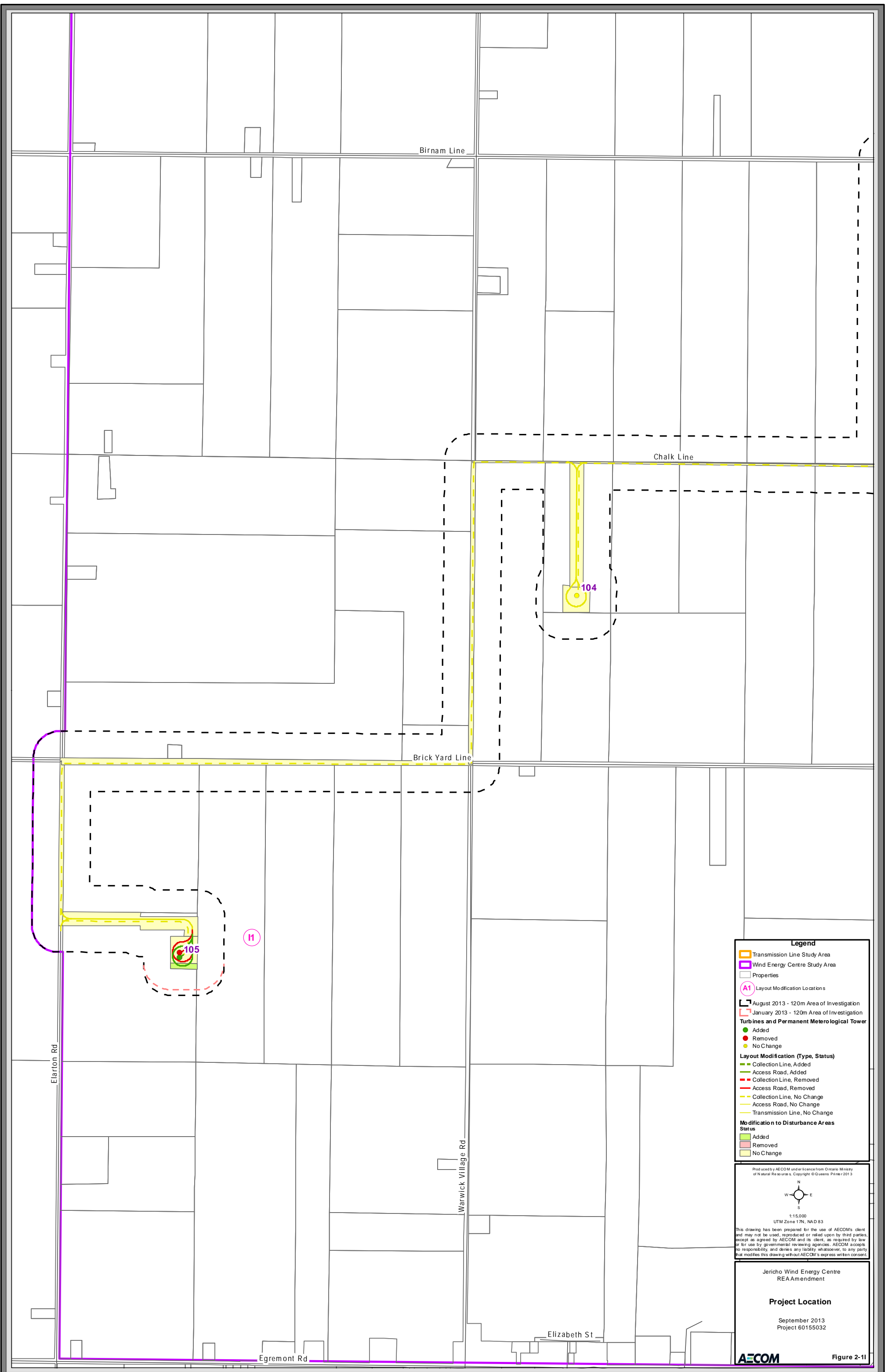
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Jericho Wind Energy Centre  
REA Amendment

**Project Location**

September 2013  
Project 60155032

**AECOM** Figure 2-1H



**Legend**

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

**Turbines and Permanent Metrological 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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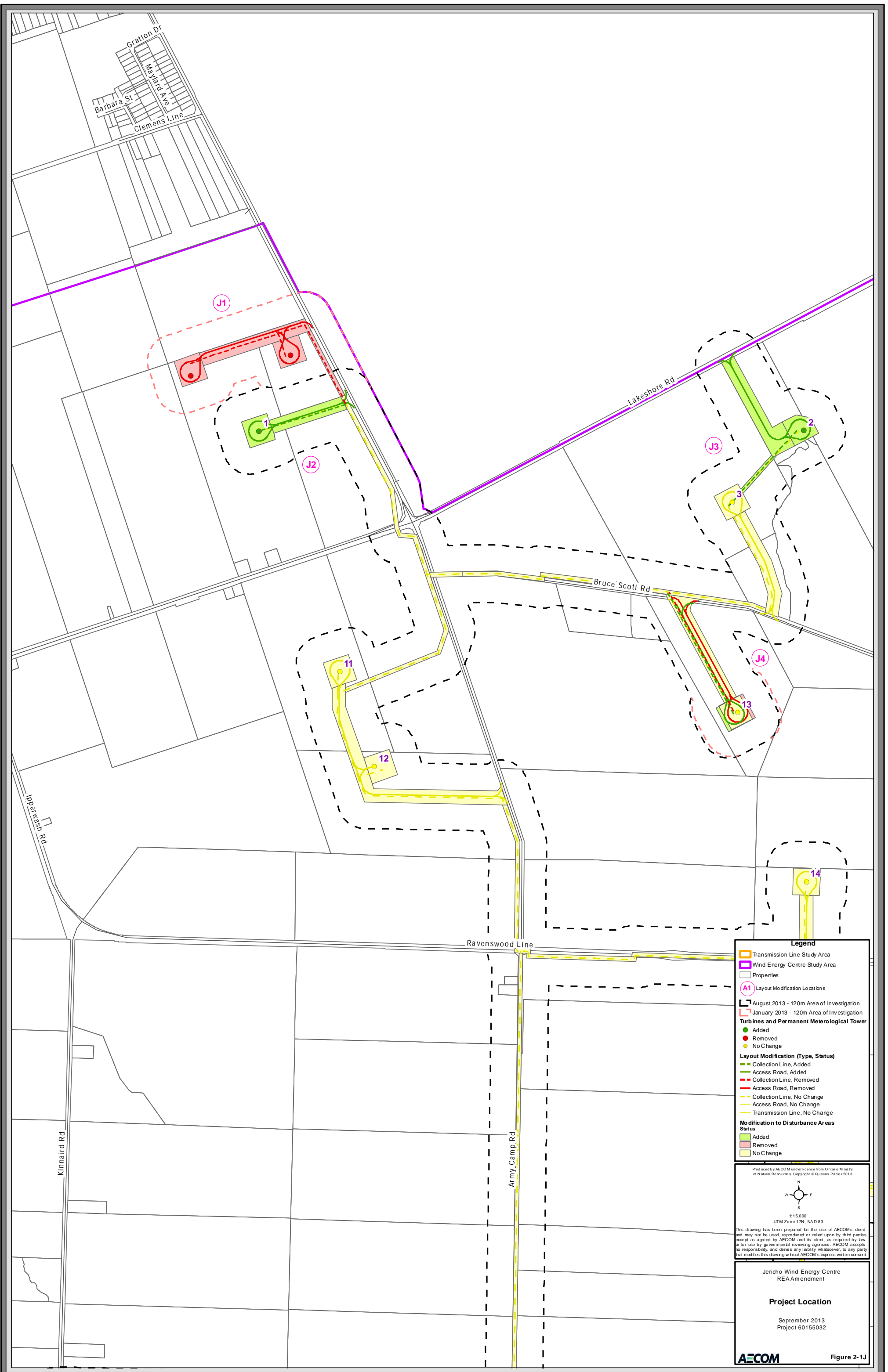
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Jericho Wind Energy Centre  
REA Amendment

**Project Location**

September 2013  
Project 60155032

**AECOM** Figure 2-11



**Legend**

- Transmission Line Study Area
- Wind Energy Centre Study Area
- Properties
- Layout Modification Locations
- 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
- Access Road, Added
- Collection Line, Removed
- Access Road, Removed
- Collection Line, No Change
- Access Road, No Change
- Transmission Line, No Change
- No Modification to Disturbance Areas Status**
- Added
- Removed
- No Change

