

- Significant Wildlife Habitat**
- Insect Species of Conservation Concern**
 - Generalized Candidate Significant Wildlife Habitat
 - Candidate Significant Wildlife Habitat
 - Plant Species of Conservation Concern Habitat**
 - Generalized Candidate Significant Wildlife Habitat
 - Candidate Significant Wildlife Habitat
 - Red-headed Woodpecker Habitat**
 - Generalized Candidate Significant Wildlife Habitat
 - Candidate Significant Wildlife Habitat
 - Amphibian Woodland Habitat**
 - Generalized Candidate Significant Wildlife Breeding Habitat
 - Candidate Significant Wildlife Breeding Habitat
 - Generalized Candidate Significant Wildlife Habitat Movement Corridor
 - Candidate Significant Wildlife Habitat Movement Corridor
 - Natural Areas

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

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 Refer to Table 7 for changes to minimum distances from natural features to proposed Project Location modifications.
 Significant Wildlife Habitat Features identified herein as result of proposed Project Location modifications are in supplement to Significant Wildlife Habitat Features described in the approved Jericho NHA and ES.

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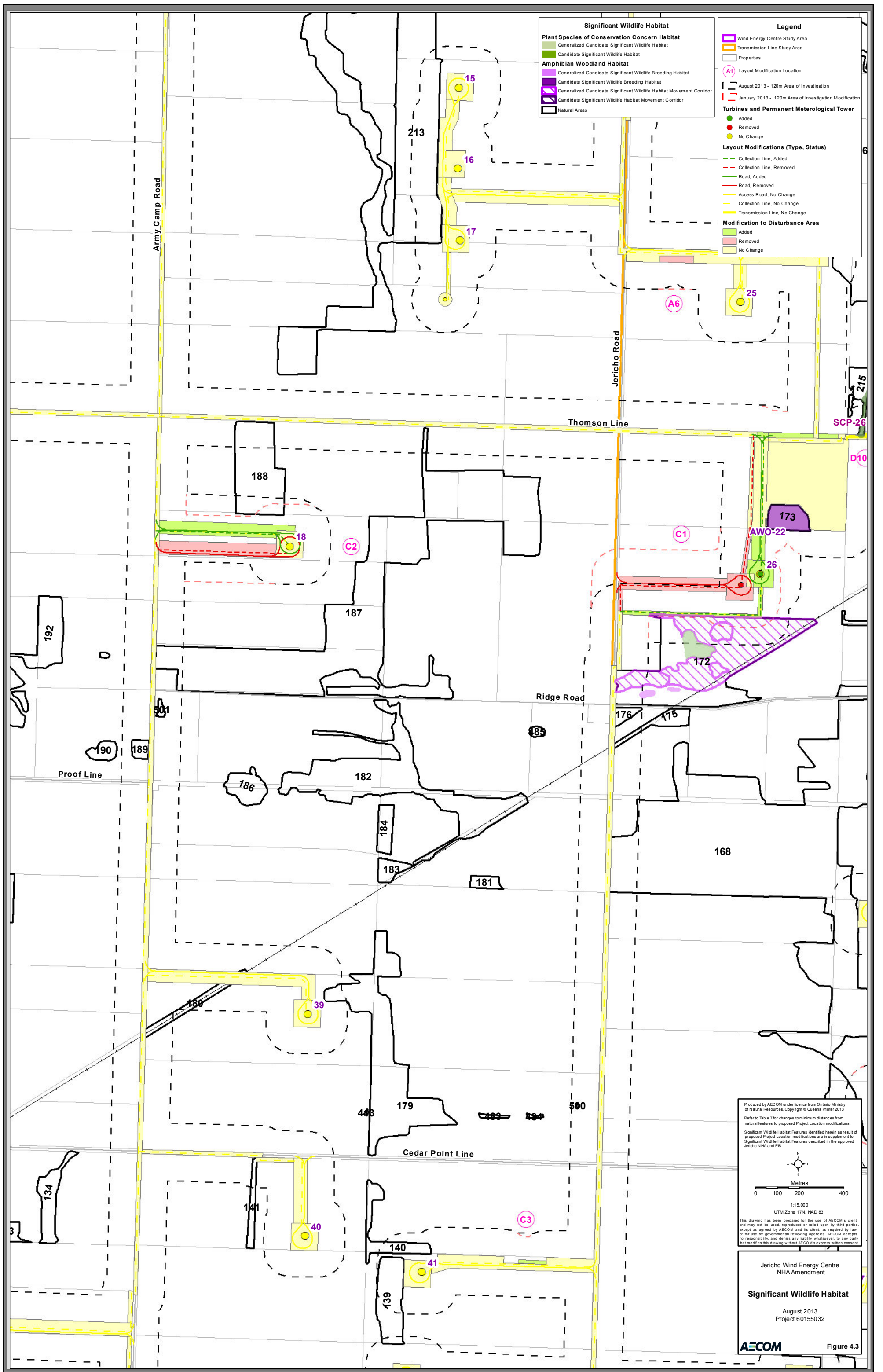
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Jericho Wind Energy Centre
 NHA Amendment

Significant Wildlife Habitat

August 2013
 Project 60155032

AECOM Figure 4.2



Significant Wildlife Habitat

Plant Species of Conservation Concern Habitat

- Generalized Candidate Significant Wildlife Habitat
- Candidate Significant Wildlife Habitat

Amphibian Woodland Habitat

- Generalized Candidate Significant Wildlife Breeding Habitat
- Candidate Significant Wildlife Breeding Habitat
- Generalized Candidate Significant Wildlife Habitat Movement Corridor
- Candidate Significant Wildlife Habitat Movement Corridor

Natural Areas

Legend

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

Turbines and Permanent Meteorological Tower

- Added
- Removed
- No Change

Layout Modifications (Type, Status)

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

Modification to Disturbance Area

- Added
- Removed
- No Change

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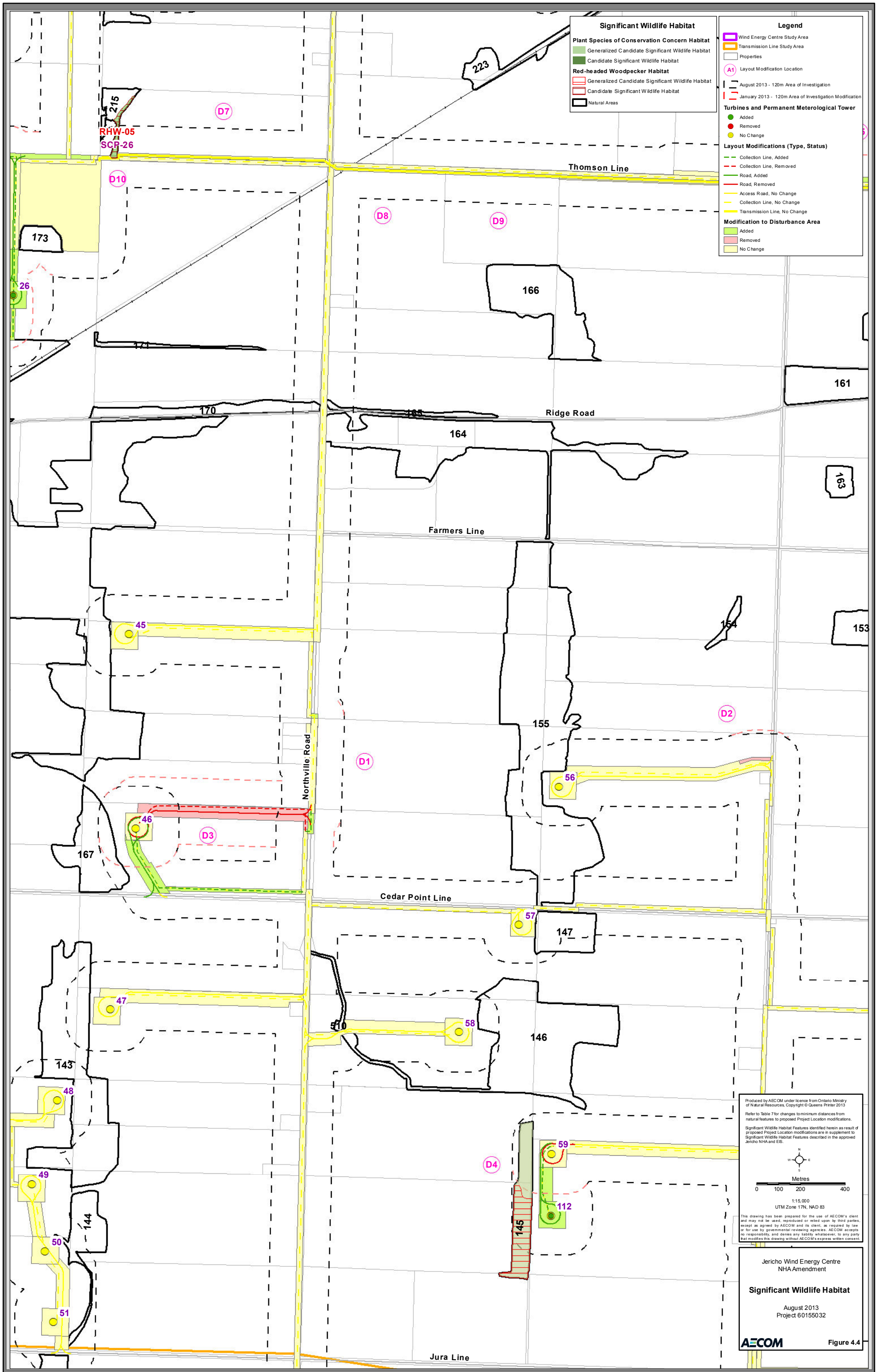
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Jericho Wind Energy Centre
 NHA Amendment

Significant Wildlife Habitat

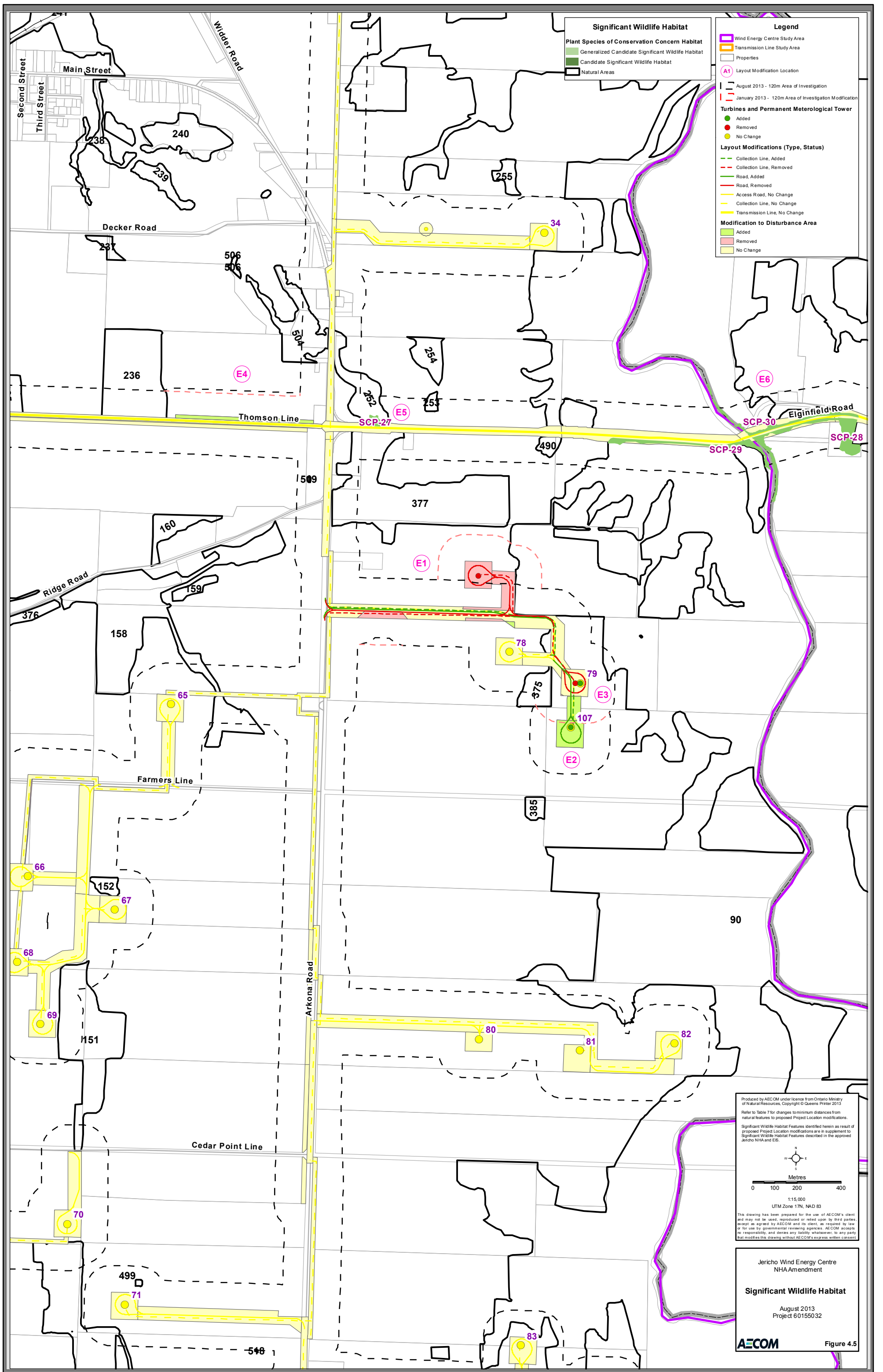
August 2013
 Project 60155032

AECOM Figure 4.3



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Jericho Wind Energy Centre
 NHA Amendment
Significant Wildlife Habitat
 August 2013
 Project 60155032
AECOM Figure 4.4



Significant Wildlife Habitat

- Plant Species of Conservation Concern Habitat
- Generalized Candidate Significant Wildlife Habitat
- Candidate Significant Wildlife Habitat
- Natural Areas

Legend

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

Turbines and Permanent Meteorological Tower

- Added
- Removed
- No Change

Layout Modifications (Type, Status)

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

Modification to Disturbance Area

- Added
- Removed
- No Change

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Refer to Table 7 for changes to minimum distances from natural features to proposed Project Location modifications.