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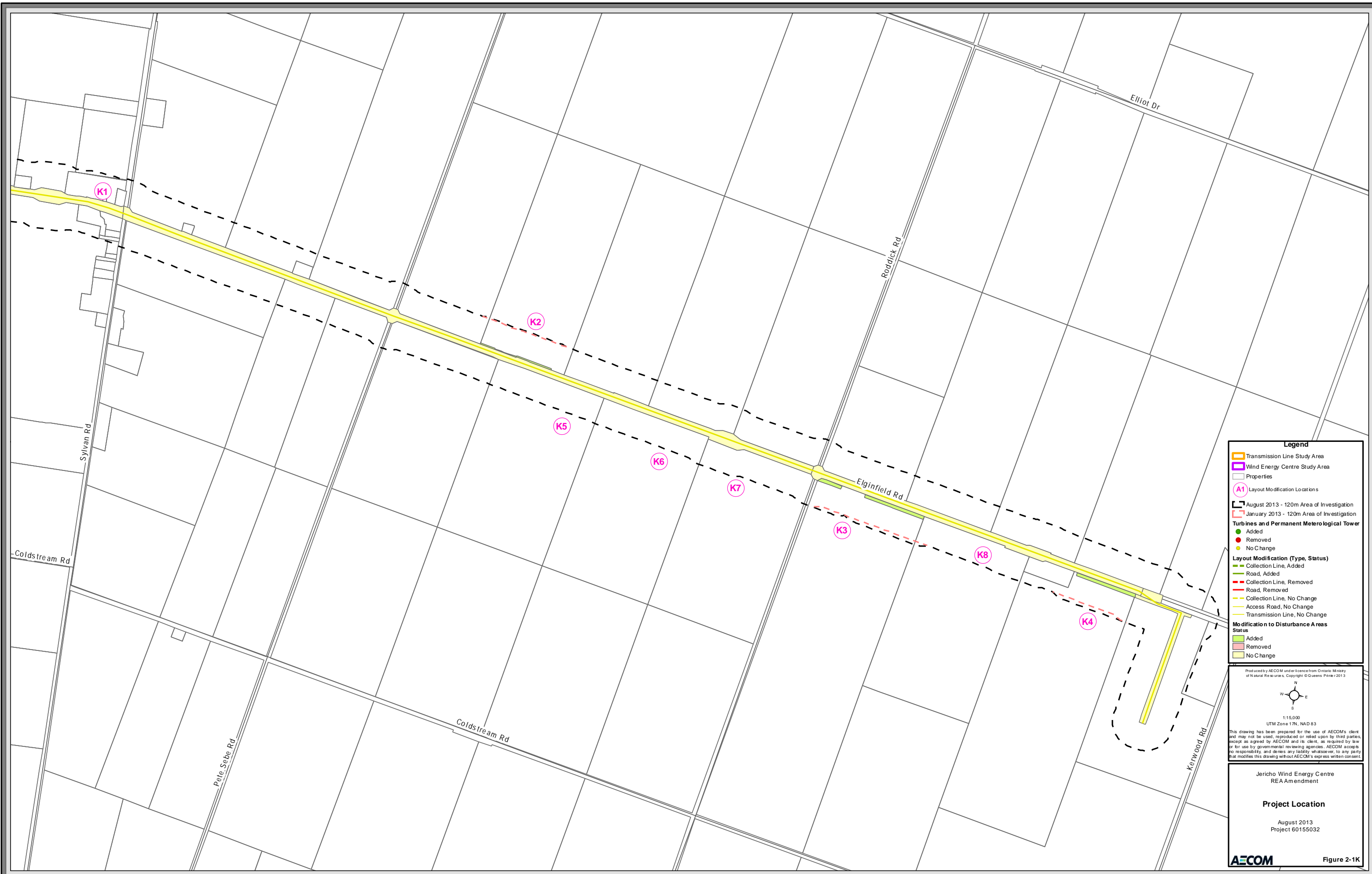
Jericho Wind Energy Centre  
REA Amendment

**Project Location**

September 2013  
Project 60155032

**AECOM**

Figure 2-1J



**Legend**

- Transmission Line Study Area
- Wind Energy Centre Study Area
- Properties
- A1 Layout Modification Locations
- 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
- No Modification to Disturbance Areas Status**
  - Added
  - Removed
  - No Change

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Jericho Wind Energy Centre  
REA Amendment

**Project Location**

August 2013  
Project 60155032



# 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 Jericho 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 as guidelines to avoid conditions that may harmfully alter aquatic habitat. These DFO operational plans are being used in conjunction with standard mitigation measures that are implemented to protect surface water quality and the aquatic ecosystem.

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 and if possible out of the regulated floodplain to limit risk of impacts to aquatic habitat and surface water quality from accidental spills.
- Keep vegetation removal to a minimum.

## 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.
- 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. Extra erosion and sediment control materials will be kept on site (e.g., heavy duty silt fencing, strawbales).
- Check that erosion control tools are in good repair and properly functioning prior to conducting daily work and re-install or repair as required prior to commencing daily construction activities.
- Keep sediment and erosion control measures in place until disturbed areas have been stabilized (i.e., re-vegetated).
- To avoid sedimentation in wetlands and watercourses, schedule grading within 30 m of a watercourse or wetland to avoid times of high runoff volumes, wherever possible. Temporarily suspend work if high runoff volume is noted or excessive flows of sediment discharges occur until contingency measures are in place.
- Re-vegetate temporary roads to pre-construction conditions as soon as possible after construction activities are complete using species native to the area in naturally vegetated areas.

## 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 at least 30 m away from a wetland, woodland or water body. Develop a spill response plan and train staff on associated procedures.
- 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; maintain timing and quantity of flows. Any grading of lands adjacent to water body features should match existing grades at the identified set-back, or buffer from the features.

## Timing Windows

- Schedule construction activities that occur within 30 m of watercourses to avoid periods of critical habitat use (i.e., spawning) 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). There are generic restricted in-water work timing windows established by the DFO.
- Specific timing windows for this project may be developed in consultation with ABCA and SCRCA.

## Isolated Crossing

- In-water works for permanent water bodies must occur in the dry and via the 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.

## Culvert Design

- Design and install culverts to prevent creation of barriers to fish movement and maintain bankfull channel functions.
- Install open bottom crossing structures where possible.
- Design culverts to accommodate high flows of the watercourse by undertaking hydraulic engineering studies.
- 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 construction staff on associated procedures.
- Maintain emergency spill kits on construction 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.

### Dewatering Activities (if necessary)

- Confirm the zone of influence of required dewatering activities prior to construction.
- For turbines within the sand and/or gravel deposits, schedule dewatering activities to take place during a seasonally dry time of year where possible.
- Limit duration of dewatering to as short a time frame as possible
- Implement groundwater cut-offs as required to limit water taking quantities.
- Limit dewatering where turbines are constructed within the sand and/ or gravel deposits to less than 40,000 L/day.

### 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 stormwater discharge using best management practices (e.g., use of a permeable surface for access roads, complete Stormwater Pollution Prevention Study to address any potential effects associated with stormwater runoff for the Operations and Maintenance Building prior to construction).
- Restrict taking groundwater and surface water during drought conditions.
- Regulate the discharge of water-taking (if required) 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. A discharge diffuser or other energy dissipation device will be used, 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.
- Maintain vegetative buffers around water bodies.

### Horizontal 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.
- Complete geotechnical study to ensure site is suitable for this construction method.
- Implement a "Frac-Out" Contingency Plan in the event of a "frac-out", which will include but is not limited to the following:
  1. Immediately stop all work, including the recycling of drilling mud / lubricant.
  2. Isolate affected watercourse or area using a temporary dam and install by-pass pump system (if required) to maintain continuous flow downstream of the site;
  3. Insert rigid in-water/soil containment unit or underwater boom into the "frac-out" source area in order to contain any sediments and/or deleterious materials originating from the "frac-out".
  4. No captured material will be left on-site. The captured material should be extracted by vacuum truck, if available, or pumped into a containment unit or area for off-site disposal;
  5. Monitor "frac-out" for four hours to determine if the drilling mud congeals. If drilling mud congeals, take no other action that would potentially suspend sediments in the water column. If drilling mud does not congeal, maintain isolation/containment unit in place and continue pumping captured material to a containment unit or area until drilling mud congeals or stops flowing.
  6. Notify the Ministry of the Environment's (MOE) Spills Action Centre (1-800-268- 6060) of the "frac-out" event and the response taken to contain the spill. This step should be completed during the 4 hour "frac-out" monitoring period.
  7. Engage a spill response team to contain and clean up excess drilling mud in the water.
  8. Monitor clean-up procedures to ensure they do not result in greater damage than leaving the mud in-place.
  9. If the spill affects an area that is vegetated, the area will be seeded and/or replanted using the same species to those in the adjacent area, or allowed to re-grow from existing vegetation. Re-vegetated areas will be monitored once per growing season for two years subsequent to "frac-out" to confirm re-vegetation is successful.
  10. Document post-cleanup conditions with photographs and prepare "frac-out" incident report describing time, place, actions taken to remediate "frac-out" and measures implemented to prevent recurrence. Provide incident report to MNR and MOE within 30 days of the incident.