Significant Wildlife Habitat Features identified herein as result of proposed Project Location modifications are in supplement to Significant Wildlife Habitat Features described in the approved Jericho NHA and ES.

North arrow and scale bar (0 to 400 Metres).
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 UTM Zone 17N, NAD 83

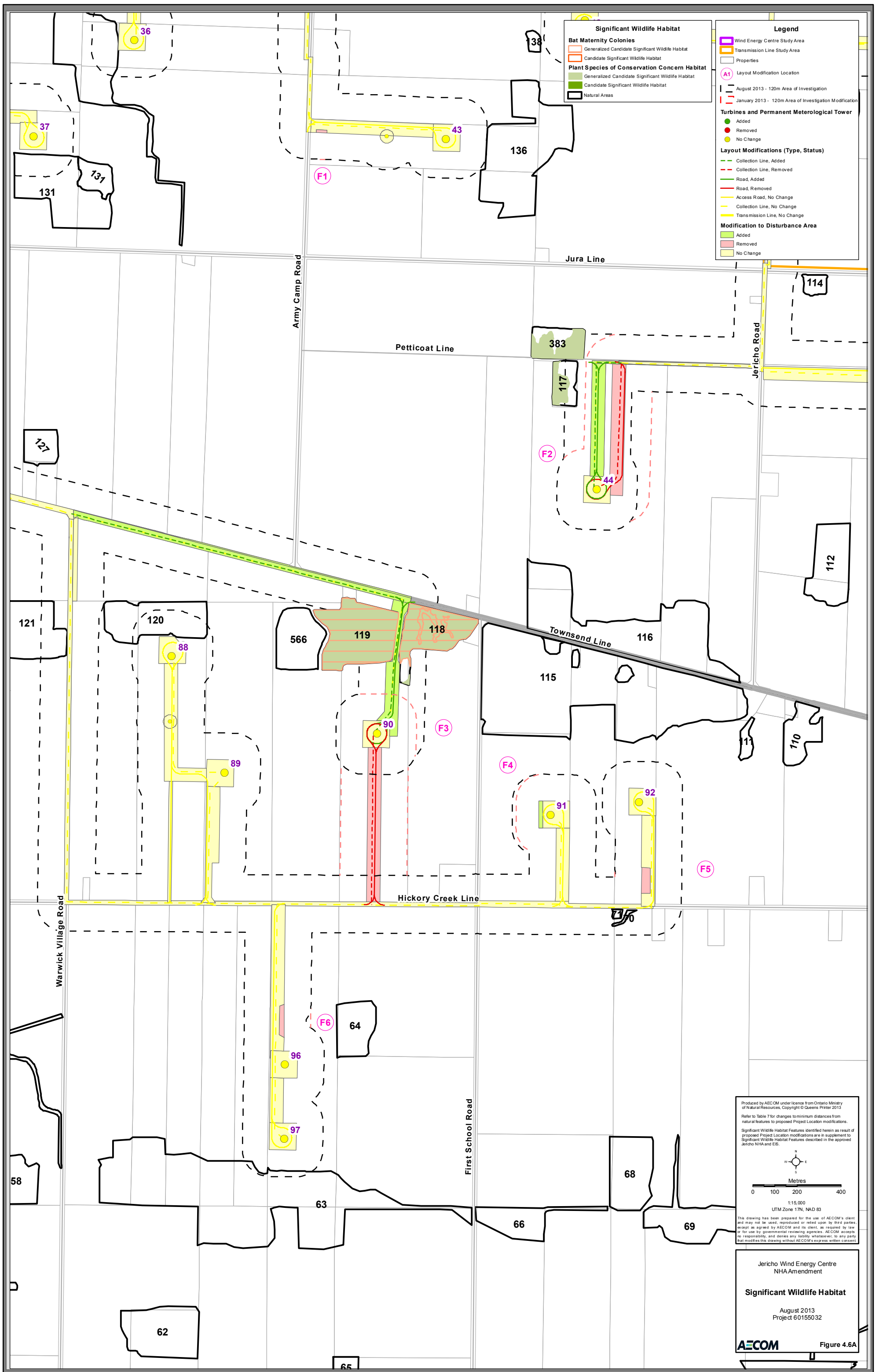
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Jericho Wind Energy Centre
 NHA Amendment

Significant Wildlife Habitat

August 2013
 Project 60155032

AECOM Figure 4.5



Significant Wildlife Habitat

Bat Maternity Colonies

- Generalized Candidate Significant Wildlife Habitat
- Candidate Significant Wildlife Habitat

Plant Species of Conservation Concern Habitat

- Generalized Candidate Significant Wildlife Habitat
- Candidate Significant Wildlife Habitat

Natural Areas

Legend

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

Turbines and Permanent Meteorological Tower

- Added
- Removed
- No Change

Layout Modifications (Type, Status)

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

Modification to Disturbance Area

- Added
- Removed
- No Change

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 Metres
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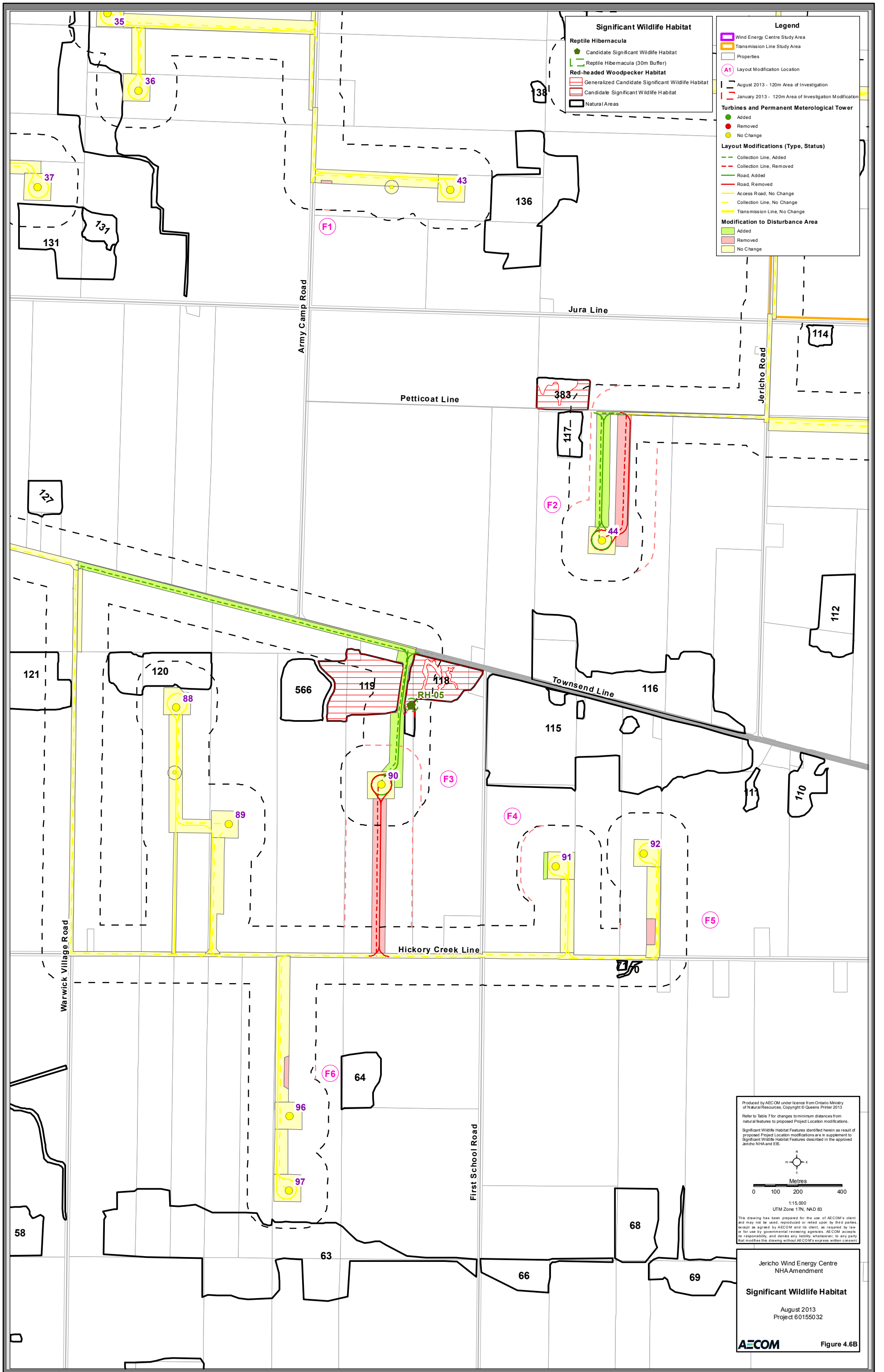
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Jericho Wind Energy Centre
 NHA Amendment

Significant Wildlife Habitat

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 Project 60155032

AECOM Figure 4.6A



Significant Wildlife Habitat

- Reptile Hibernacula
 - Candidate Significant Wildlife Habitat
 - Reptile Hibernacula (30m Buffer)
- Red-headed Woodpecker Habitat
 - Generalized Candidate Significant Wildlife Habitat
 - Candidate Significant Wildlife Habitat
- Natural Areas

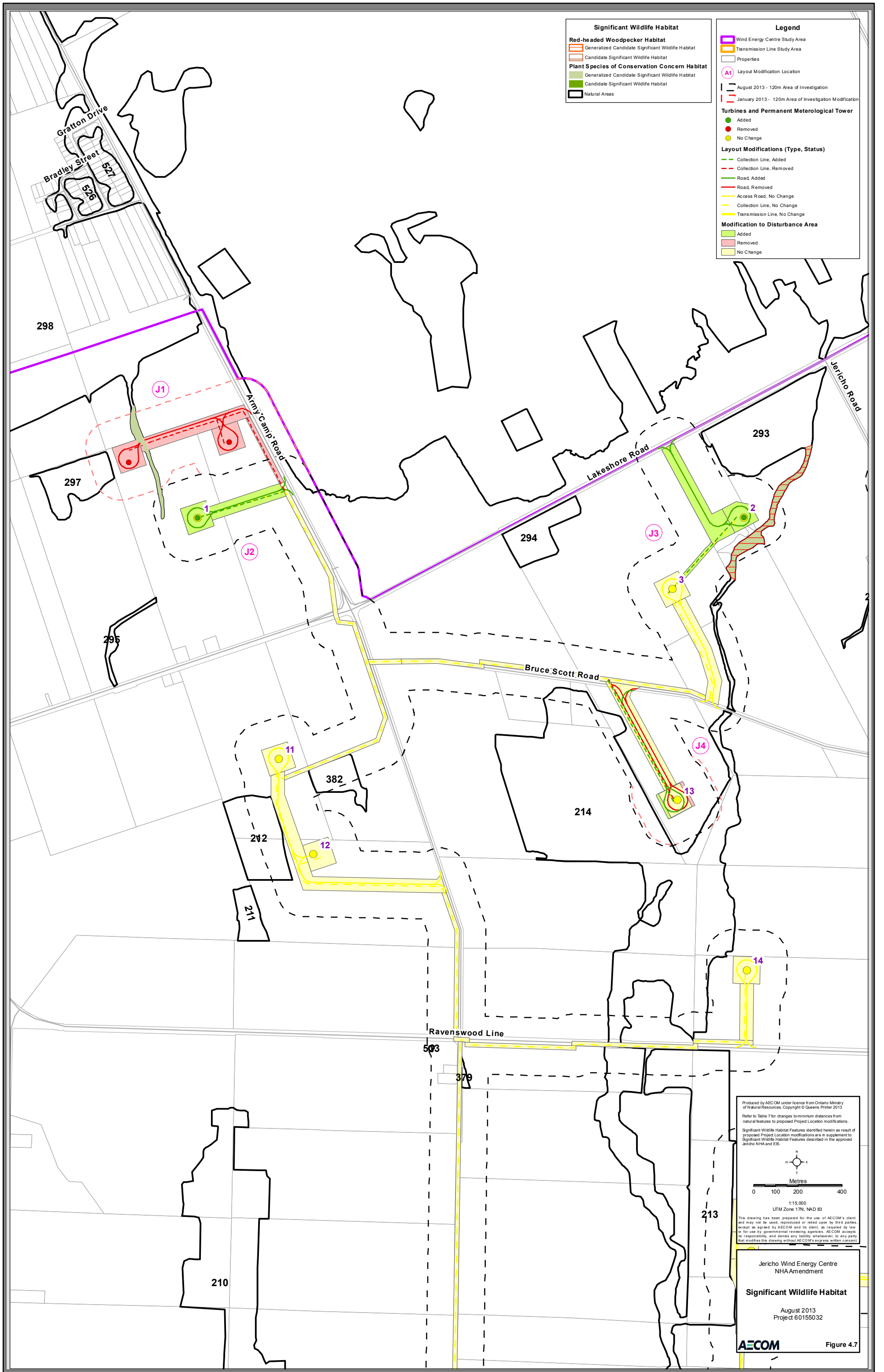
Legend

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

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 Refer to Table 7 for changes to minimum distances from natural features to proposed Project Location modifications.
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0 100 200 400
 Metres
 1:15,000
 UTM Zone 17N, NAD 83

Jericho Wind Energy Centre
 NHA Amendment
Significant Wildlife Habitat
 August 2013
 Project 60155032
AECOM Figure 4.6B



Significant Wildlife Habitat

Red-headed Woodpecker Habitat

- Generalized Candidate Significant Wildlife Habitat
- Candidate Significant Wildlife Habitat

Plant Species of Conservation Concern Habitat

- Generalized Candidate Significant Wildlife Habitat
- Candidate Significant Wildlife Habitat

Natural Areas

Legend

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

Turbines and Permanent Meteorological Tower

- Added
- Removed
- No Change

Layout Modifications (Type, Status)

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

Modification to Disturbance Area

- Added
- Removed
- No Change

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 Refer to Table 7 for changes to minimum distances from natural features to proposed Project Location modifications.
 Significant Wildlife Habitat Features identified herein as result of proposed Project Location modifications are a supplement to Significant Wildlife Habitat Features described in the approved Jericho NHA and EB.

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 Metres

1:15,000
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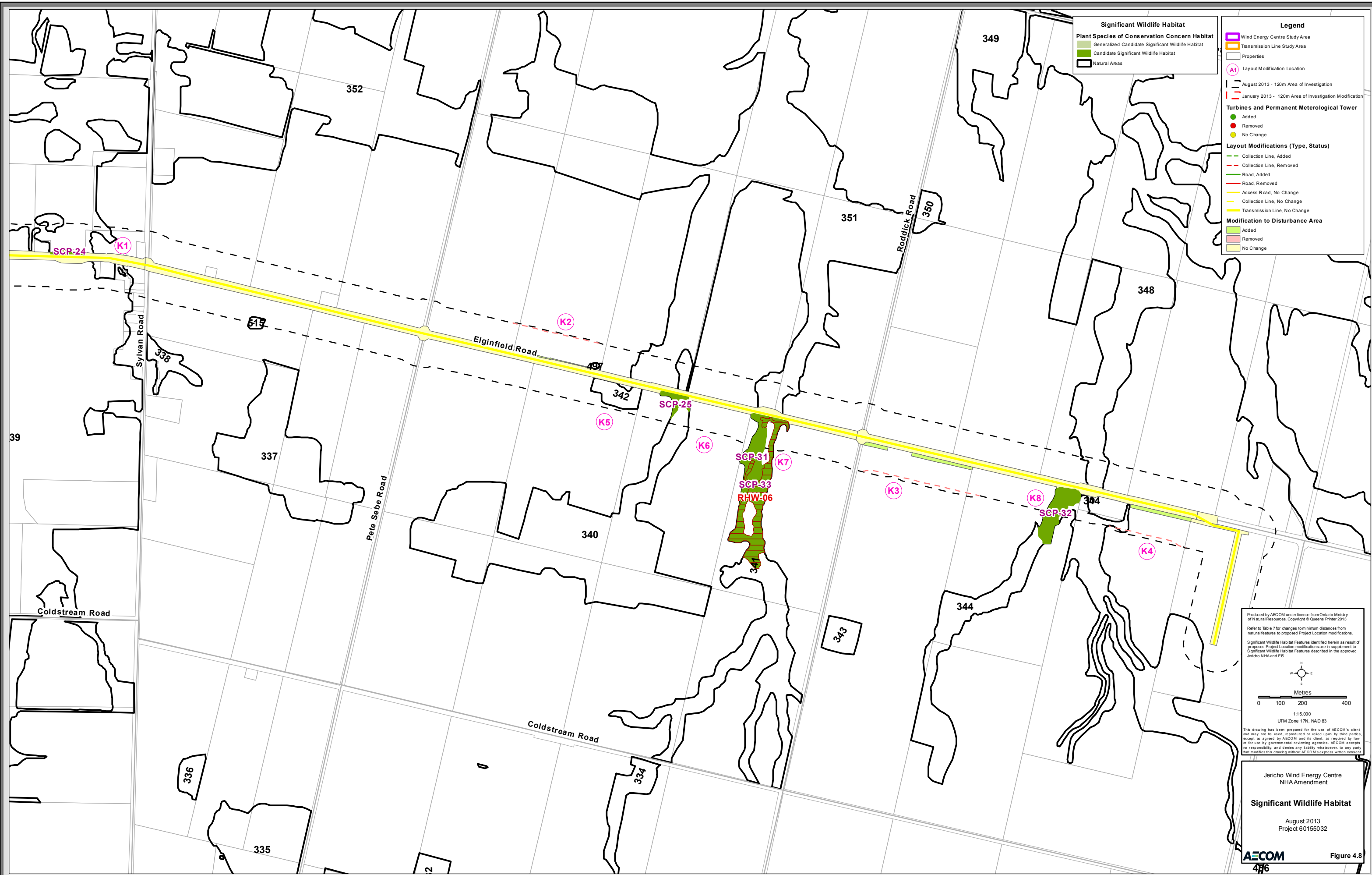
Jericho Wind Energy Centre
 NHA Amendment

Significant Wildlife Habitat

August 2013
 Project 60155032

AECOM

Figure 4.7



Significant Wildlife Habitat

- Plant Species of Conservation Concern Habitat
 - Generalized Candidate Significant Wildlife Habitat
 - Candidate Significant Wildlife Habitat
 - Natural Areas

Legend

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

Turbines and Permanent Meteorological Tower

- Added
- Removed
- No Change

Layout Modifications (Type, Status)

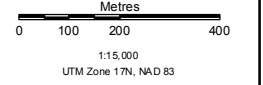
- Collection Line, Added
- Collection Line, Removed
- Road, Added
- Road, Removed
- Access Road, No Change
- Collection Line, No Change
- Transmission Line, No Change

Modification to Disturbance Area

- Added
- Removed
- No Change

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Refer to Table 7 for changes to minimum distances from natural features to proposed Project Location modifications.

Significant Wildlife Habitat Features identified herein as result of proposed Project Location modifications are in supplement to Significant Wildlife Habitat Features described in the approved Jericho NHA and ES.



1:15,000
UTM Zone 17N, NAD 83

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Jericho Wind Energy Centre
NHA Amendment

Significant Wildlife Habitat

August 2013
Project 60155032

3.3.1.2 Designation Changes to Previously Identified Wildlife Habitat Features

The following changes to the designation of candidate Significant Wildlife Habitat and Generalized Candidate Significant Wildlife Habitats described in the approved NHA and EIS were made where distances from Project infrastructure to wildlife habitat Features changed as a result of the proposed Project Location modifications (refer to **Table 1**):

- Generalized Candidate Significant Wildlife Habitat for Amphibian Woodland Breeding in Natural Area 173 was changed to candidate Significant Wildlife Habitat Feature AWO-22 because it is within 120 m of a proposed access road as a result of Modification C1 (refer to **Figure 4.3**);
- Candidate Significant Amphibian Woodland Breeding Habitat Feature AWO-16 in Natural Area 250 was changed to Generalized Candidate Significant Wildlife Habitat because it is more than 120 m away from a proposed access road as a result of Modification B3 (refer to **Figure 4.2**);
- Candidate Significant Amphibian Woodland Breeding Habitat Feature AWO-20 in Natural Area 172 was changed to Generalized Candidate Significant Wildlife Habitat because it is more than 120 m away from a proposed access road as a result of Modification C1 (refer to **Figure 4.3**);
- Generalized Candidate Significant Wildlife Habitat for Plant Species of Conservation Concern and Red-headed Woodpecker in Natural Area 215 were changed to candidate Significant Wildlife Habitat Features SCP-26 and RHW-05, respectively, where vegetation removal is proposed in a CUW1q community as a result of Modification D10 (refer to **Figure 4.4**);
- Generalized Candidate Significant Wildlife Habitat for Plant Species of Conservation Concern in Natural Area 252 was changed to candidate Significant Wildlife Habitat Feature SCP-27 where vegetation removal is proposed in a CUM1-1 community as a result of Modification E5 (refer to **Figure 4.5**);
- Generalized Candidate Significant Wildlife Habitat for Plant Species of Conservation Concern in Natural Area 90 was changed to candidate Significant Wildlife Habitat Features SCP-28, SCP-29 and SCP-30 where vegetation removal is proposed in CUM1-1 communities along the Ausable River crossing as a result of Modification E6 (refer to **Figure 4.5**);
- Generalized Candidate Significant Wildlife Habitat for Plant Species of Conservation Concern and Red-headed Woodpecker in Natural Area 341 was changed to candidate Significant Wildlife Habitat Features SCP-31, SCP-33 and RHW-06, respectively, where vegetation removal is proposed in CUM1-1 and CUW1m communities as a result of Modification K7 (refer to **Figure 4.8**); and
- Generalized Candidate Significant Wildlife Habitat for Plant Species of Conservation Concern in Natural Area 344 was changed to candidate Significant Wildlife Habitat Feature SCP-32 where vegetation removal is proposed in a CUM1-1 community as a result of Modification K8 (refer to **Figure 4.8**).

These Features were carried forward to the Evaluation of Significance of this NHA Addendum to ensure that any potential effects of the modified Project components are addressed through the application of appropriate mitigation measures, if required.

Although now within 120 m of an access road as a result of Modification G5, the Generalized Candidate Turtle Wintering Area in Natural Area 516 was no longer considered to be suitable habitat based on the results of site investigations conducted in support of this NHA Addendum (refer to **Table 6**). As well, Generalized Candidate Significant Plant Species of Conservation Concern Habitat and Red-headed Woodpecker Habitat previously identified in the approved NHA and EIS within a cultural thicket (CUT1-4) in Natural Area 290 no longer exist because the cultural thicket has since been cleared by the landowner. Therefore, these Features are not considered further in this NHA Addendum.

Minimum distances from the following Features to the Project Location changed as a result of the proposed Project Location modifications. However, these changes to minimum distances do not require changes to the designation of candidate Significant Wildlife Habitat and Generalized Candidate Significant Wildlife Habitats described in the approved NHA and EIS:

- Candidate Significant Amphibian Movement Corridor Feature AMC-01: The distance from this Feature to the nearest access road decreased from 45 m to 106 m as a result of Modification B3;
- Candidate Significant Amphibian Woodland Breeding Habitat Feature AWO-04: The distance from this Features to an access road decreased from 35 m to 9 m (Modification G2);
- Candidate Significant Bat Maternity Colony Feature BMA-097: The distance from this Feature to the nearest Project Infrastructure (crane path and collection line) increased from 20 m to 22 m from turbine blade as a result of Modification G4; however, distance from turbine blade as reported in the approved NHA and EIS did not change (i.e., remains within 22 m);
- Generalized Candidate Significant Bat Maternity Colony Feature in Natural Area 173;
- Generalized Candidate Significant Turtle Wintering Area Features in Natural Areas 243 and 249;
- Generalized Candidate Significant Mature Forest Stand Feature in Natural Area 102;
- Generalized Candidate Significant Turtle Nesting Habitat Feature in Natural Area 249;
- Generalized Candidate Significant Amphibian Wetland Breeding Habitat Feature in Natural Area 249;
- Generalized Candidate Significant Plant Species of Conservation Concern Habitat Features in Natural Areas 97, 102, 173, 167 and 249; and
- Generalized Candidate Significant Red-headed Woodpecker Habitat Features in Natural Areas 97 and 102.