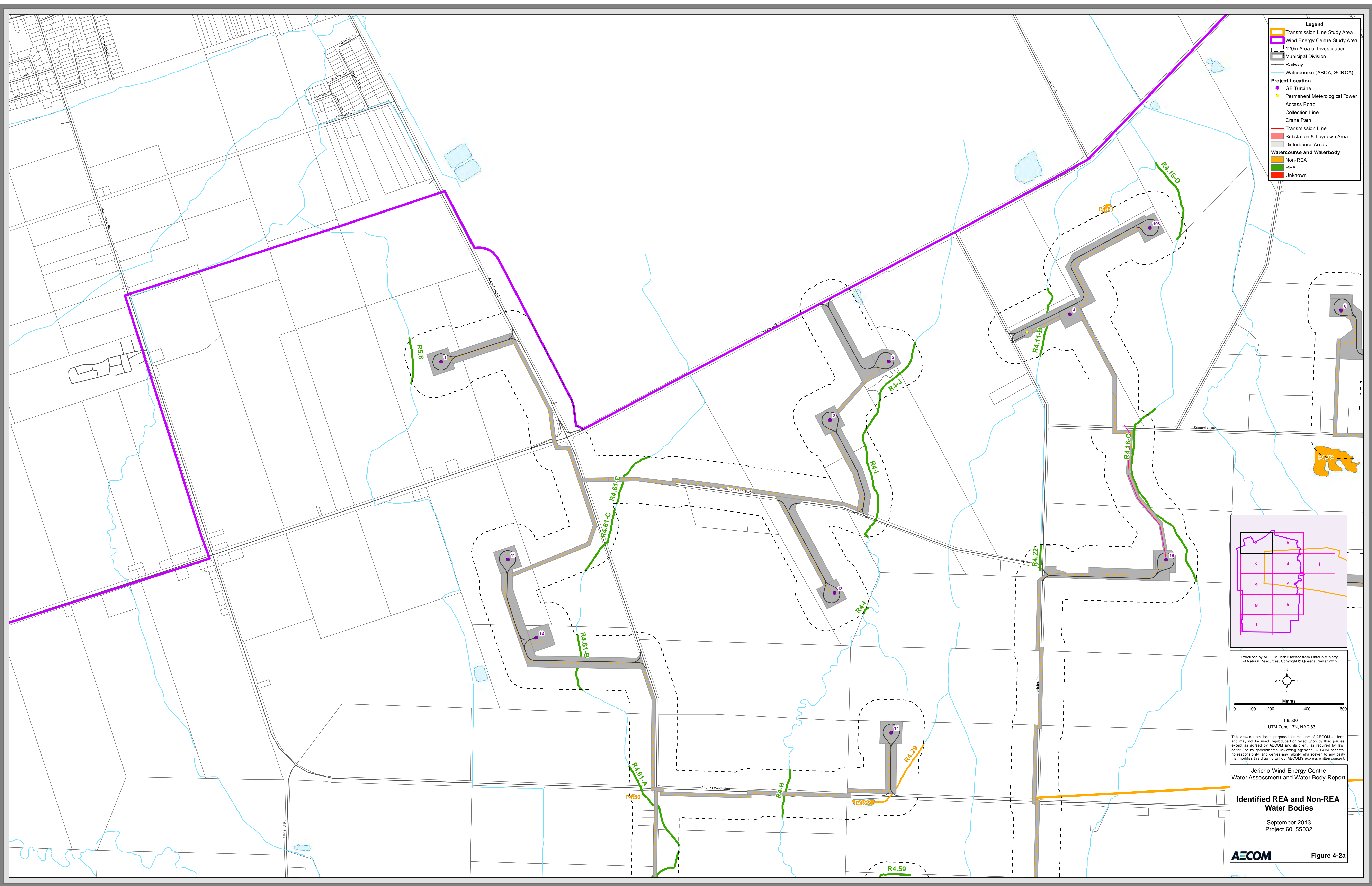
## Rehabilitation

- 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.
- Add suitable stream substrates (e.g., gravel or rip rap) to stabilize sediment and provide cover.

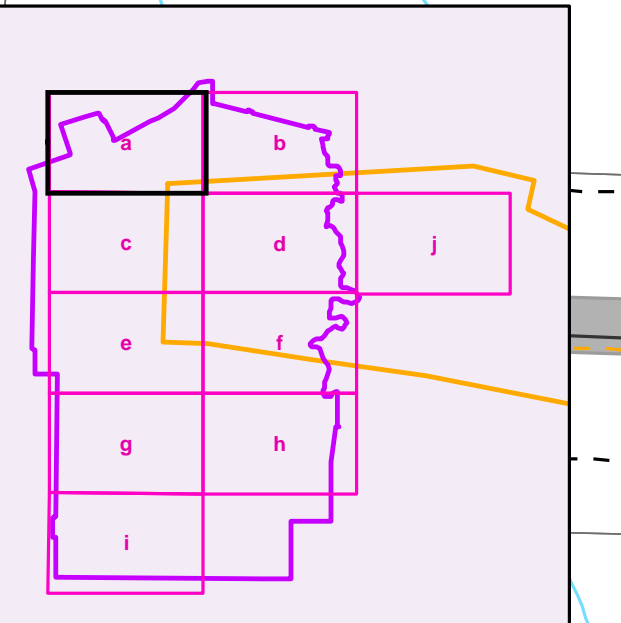
# Appendix C

Revised Figures for the  
Water Assessment and  
Water Body Report





- Legend**
- Transmission Line Study Area
  - Wind Energy Centre Study Area
  - 120m Area of Investigation
  - Municipal Division
  - Railway
  - Watercourse (ABCA, SCRCA)
- Project Location**
- GE Turbine
  - Permanent Meteorological Tower
  - Access Road
  - Collection Line
  - Crane Path
  - Transmission Line
  - Substation & Laydown Area
  - Disturbance Areas
- Watercourse and Waterbody**
- Non-REA
  - REA
  - Unknown



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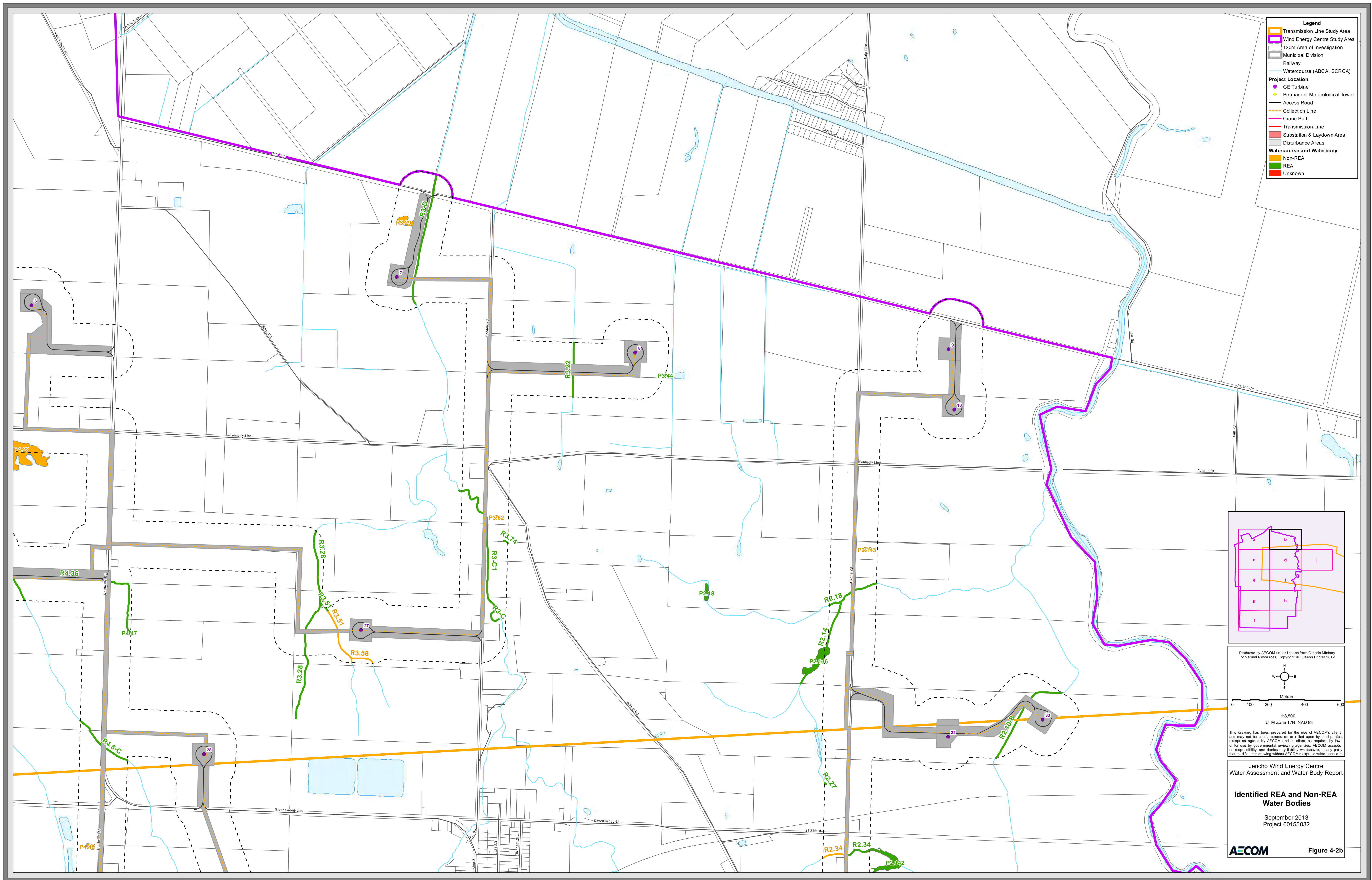
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Water Assessment and Water Body Report

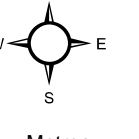
**Identified REA and Non-REA  
Water Bodies**

September 2013  
Project 60155032





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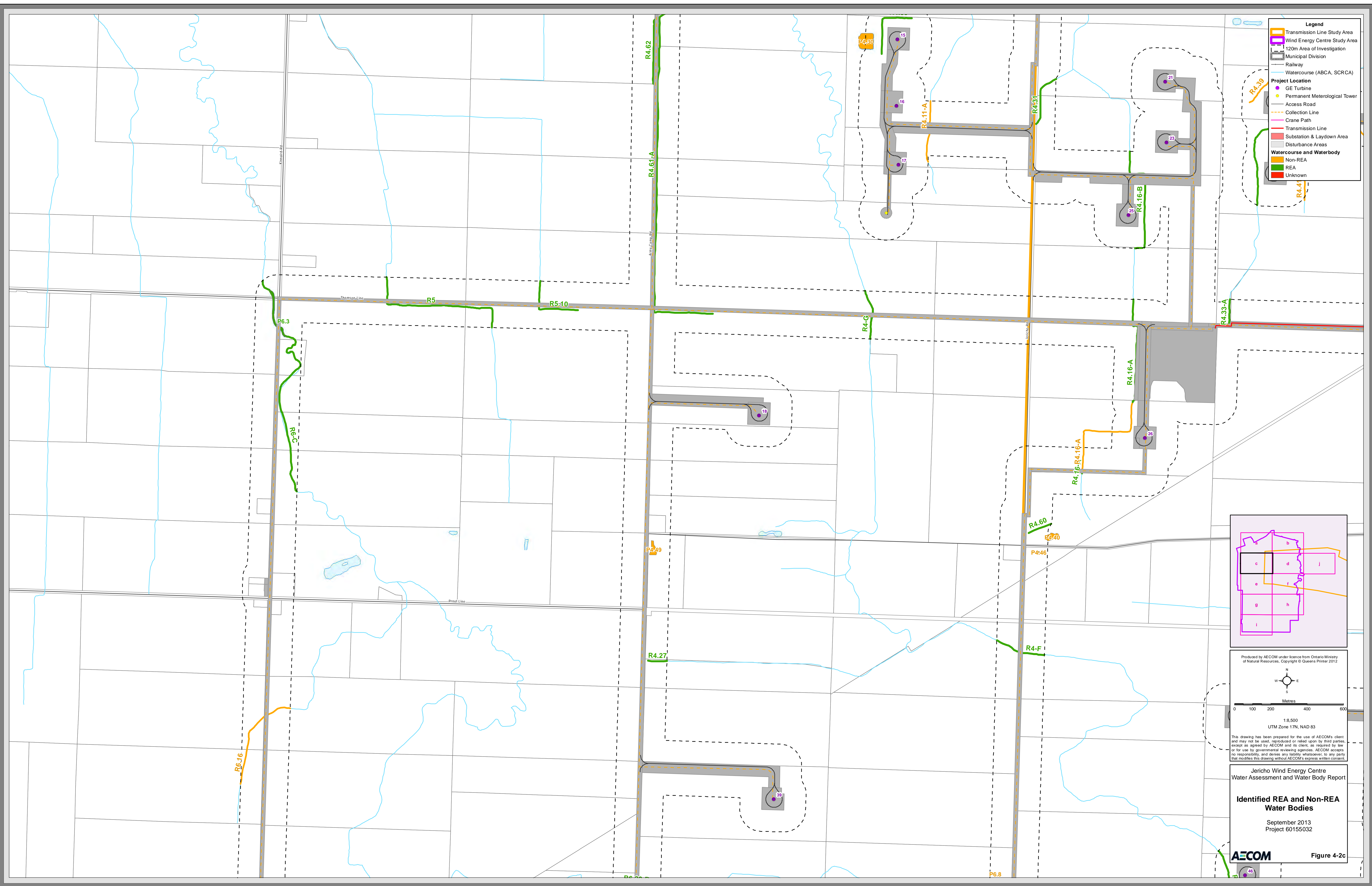
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Water Bodies**

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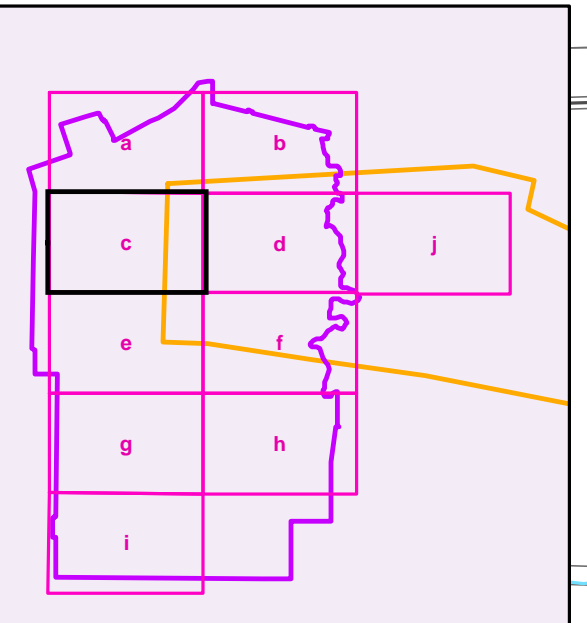
Figure 4-2b





**Legend**

- Transmission Line Study Area
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- REA
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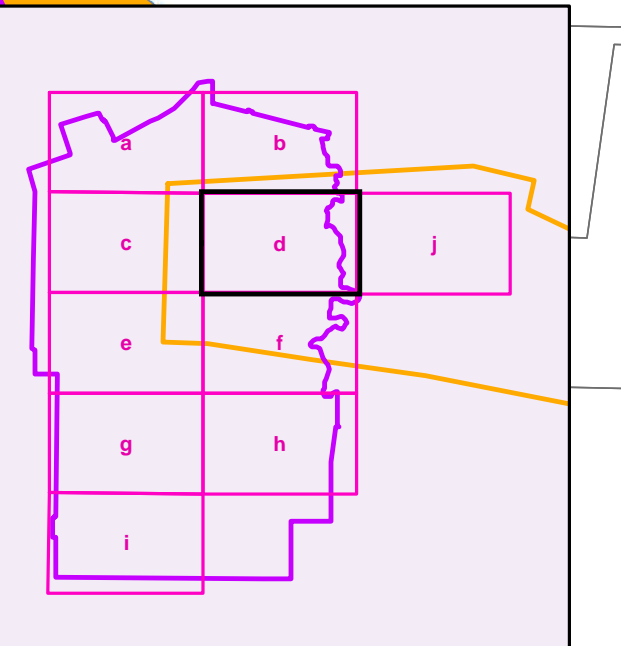
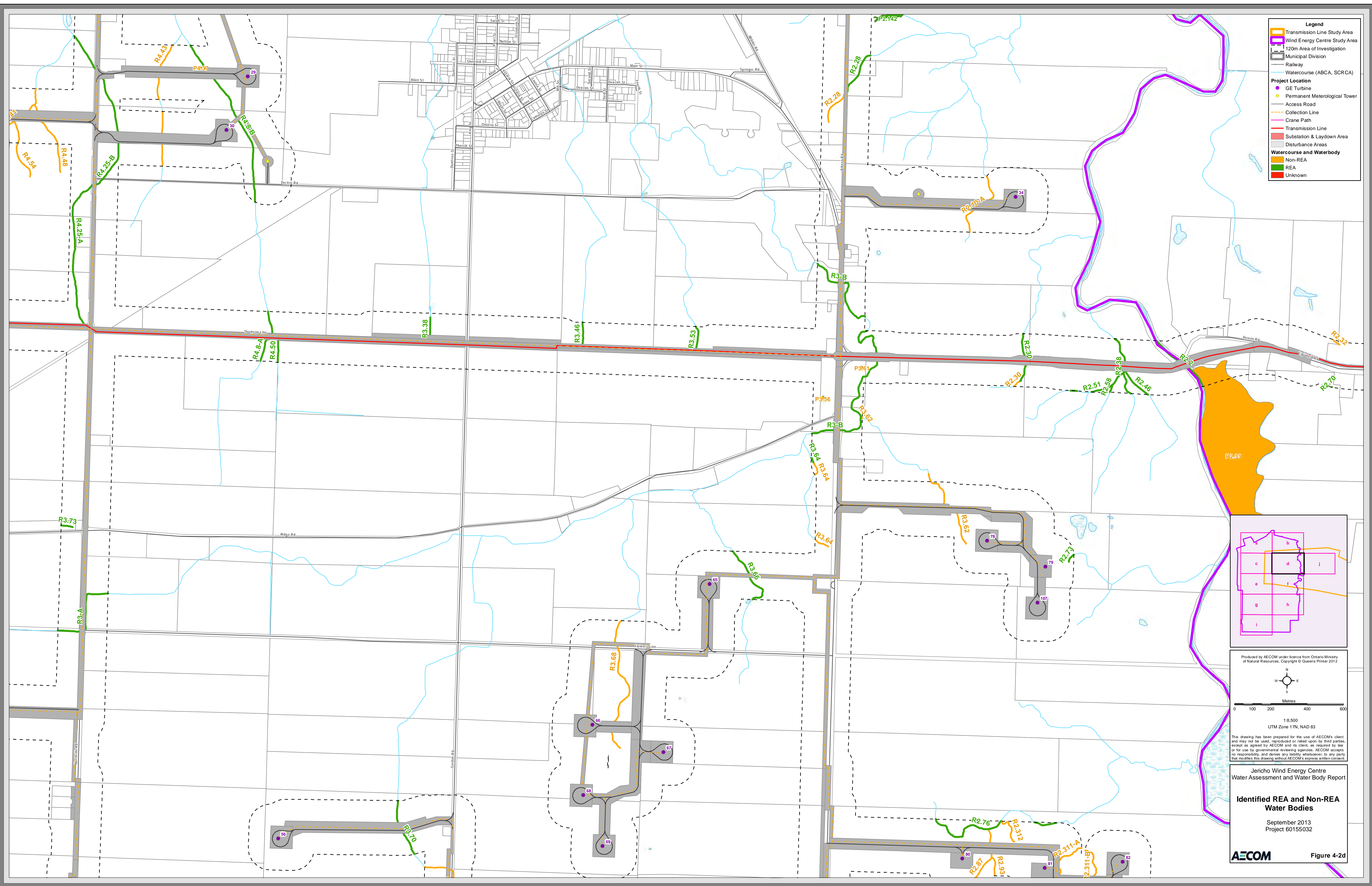
Jericho Wind Energy Centre  
Water Assessment and Water Body Report