As a result of the proposed Project Location modifications, the following previously identified Features are no longer within 120 m of the Project Location (refer to **Table 1**):

- Candidate Significant Turtle Wintering Area Feature TWH-04 in Natural Area 250 as a result of Modification B3;
- Generalized Candidate Significant Marsh Bird Breeding Habitat in Natural Area 249 as a result of Modification B3;
- Candidate Significant Turtle Nesting Habitat Feature TNH-02 in Natural Area 298 as a result of Modification J2;
- Generalized Candidate Plant Species of Conservation Concern Habitat and Generalized Candidate Red-headed Woodpecker Habitat in Natural Area 285 as a result of Modification A3;
- Generalized Candidate Significant Wildlife Habitat for Plant Species of Conservation Concern and Red-headed Woodpecker, and Bat Maternity Colony in Natural Area 286 as a result of Modification A7;
- Generalized Candidate Plant Species of Conservation Concern Habitat and Generalized Candidate Red-headed Woodpecker Habitat in Natural Area 291 as a result of Modification A7;
- Terrestrial Waterfowl (Tundra Swan) Stopover and Staging Area Feature WSST-31 as a result of Modification A7; and
- Bat Maternity Colony Feature BMA-297 and Generalized Candidate Plant Species of Conservation Concern Habitat in Natural Area 297 as a result of Modification J2.

3.3.2 Areas of Natural and Scientific Interest (ANSIs)

The minimum distance from the Project Location to the Provincially Significant Ausable River Valley Life Science ANSI was reduced to 0 m (transmission line in Feature) as a result of Modification E6. Vegetation removal is proposed in CUM1-1 communities within the Thomson Line and Elginfield Road right-of-way, which is within the boundaries of this Feature as mapped by MNR. The descriptions of the attributes, composition and function of this ANSI did not change from the approved NHA and EIS and therefore are not repeated here. This feature was carried forward to the EIS of this NHA Addendum to ensure that any potential effects of the modified Project components are addressed through the application of appropriate mitigation measures, if required.

3.3.3 Minimum Distances from Natural Features to Project Location

The proposed Project Location modifications have resulted in changes to the minimum distance to Project Location for the following Features (**Table 7**). Minimum distances to Features not listed in the table below are the same as reported in the approved NHA and EIS. Where minimum distances from candidate Significant Wildlife Habitat Features to specific Project infrastructure requiring an Evaluation of Significance (as per Appendix D of the Natural Heritage Assessment Guide for Renewable Energy Projects; MNR, 2012) changed, these distances are also provided in the table below.

Table 7. Updated Minimum Distances Between the Project Location and Natural Features

Modification ID	Feature Type	Feature ID	Natural Area(s)	Minimum Distance from Project Location (m)	
				Distance Reported in Approved NHA and EIS (m)	Distance Corresponding to Proposed Modifications (m)
A1	Wetland	WET-048	217, 285, 286, 290	73 (turbine construction disturbance area)	61 (turbine construction disturbance area)
	Rare Vegetation Community	RVC-05	290	>120 (not included in approved NHA and EIS)	24 (access road and collection line)
	Insect Species of Conservation Concern Habitat; Plant Species of Conservation Concern Habitat; Red-headed Woodpecker Habitat	Generalized Candidate SWH	290	>120 (not included in approved NHA and EIS)	17 (access road and collection line)
A2	Plant Species of Conservation Concern Habitat	Generalized Candidate SWH	290	>0.1 (collection line)	Not applicable ³
	Habitat for Red-headed Woodpecker	Generalized Candidate SWH	290	>0.1 (collection line)	Not applicable ³
A3	Woodland	WOD-262	285	>0.1 (access road)	>120 (all infrastructure)
	Plant Species of Conservation Concern Habitat; Red-headed Woodpecker Habitat	Generalized Candidate SWH	285	>0.1 (access road)	>120 (all infrastructure)
A7	Woodland	WOD-273	291	3 (collection line)	>120 (all infrastructure)
	Woodland	WOD-267	286	12 (collection line)	>120 (all infrastructure)
	Waterfowl Stopover and Staging Areas (Terrestrial)	WSST-31	Not applicable	0 (turbine construction disturbance area and collection line in Feature)	>120 (all infrastructure)
	Plant Species of Conservation Concern Habitat; Red-headed Woodpecker Habitat	Generalized Candidate SWH	291	3 (collection line)	>120 (all infrastructure)
	Bat Maternity Colony; Plant Species of Conservation Concern Habitat; Red-headed Woodpecker Habitat	Generalized Candidate SWH	286	12 (collection line)	>120 (all infrastructure)
B2	Rare Vegetation Community	RVC-02	243	27 (access road)	>0.1 (collection line)
	Turtle Wintering Area	Generalized Candidate SWH	243	95 (collection line)	44 (collection line)
	Plant Species of Conservation Concern Habitat; Red-headed Woodpecker Habitat	Generalized Candidate SWH	233	>120 (not included in the approved NHA and EIS)	>0.1 (collection line)

3. *Generalized Candidate Significant Plant Species of Conservation Concern Habitat and Red-headed Woodpecker Habitat previously identified in the approved NHA and EIS within a cultural thicket (CUT1-4) in Natural Area 290 no longer exist because the cultural thicket has since been cleared by the landowner.*

Table 7. Updated Minimum Distances Between the Project Location and Natural Features

Modification ID	Feature Type	Feature ID	Natural Area(s)	Minimum Distance from Project Location (m)	
				Distance Reported in Approved NHA and EIS (m)	Distance Corresponding to Proposed Modifications (m)
B3	Amphibian Movement Corridor	AMC-01	250, 249	>0.1 (collection line) (45 m from access road)	>0.1 (collection line) (106 m from access road)
	Amphibian Woodland Breeding Habitat	AWO-16	250	>0.1 (collection line) (1 from access road)	>0.1 (collection line) (>120 from access road)
	Turtle Wintering Area	TWH-04	250	44 (access road)	>120 (all infrastructure)
	Turtle Wintering Area, Amphibian Wetland Breeding Habitat, Turtle Nesting Habitat	Generalized Candidate SWH	249	>0.1 (collection line)	77 (collection line)
	Plant Species of Conservation Concern Habitat	Generalized Candidate SWH	249	>0.1 (collection line)	16 (collection line)
	Marsh Bird Breeding Habitat	Generalized Candidate SWH	249	>0.1 (collection line)	>120 (all infrastructure)
C1	Woodland	WOD-192	173	5 (substation)	>0.1 (access road)
	Bat Maternity Colony; Plant Species of Conservation Concern Habitat	Generalized Candidate SWH	173	5 (substation)	>0.1 (access road)
	Amphibian Woodland Breeding Habitat	AWO-22	173	5 (substation) (>120 from access road)	>0.1 (access road)
	Amphibian Woodland Breeding Habitat	AWO-20	172	>0.1 (collection line) (109 m from access road)	>0.1 (collection line) (>120 m from access road)
	Plant Species of Conservation Concern Habitat	Generalized Candidate SWH	172	>120 (not included in the approved NHA and EIS)	>0.1 (collection line)
D3	Wetland	WET-062	143, 167	56 (turbine blade)	50 (access road)
	Plant Species of Conservation Concern Habitat	Generalized Candidate SWH	167	56 (turbine blade)	50 (access road)
D4	Red-headed Woodpecker Habitat; Plant Species of Conservation Concern Habitat	Generalized Candidate SWH	145	>120 (not included in the approved NHA and EIS)	34 (turbine construction disturbance area)
D10	Woodland	WOD-201	215	>0.1 (transmission line)	0 (transmission line in feature)
	Plant Species of Conservation Concern Habitat	SCP-26	215	>0.1 (transmission line)	0 (transmission line in feature)
	Red-headed Woodpecker Habitat	RHW-05	215	>0.1 (transmission line)	0 (transmission line in feature)

Table 7. Updated Minimum Distances Between the Project Location and Natural Features

Modification ID	Feature Type	Feature ID	Natural Area(s)	Minimum Distance from Project Location (m)	
				Distance Reported in Approved NHA and EIS (m)	Distance Corresponding to Proposed Modifications (m)
E5	Plant Species of Conservation Concern	SCP-27	252	>0.1 (transmission line)	0 (transmission line in feature)
E6	Plant Species of Conservation Concern	SCP-28	90	>0.1 (transmission line)	0 (transmission line in feature)
	Plant Species of Conservation Concern	SCP-29	90	>0.1 (transmission line)	0 (transmission line in feature)
	Plant Species of Conservation Concern	SCP-30	90	>0.1 (transmission line)	0 (transmission line in feature)
	Life Science Area of Natural and Scientific Interest (ANSI)	Ausable River Valley ANSI	90	>0.1 (transmission line)	0 (transmission line in feature)
	Wetland	WET-050	90	>0.1 (transmission line)	0 (transmission line in feature)
F2	Woodland	WOD-111	117, 383	>120 (not included in the approved NHA and EIS)	41 (access road)
	Plant Species of Conservation Concern Habitat	Generalized Candidate SWH	117	>120 (not included in the approved NHA and EIS)	66 (access road and collection line)
	Plant Species of Conservation Concern Habitat; Red-headed Woodpecker Habitat	Generalized Candidate SWH	383	>120 (not included in the approved NHA and EIS)	41 (access road and collection line)
F3	Woodland	WOD-097	115, 116, 118, 119, 566	>120 (not included in the approved NHA and EIS)	>0.1 (access road)
	Reptile Hibernacula	RH-05	118	>120 (not included in the approved NHA and EIS)	5 (access road and collection line)
	Plant Species of Conservation Concern Habitat; Red-headed Woodpecker Habitat; Bat Maternity Colony	Generalized Candidate SWH	118, 119	>120 (not included in the approved NHA and EIS)	>0.1 (access road and collection line)
G2	Woodland	WOD-110	102	17 (turbine construction disturbance area)	9 (access road and collection line)
	Wetland	WET-063	102	55 (turbine construction disturbance area)	20 (access road and collection line)
	Amphibian Woodland Breeding Habitat	AWO-04	102	17 (turbine construction disturbance area) (35 m from access road)	9 (access road and collection line)
	Mature Forest Stand; Plant Species of Conservation Concern Habitat; Red-headed Woodpecker Habitat	Generalized Candidate SWH	102	17 (turbine construction disturbance area)	9 (access road and collection line)
G4	Woodland	WOD-084	97	20 (crane path and collection line)	22 (turbine blade)
	Wetland	WET-025	97	20 (crane path and collection line)	22 (turbine blade)
	Plant Species of Conservation Concern Habitat; Red-headed Woodpecker Habitat	Generalized Candidate SWH	97	20 (crane path and collection line)	22 (turbine blade)

Table 7. Updated Minimum Distances Between the Project Location and Natural Features

Modification ID	Feature Type	Feature ID	Natural Area(s)	Minimum Distance from Project Location (m)	
				Distance Reported in Approved NHA and EIS (m)	Distance Corresponding to Proposed Modifications (m)
G5	Turtle Wintering Area ⁴	Generalized Candidate SWH	516	60 (collection line) (>120 m from access road)	1 (access road and collection line)
J2	Wetland	WET-046	298, 297, 295	29 (turbine construction disturbance area)	>120 (all infrastructure)
	Turtle Nesting Habitat	TNH-02	298	23 (access road)	>120 (all infrastructure)
	Plant Species of Conservation Concern	Generalized Candidate SWH	298	>120 (not included in the approved NHA and EIS)	73 (turbine construction disturbance area)
	Woodland	WOD-261	297	29 (turbine construction disturbance area)	>120 (all infrastructure)
	Bat Maternity Colony	BMA-297	297	29 (turbine construction disturbance area) (34 m from turbine blade)	>120 (all infrastructure)
	Plant Species of Conservation Concern Habitat	Generalized Candidate SWH	297	29 (turbine construction disturbance area)	>120 (all infrastructure)
J3	Woodland	WOD-265	293	>120 (not included in the approved NHA and EIS)	30 (turbine construction disturbance area)
	Red-headed Woodpecker Habitat, Plant Species of Conservation Concern Habitat	Generalized Candidate SWH	293	>120 (not included in the approved NHA and EIS)	30 (turbine construction disturbance area)
J4	Wetland	WET-044	214	>0.1 (collection line)	41 (turbine construction disturbance area)
K1	Plant Species of Conservation Concern Habitat	SCP-24	90	Not applicable (not described in approved NHA and EIS)	0 (transmission line in feature)
K5	Woodland	WOD-181	342	>0.1 (transmission line)	0 (transmission line in feature)
K6	Plant Species of Conservation Concern Habitat	SCP-25	340	Not applicable (not described in approved NHA and EIS)	0 (transmission line in feature)
K7	Woodland	WOD-175	341	>0.1 (transmission line)	0 (transmission line in feature)
	Plant Species of Conservation Concern Habitat	SCP-31	341	>0.1 (transmission line)	0 (transmission line in feature)
	Plant Species of Conservation Concern Habitat	SCP-33	341	>0.1 (transmission line)	0 (transmission line in feature)
	Red-headed Woodpecker Habitat	RHW-06	341	>0.1 (transmission line)	0 (transmission line in feature)
K8	Plant Species of Conservation Concern Habitat	SCP-32	344	>0.1 (transmission line)	0 (transmission line in feature)

4. Generalized Candidate Turtle Wintering Area Feature previously identified in Natural Area 516 was considered not to be suitable habitat based on site investigations conducted for this NHA Amendment.