**Identified REA and Non-REA  
Water Bodies**

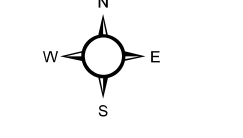
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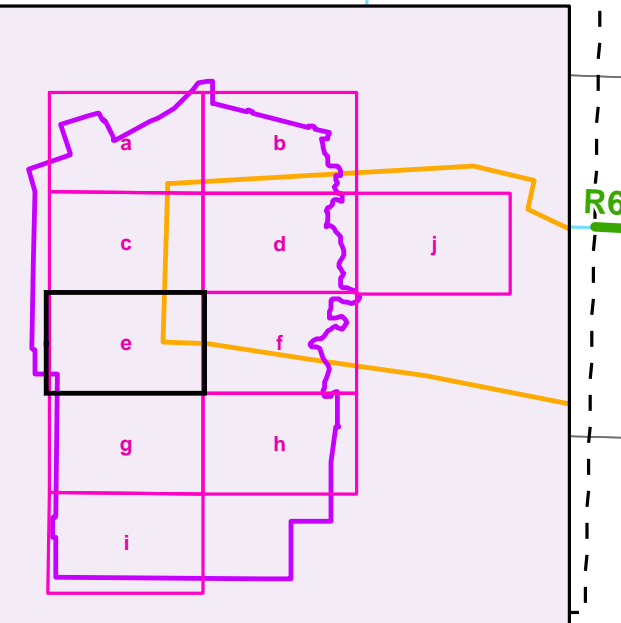
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Jericho Wind Energy Centre  
Water Assessment and Water Body Report

**Identified REA and Non-REA Water Bodies**

September 2013  
Project 60155032





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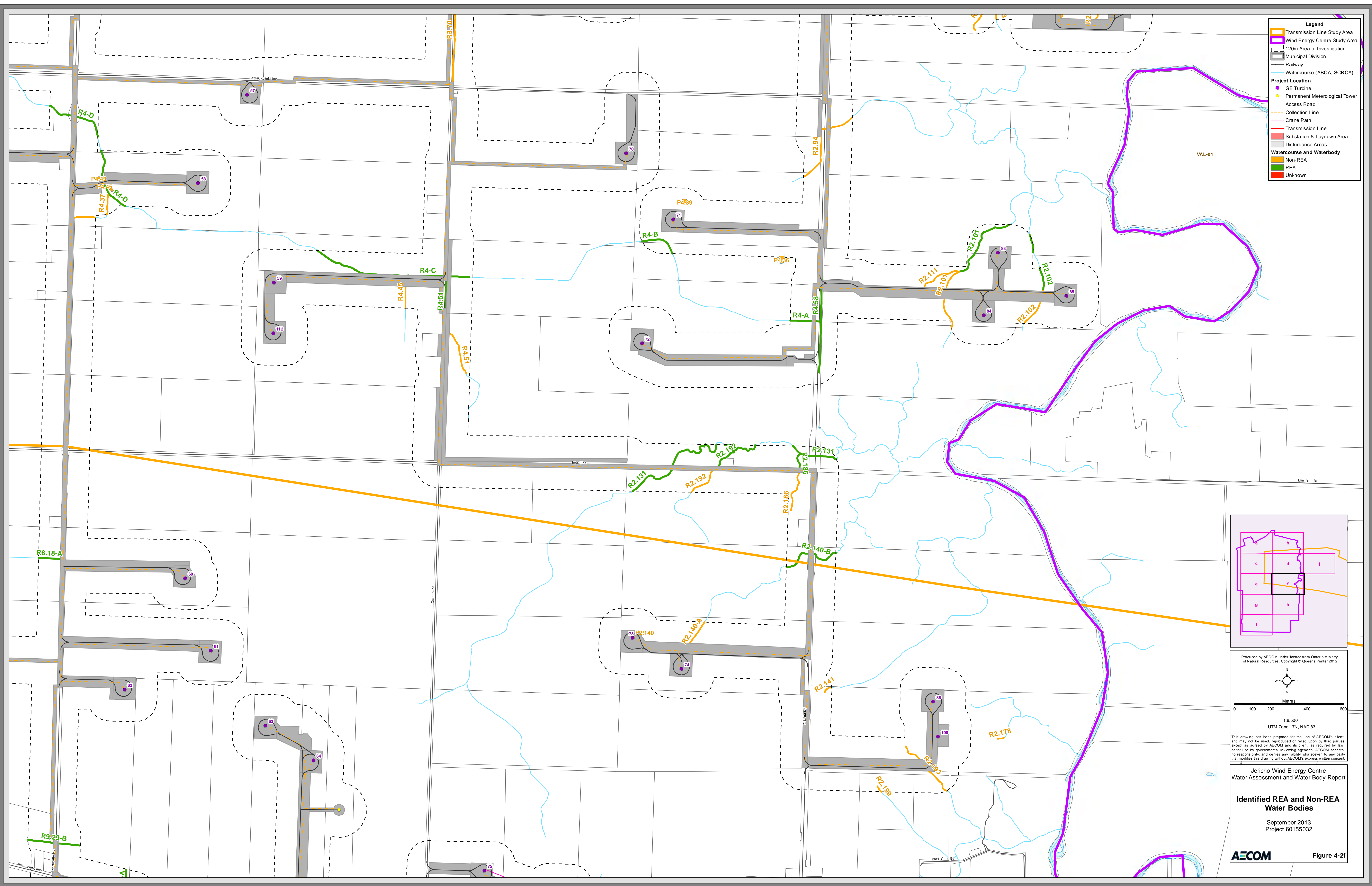
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Water Assessment and Water Body Report

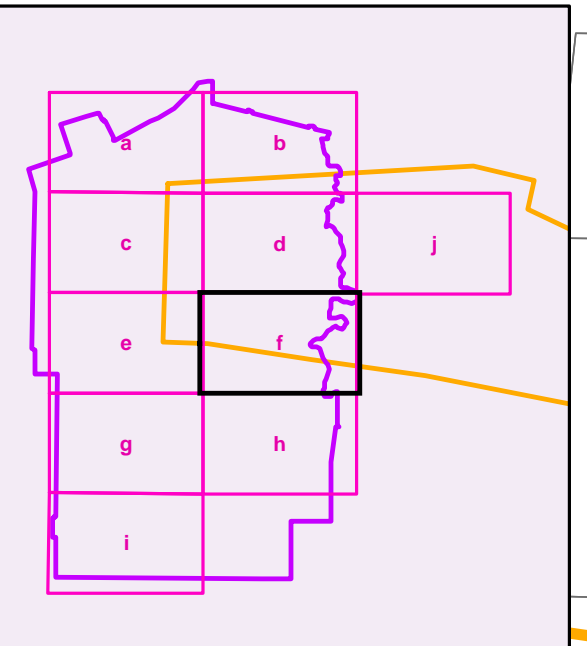
**Identified REA and Non-REA  
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September 2013  
Project 60155032





- Legend**
- Transmission Line Study Area
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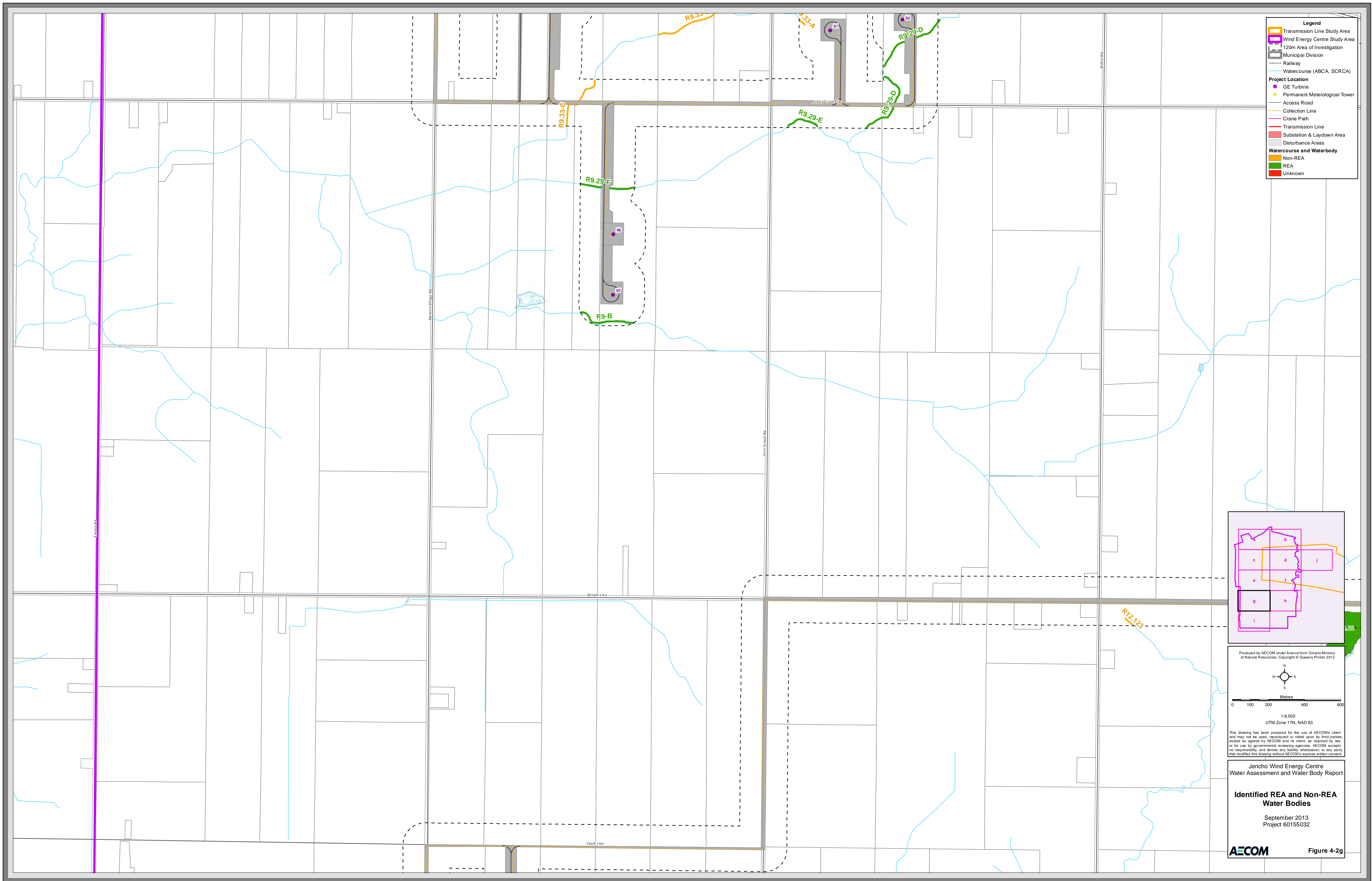
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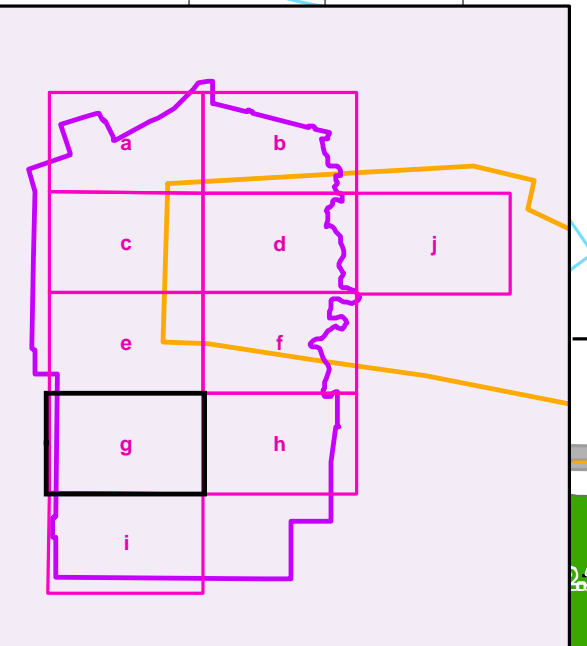
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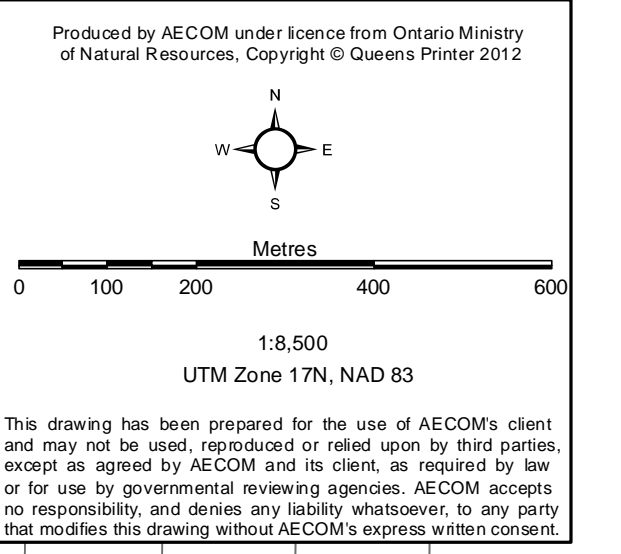
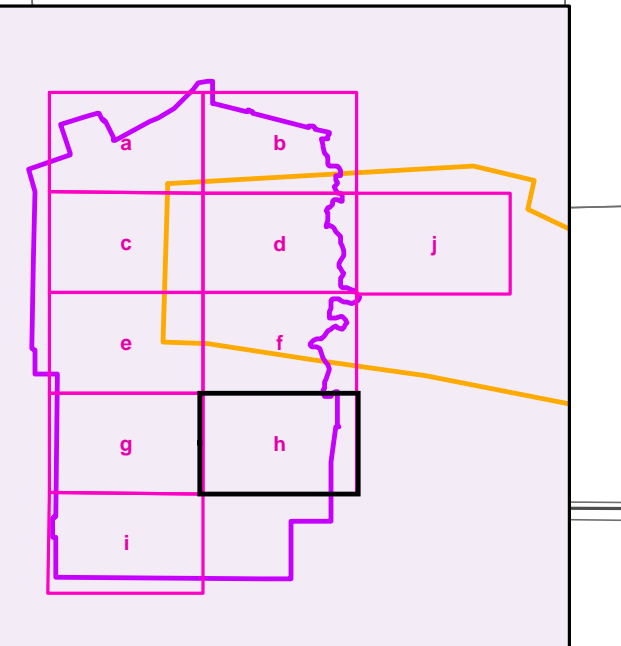
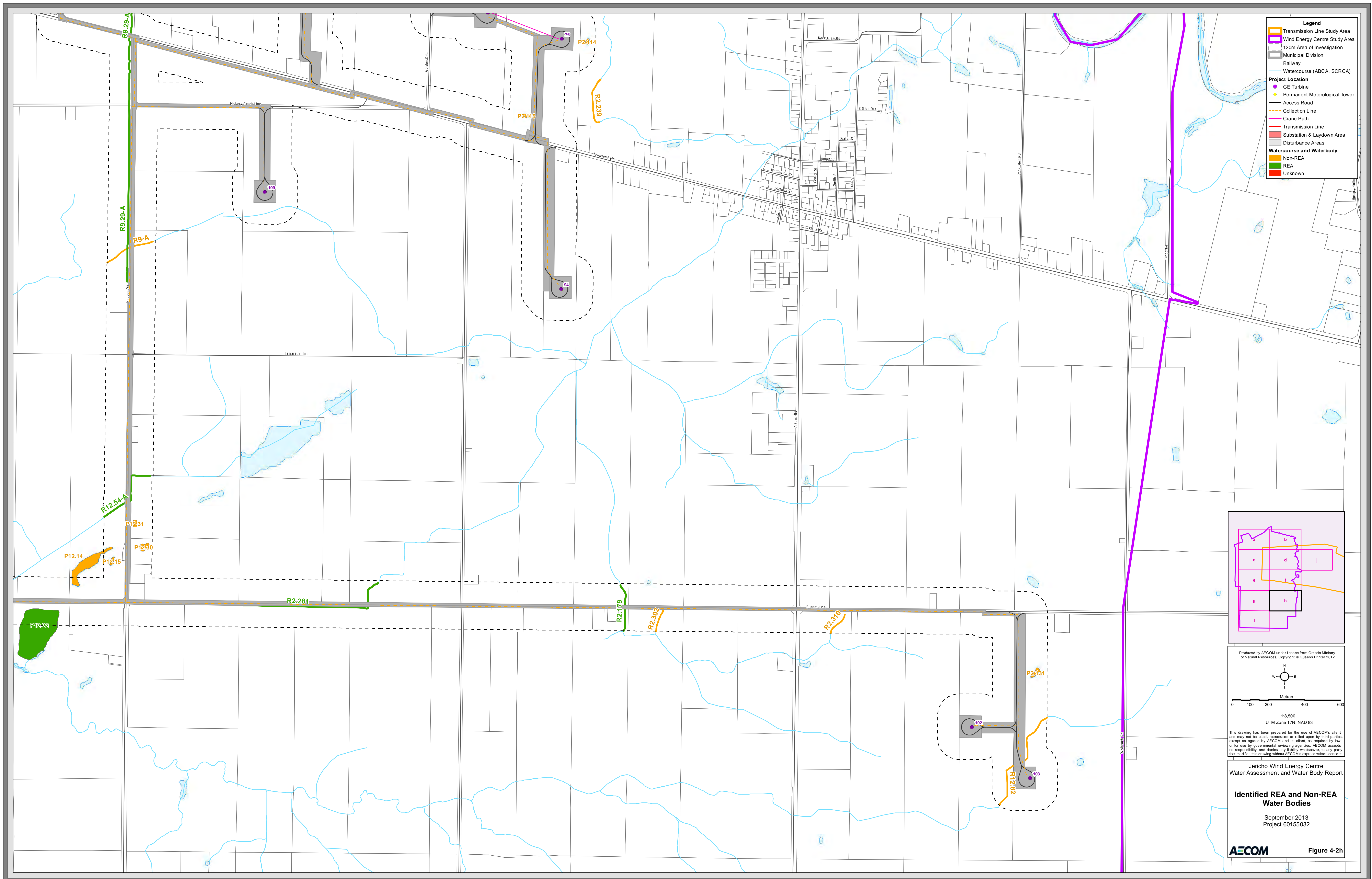
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Water Assessment and Water Body Report