4. Amendments to the Evaluation of Significance

4.1 Methods

4.1.1 Wetlands

Two wetland Features (WET-026 and WET-048) were carried forward to the Evaluation of Significance (refer to **Figure 2** for locations), as the changes to attributes and composition of these Features required a new Evaluation of Significance. As in the approved NHA and EIS, no development is proposed within wetland Features; therefore, wetland Features located within the 120 m Area of Investigation were treated as Provincially Significant and assessed using the protocol described in Appendix C of the Natural Heritage Assessment Guide for Renewable Energy Projects (MNR, 2012). Consequently, no changes are required to the methods as described in the approved NHA and EIS. This evaluation was completed by OWES certified Biologists, Rob Aitken and Jessica Piette (refer to Appendix E of the approved NHA and EIS for qualifications). Field notes are provided in **Appendix B**.

4.1.2 Woodlands

Woodland Features WOD-097, WOD-111, WOD-263, WOD-265 and WOD-277 were re-evaluated based on field data collected during site investigations conducted in support of this NHA Addendum, following the methods described in the approved NHA and EIS. Consequently, no changes are required to the methods as described in the approved NHA and EIS.

4.1.3 Wildlife Habitat

Bat Maternity Colonies

Bat Maternity Colony Feature BMA-297 is no longer within the 120 m Area of Investigation as a result of Modification J2. Consequently, pre-construction Evaluation of Significance surveys are no longer required for this Feature.

Reptile Hibernacula

An Evaluation of Significance will be conducted for candidate Reptile Hibernaculum RH-05 using the methods described for this Significant Wildlife Habitat type in the approved NHA and EIS.

Turtle Wintering Areas

Evaluation of Significance studies for Turtle Wintering Areas within the 120 m Area of Investigation were completed according to the methods described for this Significant Wildlife Habitat type in the approved NHA and EIS.

Rare Vegetation Community

Rare Vegetation Community Feature RVC-05 consists of a Fresh-Moist Black Walnut Lowland Deciduous Forest Type (FOD7-4) vegetation community, a rare forest type with a provincial ranking of S2S3. No additional field studies are required to evaluate the significance of this rare vegetation community.

Turtle Nesting Habitat

Turtle Nesting Habitat Feature TNH-02 is no longer within the 120 m Area of Investigation as a result of Modification J2. Consequently, pre-construction Evaluation of Significance surveys are no longer required for this Feature.

Amphibian Woodland Breeding Habitat

An Evaluation of Significance will be conducted for Candidate Significant Amphibian Woodland Breeding Habitat Feature AWO-22 using the methods described for this Significant Wildlife Habitat type in the approved NHA and EIS.

The designation of amphibian woodland breeding habitat Features AWO-16 and AWO-20 changed from candidate Significant Wildlife Habitat to Generalized Candidate Significant Wildlife Habitat as a result of Modifications B3 and C1, respectively. Consequently, pre-construction Evaluation of Significance surveys are no longer required for these Features.

Plant Species of Conservation Concern Habitat

Evaluation of Significance studies were conducted within ten Candidate Significant Plant Species of Conservation Concern Habitat Features (SCP-24, SCP-25, SCP-26, SCP-27, SCP-28, SCP-29, SCP-30, SCP-31, SCP-32 and SCP-33) following the methods described for this Significant Wildlife Habitat type in the approved NHA and EIS.

Red-headed Woodpecker Habitat

Evaluation of Significance studies were conducted for two Candidate Significant Red-headed Woodpecker Habitat Features (RHW-05 and RHW-06) following the methods described for this Significant Wildlife Habitat type in the approved NHA and EIS.

4.2 Results

4.2.1 Wetlands

The results of the wetland evaluations completed or revised in support of this NHA Addendum are documented in **Table 8**. Wetland Features WET-048 and WET-026 are considered to be riverine and palustrine, and are comprised of swamp and marsh habitat communities (refer to **Figure 3** for locations). Both wetland Features were treated as Provincially Significant and thus were carried forward to the EIS of this NHA Addendum.

4.2.2 Woodlands

The results of the woodland evaluations completed or revised in support of this NHA Addendum are documented in **Table 9**. New evaluations were completed for woodland Features WOD-097, WOD-111 and WOD-265 (refer to **Figure 3** for locations) in support of this NHA Addendum and are presented in **Table 9**. No changes to the Evaluation of Significance are required for Significant Woodland Features WOD-263 and WOD-277 as a result of site investigation conducted in support of this NHA Addendum (these evaluations are presented in the approved NHA and EIS and are not reproduced here).

Woodland Features WOD-097, WOD-111 and WOD-265 were considered significant based on meeting at least one of the criteria in the evaluation process. Therefore, all five Significant Woodland Features (WOD-097, WOD-111, WOD-263, WOD-265 and WOD-277) were carried forward to the EIS of this NHA Addendum.

Woodland WOD-273 in Natural Area 291 was determined not to be a Significant Woodland Feature in the approved NHA and EIS, and therefore it was not carried forward to the EIS of this NHA Addendum.

Table 8. Wetland Characteristics and Ecological Function Assessment

Wetland ID (refer to Figure 2)	Minimum Distance from Project Location (m)	Biological Component							Hydrological Component					Special Feature Components			
		Wetland Size (ha)	Wetland Type	Site Type	Vegetation Communities	Proximity to Other Wetlands	Inter- spersion	Open Water Type	Flood Attenuation	Water Quality Improvement			Shoreline Erosion Control	Groundwater Recharge	Species Rarity	Significant Features and Habitats	Fish Habitat
										Short Term	Long Term Nutrient Trap	Groundwater Discharge					
WET-048 Natural Area(s) 217 285 286	61 (turbine construction disturbance area)	13.9	Swamp, Marsh	Palustrine, Riverine	S1 (FOD7-2): h: Green Ash, Black walnut, White Elm, Bur Oak, Sugar Maple, and Black Maple, ts: Green Ash, Basswood and White Elm seedlings, gc: Thicket-creeper, Zig-zag Goldenrod, Moneywort and Garlic Mustard Other wetland units not within the 120 m Area of Investigation include: S2 (SWD): h: Deciduous Swamp S3 (SWT2): ts: Willows M1 (MAM2-10): gc: Meadow Marsh	Hydrologically connected by surface water to other wetlands (same dominant wetland type) from 0.5 to 1.5 km away (1,092 m)	29	Type 1	<ul style="list-style-type: none"> Located in lower portion of the watershed; Size of catchment basin upstream of wetland: 1,337 ha; Total area of known upstream detention areas 2.1 ha. 	Surrounding land use is over 50% agricultural	Swamp with less than 50% covered with organic soil	<ul style="list-style-type: none"> Topography: flat / rolling Wetland to catchment ratio: <1% Seeps: None Not within 1 km of a major aquifer 	Emergent vegetation	<ul style="list-style-type: none"> Dominant Wetland Type: Palustrine Soils: Clays 	<ul style="list-style-type: none"> No Species of Conservation Concern encountered 	<ul style="list-style-type: none"> Locally significant winter cover for wildlife 	Present: Low Marsh
WET-026 Natural Area(s) 115 118 119 120 121	(no change)	24.1	Swamp, Marsh	Palustrine, Riverine	S1 (FOD7-2): h: Green Ash, White Elm, Shagbark Hickory and Basswood, ts: Choke Cherry, Silky Dogwood, and Blue Beech, ls: Wild Black Current, gc: Spotted Geranium, Yellow Avens and Garlic Mustard; and S2 (SWD2-2): h: Green Ash. Other wetland units not within the 120 m Area of Investigation include: S3 (SWD): h: Deciduous Swamp M1 (MAM): ne: Meadow Marsh	Within 1 km of other wetlands, but not hydrologically connected by surface water (928 m)	52	Type 1	<ul style="list-style-type: none"> Located in headwaters of watershed; Size of catchment basin upstream of wetland: 217 ha; No known upstream detention areas within catchment basin. 	Surrounding land use is over 50% agricultural	Swamp with less than 50% covered with organic soil	<ul style="list-style-type: none"> Topography: flat / rolling Wetland to catchment ratio: 11% Seeps: None Not located within 1 km of a major aquifer. 	Trees and shrubs	<ul style="list-style-type: none"> Dominant Wetland Type: Palustrine Soils: Clays 	<ul style="list-style-type: none"> No Species of Conservation Concern encountered 	<ul style="list-style-type: none"> Locally significant winter cover for wildlife 	Present: Swamp

Table 9. Determination of Significance for Woodlands

Woodland Feature ID	Natural Area #	Municipality	Evaluation Criteria and Standards														# of Criteria Met	Determination of Significance
			(Based on 21.9% woodland cover within the Municipality of Lambton Shores, 11.54% woodland cover within the Municipality of Warwick, and 14.83% woodland cover within the Municipality of North Middlesex)															
			1. Woodland Size		2a. Woodland Interior		2b. Proximity to Other Significant Woodlands/Habitats		2c. Linkages		2d. Water Protection		2e. Woodland Diversity Representation (Composition)		3. Uncommon Characteristics			
			Must be at least		Must have woodland interior at least ¹		Must be within 30 m of a significant natural Feature or fish habitat ² and be at least		Must be located between two other significant Features each of which are 120 m apart and be at least		Must be located within 50 m of a sensitive groundwater discharge ³ , recharge, headwater, watercourse or fish habitat and be at least		Must be dominated singly or in combination by native naturally occurring Ms, Mb, Msi, Mr, By, H, Ba, Ab, Wb, Ta, Sp, Pi, Oa, Ba, He, and be at least		Must have rare vegetation community (S1, S2, S3) and be more than 0.5 ha in size OR Habitat of a rare, uncommon, or restricted woodland plant species with ten individual stems or 100 m of leaf coverage and be more than 0.5 ha in size OR Characteristics of older woodlands with larger tree size structure in native species and be more than			
			Y/N	Description	Y/N	Description	Y/N	Description	Y/N	Description	Y/N	Description	Y/N	Description	Y/N	Description		
WOD-097	115, 116, 118, 119, 566	Warwick/ Lambton Shores	Y	76.0 ha	Y	7.4 ha	Y	Within 30 m of another significant Feature	N	Does not meet criteria	N	Not within 120 m of water (no fish habitat)	Y	Dominated by listed species	Y	Mature forest present	5	Significant
WOD-111	117, 383	Lambton Shores	N	4.3 ha	N	0.0 ha	Y	Within 30 m of another significant Feature	N	Does not meet criteria	N	Not within 120 m of water (no fish habitat)	Y	Dominated by listed species	N	Does not meet criteria	2	Significant
WOD-265	293	Lambton Shores	N	15.4 ha	Y	3.2 ha	Y	Within 30 m of fish habitat; within 30 m of another significant Feature	N	Does not meet criteria	Y	Within 50 m of fish habitat	Y	Dominated by listed species	Y	Mature forest present	5	Significant

4.2.3 Wildlife Habitat

Rare Vegetation Community Feature RVC-05 was confirmed as significant and carried forward to the EIS of this NHA Addendum. In addition, for the purposes of this submission, the following candidate Significant Wildlife Habitat Features were treated as significant and carried forward to the EIS, with a commitment to complete pre-construction Evaluation of Significance surveys as described in **Section 4.1.3** of this NHA Addendum:

- Reptile Hibernacula Feature RH-05; and
- Amphibian Woodland Breeding Habitat Feature AWO-22.

The designation of candidate Significant Amphibian Woodland Breeding Habitat Features AWO-16 and AWO-20 were changed to Generalized Candidate Significant Wildlife Habitat; therefore, pre-construction Evaluation of Significance surveys are no longer required for these Features. Turtle Wintering Area Feature TWH-04, Turtle Nesting Habitat Feature TNH-02 and Bat Maternity Colony Feature BMA-297 are no longer within 120 m of the Project Location and therefore pre-construction Evaluation of Significance surveys are no longer required for these Features.

The results of Evaluation of Significance studies completed in support of this NHA Addendum are described below.

Turtle Wintering Areas

Evaluation of significance surveys for candidate significant Turtle Wintering Area Features TWH-01, TWH-02, TWH-03, TWH-05, TWH-06, TWH-07 and TWH-08 were completed between April 9, 2013 and May 27, 2013. The results of these surveys are summarized in **Table 10**. Field notes are provided in **Appendix B**. The qualifications of all field personnel were provided in Appendix E of the approved NHA and EIS.

Turtle Wintering Area Feature TWH-01 was assumed to be Significant Wildlife Habitat because it was not possible to complete Evaluation of Significance surveys for this feature due to a lack of property access. Features TWH-02, TWH-05, TWH-06 and TWH-07 were determined to be Significant Wildlife Habitat based on occurrences of Snapping Turtle. These Features were carried forward to the EIS of this NHA Addendum.

Table 10. Determination of Significance for Turtle Wintering Areas

Feature ID		Pre-construction Evaluation of Significance Surveys			Determination of Significance
		Round 1	Round 2	Round 3	
TWH-01	Date, Start and End Times, and Weather Conditions	April 9, 2013 14:05 – 14:25 Wind (Beaufort Scale): 2 Wind Direction: SW Cloud Cover (%): 100 Temp. (°C): 9 Precipitation: Drizzle	N/A	N/A	Yes – assumed Significant Wildlife Habitat This Feature was assumed Significant due to lack of property access to the Feature.
	Results	Surveys not completed because permission to access private property was denied. Visibility of Feature is low from roadside vantage point.			
TWH-02	Date, Start and End Times and Weather Conditions	April 15, 2013 16:05 – 16:26 Wind (Beaufort Scale): 4 Wind Direction: S Cloud Cover (%): 90 Temp. (°C): 21 Precipitation: None	May 1, 2013 14:25 – 14:45 Wind (Beaufort Scale): 3 Wind Direction: S Cloud Cover (%): 0 Temp. (°C): 26 Precipitation: None	May 16, 2013 11:35 – 11:55 Wind (Beaufort Scale): 2 Wind Direction: SW Cloud Cover (%): 0 Temp. (°C): 20 Precipitation: None	Yes – Significant Wildlife Habitat No turtles were observed at this Feature; however, one Snapping Turtle observed in adjacent pond (TWH-07).
	Results	No turtles observed.	No turtles observed.	No turtles observed.	

Feature ID		Pre-construction Evaluation of Significance Surveys			Determination of Significance
		Round 1	Round 2	Round 3	
TWH-03	Date, Start and End	May 1, 2013 12:30 – 12:50	May 17, 2013 11:15 – 11:35	May 27, 2013 14:11 – 14:35	No – not Significant Wildlife Habitat. Below threshold of 5 Midland Painted Turtles. No Snapping Turtles or Northern Map Turtles observed.
	Times and Weather Conditions	Wind (Beaufort Scale): 3 Wind Direction: SE Cloud Cover (%): 0 Temp. (°C): 22 Precipitation: None	Wind (Beaufort Scale): 2 Wind Direction: SW Cloud Cover (%): 55 Temp. (°C): 13 Precipitation: None	Wind (Beaufort Scale): 2 Wind Direction: SE Cloud Cover (%): 20 Temp. (°C): 19 Precipitation: None	
	Results	Three Midland Painted Turtles observed basking on floating log.	One Midland Painted Turtle observed basking.	No turtles observed.	
TWH-04	<i>Feature TWH-04 is no longer within 120 m of the Project Location as a result of Modification B3.</i>				
TWH-05	Date, Start and End	April 15, 2013 10:10 – 10:30	May 1, 2013 15:31 – 15:51	May 16, 2013 10:00 – 10:20	Yes – confirmed Significant Wildlife Habitat Presence of one Snapping Turtle near and travelling towards the pond and at least four Midland Painted Turtles observed basking in the pond.
	Times and Weather Conditions	Wind (Beaufort Scale): 1 Wind Direction: SE Cloud Cover (%): 30 Temp. (°C): 9 Precipitation: None	Wind (Beaufort Scale): 2 Wind Direction: S Cloud Cover (%): 0 Temp. (°C): 26 Precipitation: None	Wind (Beaufort Scale): 2 Wind Direction: SW Cloud Cover (%): 0 Temp. (°C): 15 Precipitation: None	
	Results	No turtles observed.	Three Midland Painted Turtles observed basking on fallen log. One Snapping Turtle observed travelling around gravel pit towards the pond.	Four Midland Painted Turtles observed basking on same fallen log.	
TWH-06	Date, Start and End	April 15, 2013 13:46 – 14:06	May 1, 2013 10:15 – 10:35	May 16, 2013 13:30 – 14:10	Yes – Significant Wildlife Habitat. Presence of one Snapping Turtle in adjacent pond.
	Times and Weather Conditions	Wind (Beaufort Scale): 3 Wind Direction: SE Cloud Cover (%): 85 Temp. (°C): 14 Precipitation: None	Wind (Beaufort Scale): 2 Wind Direction: SE Cloud Cover (%): 10 Temp. (°C): 18 Precipitation: None	Wind (Beaufort Scale): 2 Wind Direction: SW Cloud Cover (%): 0 Temp. (°C): 20 Precipitation: None	
	Results	No turtles observed.	No turtles observed.	No turtles observed in TWH-06. One Snapping Turtle observed basking in adjacent pond.	
TWH-07	Date, Start and End	April 15, 2013 15:45 – 16:05	May 1, 2013 14:03 – 14:23	May 16, 2013 11:35 – 11:55	Yes – confirmed Significant Wildlife Habitat. One Snapping Turtle observed basking along shoreline of pond.
	Times and Weather Conditions	Wind (Beaufort Scale): 4 Wind Direction: S Cloud Cover (%): 90 Temp. (°C): 21 Precipitation: None	Wind (Beaufort Scale): 3 Wind Direction: S Cloud Cover (%): 0 Temp. (°C): 26 Precipitation: None	Wind (Beaufort Scale): 2 Wind Direction: SW Cloud Cover (%): 0 Temp. (°C): 20 Precipitation: None	
	Results	No turtles observed.	One Snapping Turtle observed basking in weeds along shoreline of the pond.	No turtles observed.	
TWH-08	Date, Start and End	April 15, 2013 17:05 – 17:25	May 2, 2013 9:15 – 9:35	May 16, 2013 10:00 – 10:20	No – not Significant Wildlife Habitat. Below threshold of 5 Midland Painted Turtles. No Snapping Turtles or Northern Map Turtles observed.
	Times and Weather Conditions	Wind (Beaufort Scale): 4 Wind Direction: S Cloud Cover (%): 100 Temp. (°C): 21 Precipitation: None	Wind (Beaufort Scale): 4 Wind Direction: SE Cloud Cover (%): 10 Temp. (°C): 19 Precipitation: None	Wind (Beaufort Scale): 2 Wind Direction: SE Cloud Cover (%): 0 Temp. (°C): 20 Precipitation: None	
	Results	No turtles observed.	Four Midland Painted Turtles observed, three basking on log and one on bank.	No turtles observed.	

Plant Species of Conservation Concern Habitat

A summary of the results of the plant species inventories conducted in Features SCP-24, SCP-25, SCP-26, SCP-27, SCP-28, SCP-29, SCP-30, SCP-31, SCP-32 and SCP-33 is provided in **Table 11**. A detailed list of all plant species observed in Features previously identified in the NHA and EIS (SCP-26, SCP-27, SCP-28, SCP-29, SCP-30, SCP-31, SCP-32 and SCP-33) is presented in Appendix I of the approved NHA and EIS and field notes are presented in Appendix D of the approved NHA and EIS. For Features SCP-24 and SCP-25, a detailed list of all plant species observed is provided in **Appendix C** and field notes are provided in **Appendix B**. The qualifications of all field personnel were provided in Appendix E of the approved NHA and EIS. No plant Species of Conservation Concern were observed at any of these Features and thus none were carried forward to the EIS of this NHA Addendum.

Table 11. Determination of Significance for Plant Species of Conservation Concern Habitat

Feature ID	Natural Area	ELC Unit	Date and Time of Vascular Plant Survey	Plant Species of Conservation Concern Observed	Carried Forward to EIS
SCP-24	90	CUM1-1	01-Aug-13; 11:50-12:15	No	No – not Significant Wildlife Habitat
SCP-25	340	CUM1-1	01-Aug-13; 10:40 – 11:25	No	No – not Significant Wildlife Habitat
SCP-26	215	CUW1q	12-Jul-12; 12:30 – 14:30	No	No – not Significant Wildlife Habitat
SCP-27	252	CUM1-1	7-Jun-12; 13:45 – 2:55	No	No – not Significant Wildlife Habitat
SCP-28	90	CUM1-1	7-Jun-12; 07:45 – 15:30	No	No – not Significant Wildlife Habitat
SCP-29	90	CUM1-1	6-Jun-12; 08:15 – 09:30	No	No – not Significant Wildlife Habitat
SCP-30	90	CUM1-1	6-Jun-12; 16:30 – 18:15	No	No – not Significant Wildlife Habitat
SCP-31	341	CUM1-1	21-Jun-12; 11:09 –11:58	No	No – not Significant Wildlife Habitat
SCP-32	344	CUM1-1	12-Jun-12; 11:30 –15:00	No	No – not Significant Wildlife Habitat
SCP-33	341	CUW1m	21-Jun-12; 11:09 –11:58	No	No – not Significant Wildlife Habitat

Red-headed Woodpecker Habitat

A summary of the results of woodland breeding bird surveys conducted in Features RHW-05 and RHW-06 is provided in **Table 12**. Field notes are provided in **Appendix B**. The qualifications of all field personnel were provided in Appendix E of the approved NHA and EIS. No evidence of bird Species of Conservation Concern, including Red-headed Woodpecker, was recorded in RHW-05 or RHW-06. Consequently, these Features were not carried forward to the EIS of this NHA Addendum.

Table 12. Determination of Significance for Red-headed Woodpecker Habitat

Feature ID	Natural Area No.	Round 1 Survey		Round 2 Survey		Round 3 Survey		Carried Forward to EIS
		Date, Time and Weather Conditions	Results	Date, Time and Weather Conditions	Results	Date, Time and Weather Conditions	Results	
RHW-05	215	5/30/2012 7:33 am- 7:43 am Temp: 12°C Wind Direction: W Wind Scale: 1 Sky Condition: clear, bright Cloud Cover: 10%	No bird species of conservation concern observed.	6/21/2012 9:21 am- 9:31 am Temp: 26°C Wind Direction: SW Wind Scale: 3-4 Sky Condition: 0 Cloud Cover: 30%	No bird species of conservation concern observed.	7/1/2012 7:18 am- 7:28 am Temp: 20°C Wind Direction: - Wind Scale: 0 Sky Condition: 0 Cloud Cover: 0%	No bird species of conservation concern observed.	No – not Significant Wildlife Habitat
RHW-06	341	5/31/2012 5:48 am- 5:58 am Temp: 8°C Wind Direction: - Wind Scale: 0 Sky Condition: 1 Cloud Cover: 40%	No bird species of conservation concern observed.	6/18/2012 6:28 am- 6:38 am Temp: 15°C Wind Direction: S Wind Scale: 1-2 Sky Condition: 4 Cloud Cover: 100%	No bird species of conservation concern observed.	6/30/2012 7:31 am- 7:55 am Temp: 25°C Wind Direction: N Wind Scale: 2 Sky Condition: 0 Cloud Cover: 0%	No bird species of conservation concern observed.	No – not Significant Wildlife Habitat

Generalized Candidate Significant Wildlife Habitat

The following new Generalized Candidate Significant Wildlife Habitat Features were carried forward to the EIS:

- Bat Maternity Colonies in Natural Areas 118 and 119;
- Plant Species of Conservation Concern Habitat in Natural Areas 117, 118, 119, 145, 172, 233, 290, 293, 298 and 383;
- Insect Species of Conservation Concern Habitat in Natural Area 290; and
- Red-headed Woodpecker Habitat in Natural Areas 118, 119, 145, 233, 290, 293 and 383.

4.2.4 Summary of Features Carried Forward to the EIS

The following Features were either evaluated and confirmed to be significant or treated as significant for the purpose of this submission and carried forward to the EIS:

- Wetland Feature WET-026 and WET-048;
- Woodland Features WOD-097, WOD-111, WOD-263, WOD-265 and WOD-277;
- Reptile Hibernacula Feature RH-05;
- Rare Vegetation Community Feature RVC-05;
- Turtle Wintering Habitat Features TWH-01, TWH-02, TWH-05, TWH-06 and TWH-07; and
- Amphibian Woodland Breeding Habitat Feature AWO-22.

The following new Generalized Candidate Significant Wildlife Habitats were identified as a result of the proposed Project Locations modifications and carried forward to the EIS:

- Bat Maternity Colonies in Natural Areas 118 and 119;
- Plant Species of Conservation Concern Habitat in Natural Areas 117, 118, 119, 145, 172, 233, 290, 293, 298 and 383;
- Insect Species of Conservation Concern Habitat in Natural Area 290; and
- Red-headed Woodpecker Habitat in Natural Areas 118, 119, 145, 233, 290, 293 and 383.