**Identified REA and Non-REA  
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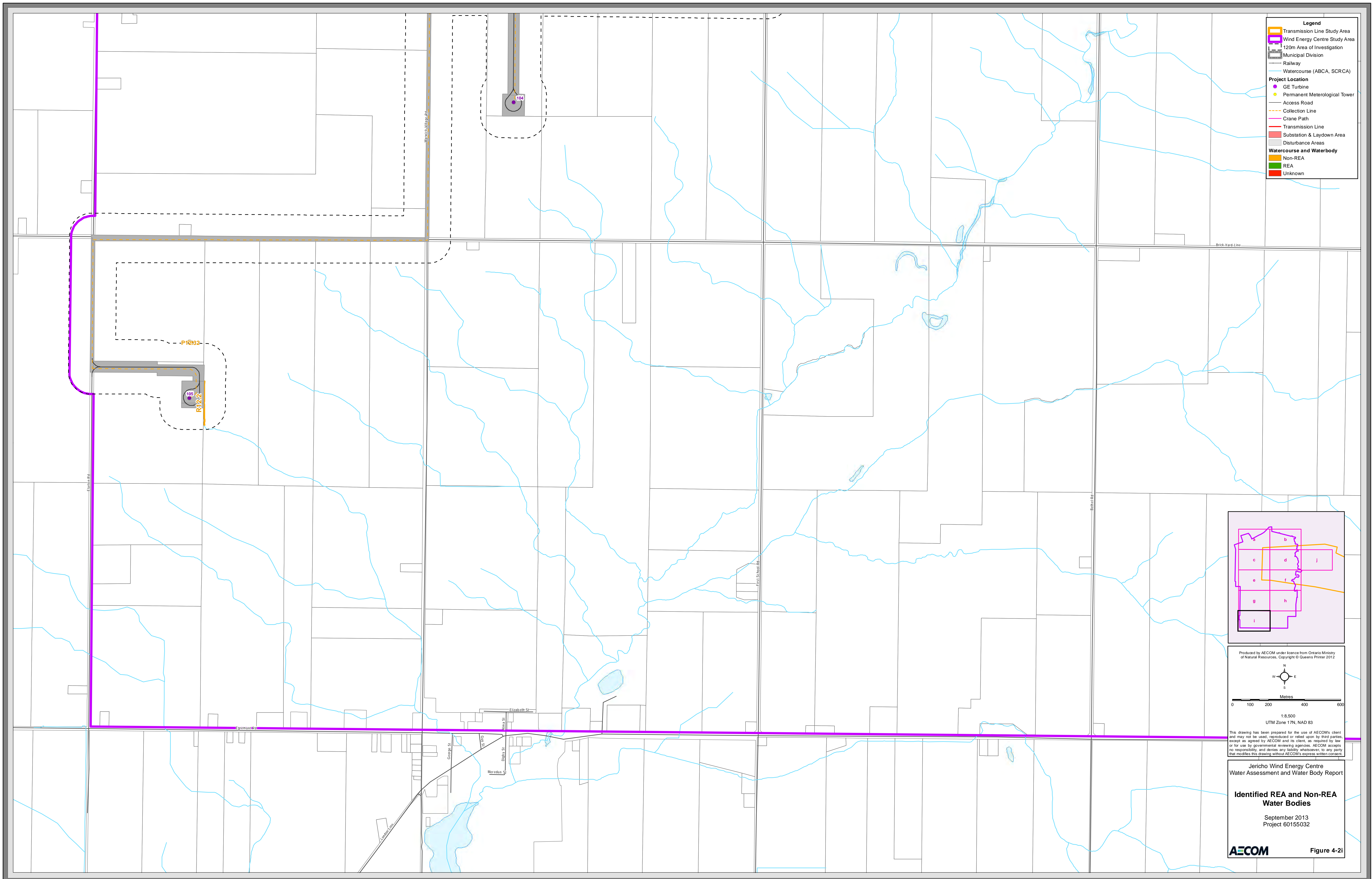


Jericho Wind Energy Centre  
Water Assessment and Water Body Report

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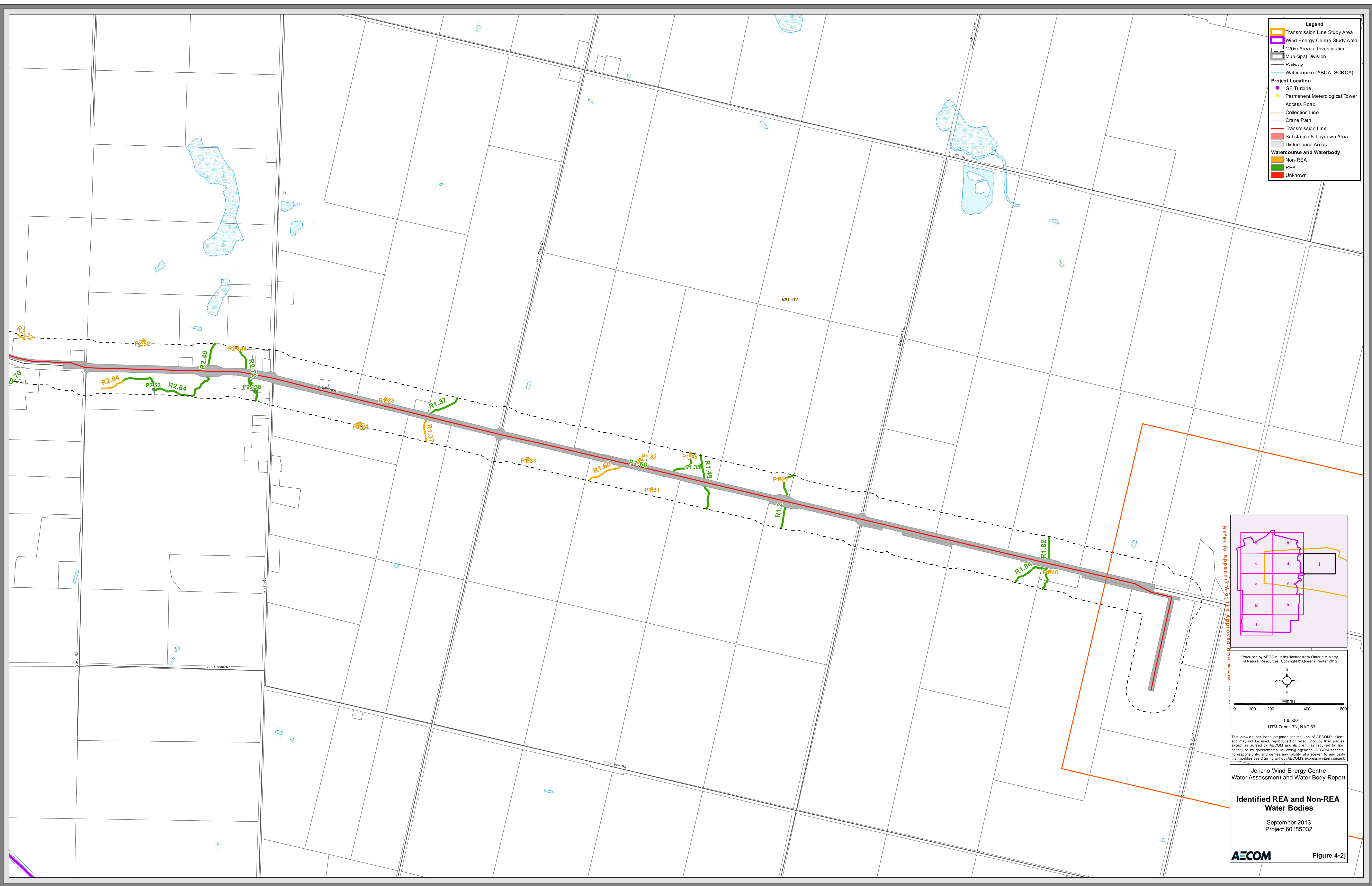
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Water Assessment and Water Body Report