Where distances from Project infrastructure to Significant Features changed as a result of the proposed Project Location modifications (refer to **Table 1**), these Features were carried forward to the EIS of this NHA Addendum to ensure that any potential effects of the modified Project components are addressed through the application of appropriate mitigation measures, if required:

- Wetland Features WET-025, WET-044, WET-046, WET-050, WET-062 and WET-063;
- Woodland Features WOD-084, WOD-110, WOD-175, WOD-181, WOD-192, WOD-201, WOD-261, WOD-262 and WOD-267;
- Turtle Wintering Area Feature TWH-04;
- Turtle Nesting Habitat Feature TNH-02;
- Amphibian Woodland Breeding Habitat Features AWO-04, AWO-16 and AWO-20;
- Generalized Candidate Turtle Wintering Area in Natural Area 516;
- Generalized Candidate Significant Marsh Bird Breeding Habitat in Natural Area 249;
- Generalized Candidate Significant Wildlife Habitat for Plant Species of Conservation Concern and Red-headed Woodpecker in Natural Area 285;

- Generalized Candidate Significant Wildlife Habitat for Plant Species of Conservation Concern and Red-headed Woodpecker, and Generalized Candidate Bat Maternity Colony in Natural Area 286;
- Bat Maternity Colony Feature BMA-297 in Natural Area 297;
- Generalized Candidate Plant Species of Conservation Concern Habitat in Natural Area 297;
- Terrestrial Waterfowl (Tundra Swan) Stopover and Staging Area Feature WSST-31;
- Generalized Candidate Significant Wildlife Habitat for Plant Species of Conservation Concern and Red-headed Woodpecker in Natural Area 291;
- Provincially Significant Ausable River Valley Life Science ANSI.

5. Amendments to the Environmental Impact Study

5.1 Construction and Operation of the Transmission Line within the Thomson Line and Elginfield Road Right-of-way and Significant Wetlands

According to the amended O. Reg. 359/09, applicants may seek an exemption from the prohibition on development within a provincially significant wetland for the construction or installation of a transmission line. In support of this exemption, the EIS Report must provide an explanation for why it is not reasonable for the transmission line to be entirely outside the wetland, including a review of alternative transmission line routes and a description of how the proposed route has the fewest effects and is most easily mitigated. This description is provided below for the construction and operation of the transmission line within the Thomson Line and Elginfield Road Right-of-way and the Provincially Significant Ausable River Wetland (WET-050) and Significant Wetland Feature WET-078.

5.1.1 Rationale for Selecting the Proposed Transmission Line Route

The proposed transmission line route was selected as the preferred route for connecting the Jericho transformer substation to the Bornish Wind Energy Centre switchyard based on a review of technical and environmental considerations as well as stakeholder consultation. The range of potential route options for connecting the Jericho Project to the Bornish switchyard is highly constrained by the limited number of available crossings along the Ausable River, which runs north to south through the Project Study Area. Given that the transmission line route must commence at the Jericho transformer substation, which needs to be located in close proximity to the wind turbines that are associated with the Jericho Project, and that it must terminate at the Bornish switchyard, the transmission line route must cross the Ausable River at some point.

Within the Project Study Area, it would be much less disruptive to use an existing Ausable River crossing rather than to establish a new crossing. A new crossing would require clearing of trees and vegetation within the Ausable River valley, which contain several environmentally sensitive features including the Provincially Significant Ausable River Valley Life Science Area of Natural and Scientific Interest, the Provincially Significant Ausable River Wetland, and numerous Significant Wildlife Habitat Features. Using an existing crossing would minimize impacts to these Features.

There are a very limited number of existing crossings of the Ausable River in the Project Study Area. The Thomson Line/Elginfield Road crossing is the most direct transmission line route from the Jericho substation to the Bornish switchyard. The next-closest available river crossings, both to the north and to the south, would add several kilometers to the total length of the transmission line. Therefore, because the Thomson Line/Elginfield Road crossing would minimize negative environmental effects and affect the fewest number of people, the Thomson Line/Elginfield Road crossing is the preferred location for the transmission line crossing of the Ausable River. As a result, some vegetation removal will be required within the Provincially Significant Ausable River Wetland (WET-050) in the vicinity of the Ausable River crossing.

Portions of Significant Wetland Feature WET-078 in Natural Areas 235 and 236 extend into the Thomson Line right-of-way west of Arkona Road. In this location, the transmission line is proposed to be sited on the north side of the road within the right-of-way. The proposed transmission line route was selected as the preferred route as there are Hydro One Network distribution poles located on the other side of the road from WET-078. Therefore, Jericho Wind Inc. is currently expecting to locate the transmission line in the Thomson Line right-of-way within Significant Wetland Feature WET-078.

5.1.2 Construction and Operation of the Transmission Line

The transmission line is proposed to be located above-ground on private property and within existing road rights-of-way. The following pertains to those portions of the transmission line that will be installed within the Thomson Line and Elginfield Road right-of-way, and adjacent to or within Natural Features (*i.e.*, Woodlands, Wetlands, ANSIs and Significant Wildlife Habitat) identified in the approved NHA and EIS or this NHA Addendum. In the vicinity of the Ausable River, vegetation removal will occur within the right-of-way in CUM1-1 communities which do not contain Significant Wildlife Habitat, as described in this NHA Addendum.

A portion of the Provincially Significant Ausable River Wetland, as mapped by MNR, extends into the road right-of-way within these CUM1-1 vegetation communities and adjacent to the Ausable River. Therefore the minimum distance from the Project Location to Wetland Feature WET-050, which includes the Provincially Significant Ausable River Wetland, will be reduced to 0 m (transmission line in Feature). The above-ground transmission line will span this Feature and will be mounted on new transmission line poles located outside of the mapped Provincially Significant Ausable River Wetland boundaries within the Thomson Line and Elginfield Road right-of-way.

Likewise, the minimum distance from the Project Location to Wetland Feature WET-078 will be reduced to 0 m (transmission line in Feature) resulting from the need to locate the above-ground transmission line on the north side of the road due to the presence of existing Hydro One Network distribution poles on the south side of the road. The transmission line poles will be located outside of the Wetland boundaries within the Thomson Line right-of-way.

Vegetation removal for the transmission line will be kept to a minimum and limited to the road right-of-way. This may include trimming of branches or selective tree removal within the road right-of-way. The transmission line poles are proposed to be constructed of wood, concrete or steel and typically will be between 18 m and 30 m tall. A combination of crew on foot within Wetland Features WET-050 and WET-078 and equipment operated from the road right-of-way reaching over into the Feature will be used to construct the transmission line; no heavy equipment will enter either Wetland Feature. Mitigation measures, monitoring and compensation measures to address potential effects to Wetland Features WET-050 and WET-078 are described in **Section 5.2** below.

In the vicinity of this crossing, a number of Significant Features extend into the road right-of-way. These include Wetland Features WET-050 and WET-078, Woodland Feature WOD-263, the Provincially Significant Ausable River Life Science ANSI, Significant Wildlife Habitat Features including Deer Winter Congregation Area DWC-02, a Rare Vegetation Community (FOD7-4), and Generalized Candidate Significant Wildlife Habitat Features. As described in the approved NHA and EIS for Generalized Candidate Significant Wildlife Habitat, vegetation removal for the transmission line will be kept to a minimum and limited to the road right-of-way. This may include trimming of branches or selective tree removal within the road right-of-way.

Similarly, Significant Woodlands, Significant Wetlands and Significant Wildlife Habitat Features including Rare Vegetation Communities and Generalized Candidate Significant Wildlife Habitat Features extend into the Thomson Line and Elginfield Road right-of-way in other locations along the transmission line alignment. Vegetation removal in these Features will be kept to a minimum and limited to the road right-of-way. This may include trimming of branches or selective tree removal within the road right-of-way.

During operation, regular vegetation control will be required around the transmission line to prevent any damage to the line and ensure safe operation. For safety reasons and for maintenance of the transmission line, vegetation

within 10 m of the road right-of-way may need to be trimmed or selectively removed. Any vegetation that has the potential to grow to more than 4.3 m above grade will be cleared. The vegetation is typically cleared by mechanized equipment (e.g., chainsaw / hydro axe). Mitigation measures to address potential effects of routine maintenance of the transmission line are described in **Table 13** below.

5.2 Significant Wetlands

The minimum distance from Significant Wetland Feature WET-026 to the nearest Project Infrastructure did not change as a result of the proposed Project Location modifications. Therefore, no changes to the mitigation measures as described in Section 5.5.1 (Table 5.2) of the approved NHA and EIS and EIS are required for this Feature.

The minimum distance from Wetland Feature WET-050 to the nearest Project infrastructure (transmission line) is reduced from >0.1 m to 0 m (transmission line in Feature) as a result of Modification E6. Likewise, the minimum distance from the Project Location to Wetland Feature WET-078 will be reduced to 0 m (transmission line in Feature). Potential effects, mitigation measures, monitoring commitments and contingency measures to address potential effects to WET-050 and WET-078 are described in **Table 13** below. In addition, the minimum distances from the Project Location to the following Significant Wetland Features changed as a result of the proposed Project Location modifications. An assessment of any changes required to the mitigation measures that will be applied to these Features is provided below.

- **WET-025:** The minimum distance from this Feature to the nearest Project infrastructure (turbine blade) was increased from 20 to 22 m as a result of Modification G4. No changes are required to the mitigation measures described in Section 5.5.1 of the approved NHA and EIS to accommodate this modification, as the distance still falls within the range of distances for the mitigation measures proposed (refer to mitigation measures for wetlands within 5 m to 30 m of Project Infrastructure in Table 5.2).
- **WET-044:** The minimum distance from this Feature to the nearest Project infrastructure (turbine construction disturbance area) was increased from >0.1 m to 41 m as a result of Modification J4. Therefore, mitigation measures described for wetlands within 30 m to 120 m of Project infrastructure in Section 5.5.1 (Table 5.2) of the approved NHA and EIS will be applied to WET-044.
- **WET-046:** This Feature is no longer within the 120 m Area of Investigation as a result of Modification J2; therefore, the mitigation measures described for this Feature in the approved NHA and EIS will no longer be applied to WET-046.
- **WET-048:** The minimum distance from this Feature to the nearest Project infrastructure (turbine construction disturbance area) was reduced from 73 m to 61 m as a result of Modification A1. No changes are required to the mitigation measures described in Section 5.5.1 of the approved NHA and EIS to accommodate this modification, as the distance still falls within the range of distances for the mitigation measures proposed (refer to mitigation measures for wetlands within 5 m to 30 m of Project Infrastructure in Table 5.2).
- **WET-062:** The minimum distance from this Feature to the nearest Project infrastructure (access road) is reduced from 56 m to 50 m as a result of Modification D3. No changes are required to the mitigation measures described in Section 5.5.1 of the approved NHA and EIS to accommodate this modification, as the distance still falls within the range of distances for the mitigation measures proposed (refer to mitigation measures for wetlands within 5 m to 30 m of Project Infrastructure in Table 5.2).
- **WET-063:** The minimum distance from this Feature to the nearest Project infrastructure (access road and collection line) was reduced from 55 m to 20 m as a result of Modification G2. Therefore, mitigation measures described for wetlands within 5 m to 30 m of Project infrastructure in Section 5.5.1 (Table 5.2) of the approved NHA and EIS will be applied to WET-063.

No other changes to the mitigation measures described for Significant Wetland Features in the approved NHA and EIS are required to accommodate the proposed Project Location modifications.