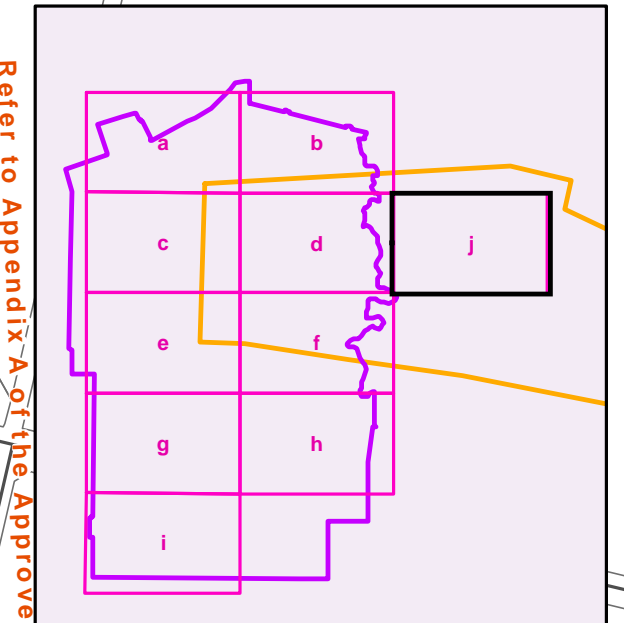
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  - REA
  - Unknown



Refer to Appendix A of the Approved NREB Application

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Jericho Wind Energy Centre  
Water Assessment and Water Body Report

**Identified REA and Non-REA  
Water Bodies**


September 2013  
Project 60155032




# Appendix D

## Additional Site Investigations Summary Table


Feature ID	Project Component	Investigation Date	Description of Site	Feature Descriptions	Feature Sensitivity																
R4.16-D	<ul style="list-style-type: none"> <li>Road Buffer</li> <li>Turbine buffer</li> <li>Collection Line Buffer</li> </ul>	June 20, 2013	<ul style="list-style-type: none"> <li>The watercourse flows through a deciduous forest stand that runs parallel Bog Line. then meets with another tributary and crosses under Lakeshore Rd.; becoming channelized as it runs through agricultural fields. No tile drain inputs were noted at time of investigations. The watercourse is located in a relatively flat and uniform landscape with low sloping banks. Riparian buffer remains consistent at approx. 30m on either side. As the watercourse flows downstream there are areas that narrow then open up to wide pools.</li> </ul> <table border="1" data-bbox="688 581 1213 643"> <tr> <td><b>Waterbody Name</b></td> <td>Elliot McBryan Drain</td> </tr> <tr> <td><b>DFO Drain Classification</b></td> <td>C</td> </tr> </table>	<b>Waterbody Name</b>	Elliot McBryan Drain	<b>DFO Drain Classification</b>	C	<ul style="list-style-type: none"> <li>This watercourse is defined historically as a channelized feature but has slowly naturalized. The watercourse is flat with some pooled areas. The water was slightly turbid, warm and had very low flow at time of investigation that at times could be an obstruction to fish passage. The banks were stable, and fairly vegetated. Substrate consists mostly of sand, with muck, clay and silt. Canopy cover is high consisting mostly of trees with some understory shrubs and grasses. Instream cover is high and consists of aquatic vegetation and some woody debris. School of young of year fish and tadpoles were observed during time of investigation.</li> </ul> <table border="1" data-bbox="1247 639 1472 724"> <tr> <td></td> <td><b>R4.16-D</b></td> </tr> <tr> <td><b>MWW(m):</b></td> <td>2</td> </tr> <tr> <td><b>MBW(m):</b></td> <td>4.5</td> </tr> </table> <table border="1" data-bbox="1499 639 1724 724"> <tr> <td></td> <td><b>R4.16-D</b></td> </tr> <tr> <td><b>MWD(m):</b></td> <td>0.15</td> </tr> <tr> <td><b>MBD(m):</b></td> <td>0.5</td> </tr> </table>		<b>R4.16-D</b>	<b>MWW(m):</b>	2	<b>MBW(m):</b>	4.5		<b>R4.16-D</b>	<b>MWD(m):</b>	0.15	<b>MBD(m):</b>	0.5	Moderate
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<b>Photos</b>		 <p data-bbox="688 1224 1003 1252">Photograph 1. Site overview ↑</p>																			



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P4.51	<ul style="list-style-type: none"> <li>• Road Buffer</li> <li>• Turbine 4 buffer</li> <li>• Collection Line buffer</li> </ul>	June 20, 2013	<ul style="list-style-type: none"> <li>• This pond is located adjacent to agricultural fields. It is a natural depression that may have been altered by land owner. It is surrounded by scrub land that transitions into a deciduous forest stand. Its estimated size is 75m by 50m and its depth is unknown.</li> </ul>	<ul style="list-style-type: none"> <li>• The pond is a semi dugout and as shown on aerial imagery, has a tributary that flows out of it towards the east and into Unknown tributary. Visible in-situ cover is low and consists of aquatic vegetation (cattails visible). Substrate unknown.</li> </ul>	Non-REA
<p><b>Photos</b></p>		 <p><b>Photograph 1. Site overview ↑</b></p>			

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R3-C-1	<ul style="list-style-type: none"> <li>Collection Line Buffer</li> </ul>	June 19, 2013	<ul style="list-style-type: none"> <li>This watercourse runs adjacent to a deciduous forest along Gordon Road, then crosses (south of Widder Road) and runs northwest through the same forest stand. It is channelized along the road then turns into a natural channel after crossing. After road crosses this water course is a natural meandering system with a moderately vegetated bank. The surrounding landscape is slightly sloped and has moderately dense canopy cover.</li> </ul> <table border="1" data-bbox="730 529 1180 587"> <tr> <td><b>Watercourse Name</b></td> <td>Decker Creek</td> </tr> <tr> <td><b>DFO Drain Classification</b></td> <td>F</td> </tr> </table>	<b>Watercourse Name</b>	Decker Creek	<b>DFO Drain Classification</b>	F	<ul style="list-style-type: none"> <li>The watercourse is a partially channelized feature that turns into a natural channel downstream. The watercourse is flat with some pooled areas and a natural riffle run sequence. The water was clear and had very slow flow at the time of investigation. Water was cool, with moderate water quality. The banks were slightly unstable and evidence of erosion was observed. Substrate consists mostly of clay, silt and sand with some cobble and a couple boulders. Canopy cover is high consisting mostly of trees and shrubs. Instream cover is moderate and consists of boulder, cobble, very little aquatic vegetation and some woody debris. Minnows were observed during investigation.</li> </ul> <table border="1" data-bbox="1260 662 1726 750"> <tr> <td></td> <td><b>R3-C-1</b></td> <td></td> <td><b>R3-C-1</b></td> </tr> <tr> <td><b>MWW(m):</b></td> <td>3</td> <td><b>MWD(m):</b></td> <td>0.22</td> </tr> <tr> <td><b>MBW(m):</b></td> <td>6</td> <td><b>MBD(m):</b></td> <td>1</td> </tr> </table>		<b>R3-C-1</b>		<b>R3-C-1</b>	<b>MWW(m):</b>	3	<b>MWD(m):</b>	0.22	<b>MBW(m):</b>	6	<b>MBD(m):</b>	1	Moderate
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R4-J	<ul style="list-style-type: none"> <li>Collection Line Buffer</li> <li>Road Buffer</li> <li>Turbine Buffer</li> </ul>	July 12, 2013	<p>Watercourse flows through a deciduous forest surrounded by corn and wheat agricultural fields on either side. It is south off of Highway 21 west of Jericho Road and crosses under Bruce Scott Road. Overland flow is noted to be an input into this system and it has a gently sloped surrounding landscape.</p> <table border="1" data-bbox="688 451 1209 532"> <tr> <td><b>Watercourse Name</b></td> <td>Lower Mud Creek Drain No 2/Jericho Creek</td> </tr> <tr> <td><b>DFO Drain Classification</b></td> <td>C</td> </tr> </table>	<b>Watercourse Name</b>	Lower Mud Creek Drain No 2/Jericho Creek	<b>DFO Drain Classification</b>	C	<p>The watercourse is a historically channelized, permanent natural feature with a well-established natural riparian edge (~5-10m). The watercourse has a natural riffle/run sequence. The water had a consistent flow at time of investigation. The banks were slightly unstable, with evidence of erosion on left bank upstream. Substrate consists mostly of cobble, sand and gravel. Canopy cover is moderate consisting mostly of trees with some understory shrubs and herbaceous vegetation. Instream cover is low and consists of cobble and some woody debris (no instream vegetation). Woody debris creates 1.5m obstruction at the beginning of the site.</p> <table border="1" data-bbox="1255 636 1482 721"> <tr> <td></td> <td><b>R4-J</b></td> </tr> <tr> <td><b>MWW(m):</b></td> <td>2</td> </tr> <tr> <td><b>MBW(m):</b></td> <td>6</td> </tr> </table> <table border="1" data-bbox="1507 636 1722 721"> <tr> <td></td> <td><b>R4-J</b></td> </tr> <tr> <td><b>MWD(m):</b></td> <td>0.4</td> </tr> <tr> <td><b>MBD(m):</b></td> <td>4</td> </tr> </table>		<b>R4-J</b>	<b>MWW(m):</b>	2	<b>MBW(m):</b>	6		<b>R4-J</b>	<b>MWD(m):</b>	0.4	<b>MBD(m):</b>	4	Moderate
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