Table 13. Additional Potential Effects on Significant Wetlands and Mitigation Measures

Significant Wetland	Potential Effects	Performance Objectives	Mitigation Measures	Likelihood and Significance of Residual Effects	Monitoring Plan and Contingency Measures
<p>Wetlands where vegetation removal is proposed</p> <p>WET-050 (transmission line)</p> <p>WET-078 (transmission line)</p>	<p>Construction/Decommissioning</p> <ul style="list-style-type: none"> Trimming of branches or selective tree removal for transmission line in Significant Wetlands WET-050 and WET-078 within road right-of-way. Accidental intrusion into Significant Wetland resulting in damage to vegetation. 	<ul style="list-style-type: none"> Minimize loss of wetland cover over time. Avoid accidental intrusion into Significant Wetland. 	<ul style="list-style-type: none"> Refer to General Mitigation Measures (Section 5.4 of approved NHA and EIS) for standard mitigation measures. Install transmission line poles outside the boundaries of the Significant Wetland. Minimize vegetation removal in Significant Wetland, to the extent possible. Perform vegetation clearing outside of the breeding bird season (May 1 to July 31). If this is not possible, MNR will be consulted regarding mitigation measures that may be required. Refer to Section 5.7 of the approved NHA and EIS for additional timing constraints related to wildlife. Clearly stake area to be cleared. Remove trees or tree limbs by hand-held equipment within Significant Wetland to minimize soil compaction. Fell trees with a chainsaw toward the construction area to reduce damage to adjacent vegetation being retained. Carry out removal of tree limbs on adjacent trees being retained under supervision of an Arborist or Forester. Cut damaged tree roots clean as soon as possible and cover exposed roots in approved topsoil under the supervision of an Arborist or Forester. Restore disturbed areas using suitable native wetland plant species. A Restoration Plan will be provided to MNR. Refer to General Mitigation Measures (Section 5.4 of the approved NHA and EIS) for standard mitigation measures. Where construction occurs within 30 m, install and maintain protective fencing to clearly define the construction area and prevent accidental damage to vegetation. 	<ul style="list-style-type: none"> Some clearing of vegetation will occur for the transmission line; this would be minimal and limited to the road right-of-way. Minimal residual effects. Accidental intrusion will be avoided through clear delineation of boundaries and protective fencing. Negligible residual effects. 	<ul style="list-style-type: none"> Daily monitoring of areas where active vegetation removal is occurring by Environmental Monitor. Monitor establishment of planted area and replant/fill plant if required. Contingency Measures: <ul style="list-style-type: none"> Any damaged trees will be pruned through implementation of proper arboricultural techniques, under supervision of an Arborist or Forester. Undertake monthly site inspections by an Environmental Monitor to ensure that protective fencing is intact and that there is no damage caused during construction. Contingency Measures: <ul style="list-style-type: none"> Repair protective fencing if damaged. Any damaged trees will be pruned through implementation of proper arboricultural techniques, under supervision of an Arborist or Forester.

Table 13. Additional Potential Effects on Significant Wetlands and Mitigation Measures

Significant Wetland	Potential Effects	Performance Objectives	Mitigation Measures	Likelihood and Significance of Residual Effects	Monitoring Plan and Contingency Measures
	<ul style="list-style-type: none"> Increased erosion and sedimentation resulting from clearing and grubbing, excavation, backfilling and stockpiling. 	<ul style="list-style-type: none"> Minimize erosion and sedimentation from clearing, grubbing, excavation, backfilling and stockpiling. 	<ul style="list-style-type: none"> Install sediment and erosion control fencing along edge of construction area as per Ontario Provincial Standard Specifications (OPSD 219.130). Refer to General Mitigation Measures (Section 5.4 of the approved NHA and EIS) for mitigation measures including sediment and erosion controls to be applied. 	<ul style="list-style-type: none"> Sedimentation avoided or minimized through application of mitigation measures. Low likelihood and limited magnitude of effect as a result. 	<ul style="list-style-type: none"> Monitor on-site conditions (<i>i.e.</i>, erosion and sediment control, flooding, etc.) by an Environmental Monitor where construction occurs within 30 m of a feature on the following basis: <ul style="list-style-type: none"> Daily during active construction periods; Prior to, during and post forecasted large rainfall events (>20 millimetres in 24 hours) or significant snowmelt events (<i>i.e.</i>, spring freshet); Daily during extended rain or snowmelt periods; Monthly during inactive construction periods, where the site is left alone for 30 days or longer. Contingency Measures: <ul style="list-style-type: none"> Suspend work if excessive flows of sediment discharges occur until additional mitigation measures are in place (e.g., install the extra erosion and sediment control materials kept on site, such as heavy duty silt fencing, straw bales, etc.).
	<ul style="list-style-type: none"> Risk of soil or water contamination resulting from accidental spills of fuel, etc. 	<ul style="list-style-type: none"> Minimize soil or water contamination. 	<ul style="list-style-type: none"> Develop and implement emergency spills plan outlining steps to contain any chemicals or to avoid contamination of adjacent Significant Wetland feature. Refer to General Mitigation Measures (Section 5.4 of the approved NHA and EIS) for mitigation measures. 	<ul style="list-style-type: none"> Soil and water contamination avoided or minimized through application of mitigation measures. Low likelihood and limited magnitude of effect as a result. 	<ul style="list-style-type: none"> Contractor to conduct routine inspections of construction equipment for leaks / spills. Develop an emergency spills plan. Contingency Measures: <ul style="list-style-type: none"> Immediately stop all work until the spill is cleaned up. Notify MOE's Spills Action Centre of any leaks or spills. If a spill enters Significant Wetland, collect and analyze water samples for appropriate parameters. Monitor daily until cleanup is completed.

Table 13. Additional Potential Effects on Significant Wetlands and Mitigation Measures

Significant Wetland	Potential Effects	Performance Objectives	Mitigation Measures	Likelihood and Significance of Residual Effects	Monitoring Plan and Contingency Measures
	<ul style="list-style-type: none"> Risk of spread of invasive species into Significant Wetland as a result of construction disturbance. 	<ul style="list-style-type: none"> Avoid spread of invasive species into Significant Wetland 	<ul style="list-style-type: none"> Ensure all equipment, including clothing/boots, is thoroughly washed before entering the Significant Wetland to avoid introducing seeds or fragments of invasive species into the Significant Wetland. Restore disturbed areas as soon as possible using suitable native wetland plant species. A Restoration Plan will be provided to MNR. 	<ul style="list-style-type: none"> Spread of invasive species avoided or minimized through the application of mitigation measures. Low likelihood and limited magnitude of effect as a result. 	<ul style="list-style-type: none"> Daily monitoring of areas where construction activities are occurring within the Significant Wetland by Environmental Monitor. Monitor establishment of planted area and replant/fill plant if required.
	<p>Operation</p> <ul style="list-style-type: none"> Risk of soil or water contamination from oil, gas, etc. during maintenance activities where the transmission line is within 30 m of Significant Wetlands WET-050 and WET-078. 	<ul style="list-style-type: none"> No off-site contamination of soil and no contamination of groundwater or surface water. 	<ul style="list-style-type: none"> Develop and implement an emergency spills plan outlining steps to contain any spills during maintenance activities to avoid contamination of Significant Wetlands. 	<ul style="list-style-type: none"> Residual effects considered negligible. 	<ul style="list-style-type: none"> No monitoring required. Contingency Measures: <ul style="list-style-type: none"> Report the details of the spill to MOE, including a description of any assessment and remediation undertaken.
	<ul style="list-style-type: none"> Trimming of branches or selective tree removal during routine maintenance of the transmission line in Significant Wetlands WET-050 and WET-078. 	<ul style="list-style-type: none"> Minimize disturbance to wetland form and function. 	<ul style="list-style-type: none"> Minimize vegetation removal in Significant Wetland, to the extent possible. For safety reasons and for maintenance of the transmission line, vegetation within 10 m of the road right-of-way may need to be trimmed or selectively removed. Any vegetation that has the potential to grow to more than 4.3 m above grade will be cleared. Perform routine vegetation clearing outside of the breeding season for birds and amphibians (March 15 to July 31). If this is not possible, MNR will be consulted regarding mitigation measures that may be required. Remove trees or tree limbs by hand-held equipment within Significant Wetland to minimize soil compaction. Fell trees with a chainsaw away from the Significant Wetland to reduce damage to adjacent vegetation being retained. Carry out removal of tree limbs under supervision of an Arborist or Forester. Leave tree stumps and roots in place, to minimize disturbance to adjacent vegetation. 	<ul style="list-style-type: none"> Minimal clearing of vegetation will occur for operation of the transmission line. Minimal residual effects. 	<ul style="list-style-type: none"> No monitoring required. Contingency Measures: <ul style="list-style-type: none"> Any damaged trees will be pruned through implementation of proper arboricultural techniques, under supervision of an Arborist or Forester.

Table 13. Additional Potential Effects on Significant Wetlands and Mitigation Measures

Significant Wetland	Potential Effects	Performance Objectives	Mitigation Measures	Likelihood and Significance of Residual Effects	Monitoring Plan and Contingency Measures
	<ul style="list-style-type: none"> Trimming of branches or selective tree removal for construction of the transmission line in Significant Wetlands WET-050 and WET-078 within road right-of-way. 	<ul style="list-style-type: none"> No loss of wetland cover over time. 	<ul style="list-style-type: none"> Restore disturbed areas using suitable native wetland plant species. A Restoration Plan will be provided to MNR. 	<ul style="list-style-type: none"> Some clearing of vegetation will occur for the transmission line; this would be minimal and limited to the road right-of-way. Minimal residual effects. 	<ul style="list-style-type: none"> Conduct post-planting inventory of restored area to determine success of establishment. Contingency Measures: <ul style="list-style-type: none"> If restored area is not establishing for any number of reasons, implement additional restoration measures including re-planting and additional monitoring.

5.3 Significant Woodlands

Three new Significant Woodland Features were identified within the 120 m Area of Investigation as a result of the proposed Project Location modifications. A description of the potential effects, mitigation measures and monitoring commitments that will be applied to these Features is provided below.

- WOD-097: The minimum distance from this Feature to the nearest Project infrastructure (access road) is >0.1 m (Modification F3). Therefore, mitigation measures described for woodlands within 5 m of Project infrastructure in Section 5.6.1 (Table 5.3) of the approved NHA and EIS will be applied to WOD-097.
- WOD-111: The minimum distance from this Feature to the nearest Project infrastructure (access road) is 41 m (Modification F2). Therefore, mitigation measures described for woodlands within 30 m to 120 m of Project infrastructure in Section 5.6.1 (Table 5.3) of the approved NHA and EIS will be applied to WOD-111.
- WOD-265: The minimum distance from this Feature to the nearest Project infrastructure (turbine construction disturbance area) is 30 m (Modification J3). Therefore, mitigation measures described for woodlands within 5 m to 30 m of Project Infrastructure in Section 5.6.1 (Table 5.3) of the approved NHA and EIS will be applied to WOD-265.

The minimum distance from Significant Woodland Features WOD-263 and WOD-277 to the nearest Project infrastructure did not change as a result of the proposed Project Location modifications. Therefore, no changes to the mitigation measures as described in Section 5.6.1 (Table 5.3) of the approved NHA and EIS are required for these Features.

The minimum distances from the Project Location to the following Significant Woodland Features changed as a result of the proposed Project Location modifications. An assessment of any changes required to the mitigation measures that will be applied to these Features is provided below.

- WOD-084: The minimum distance from this Feature to the nearest Project Infrastructure (turbine blade) increased from 20 m to 22 m (Modification G4). No changes are required to the mitigation measures described in Section 5.6.1 (Table 5.3) of the approved NHA and EIS to accommodate this modification (refer to mitigation measures for woodlands within 5 m to 30 m of Project Infrastructure in Table 5.3).
- WOD-110: The minimum distance from this Feature to the nearest Project Infrastructure (turbine blade) decreased from 17 m to 9 m (Modification G2). No changes are required to the mitigation measures described in Section 5.6.1 of the approved NHA and EIS to accommodate this modification, as the distance still falls within the range of distances for the mitigation measures proposed (refer to mitigation measures for woodlands within 5 m to 30 m of Project Infrastructure in Table 5.3).
- WOD-175: The minimum distance from this Feature to the nearest Project infrastructure (transmission line) decreased from >0.1 m to 0 m (transmission line is in Feature; Modification K7). Up to 0.2 ha of trees will be cleared within this Significant Woodland Feature where it occurs within the road right-of-way. Therefore, the mitigation measures, monitoring and contingency measures described for woodlands where vegetation removal is proposed in Section 5.6.1 (Table 5.3) of the approved NHA and EIS will be applied to WOD-175.
- WOD-181: The minimum distance from this Feature to the nearest Project infrastructure (transmission line) decreased from >0.1 m to 0 m (transmission line is in Feature; Modification K5). Up to 0.1 ha of trees will be cleared within this Significant Woodland Feature where it occurs within the Elginfield Road right-of-way. Therefore, the mitigation measures, monitoring and contingency measures described for woodlands where vegetation removal is proposed in Section 5.6.1 (Table 5.3) of the approved NHA and EIS will be applied to WOD-181.

- WOD-192: The minimum distance from this Feature to the nearest Project Infrastructure (access road) decreased from 5 m to >0.1 m (Modification C1). No changes are required to the mitigation measures described in Section 5.6.1 of the approved NHA and EIS to accommodate this modification, as the distance still falls within the range of distances for the mitigation measures proposed (refer to mitigation measures for woodlands within 5 m of Project Infrastructure in Table 5.3).
- WOD-201: The minimum distance from this Feature to the nearest Project infrastructure (transmission line) decreased from >0.1 m to 0 m (transmission line is in Feature; Modification D10). Up to 0.03 ha of trees will be cleared within this Significant Woodland Feature where it occurs within the Thomson Line right-of-way. Therefore, the mitigation measures, monitoring and contingency measures described for woodlands where vegetation removal is proposed in Section 5.6.1 (Table 5.3) of the approved NHA and EIS will be applied to WOD-201.
- WOD-261: This Feature is no longer within the 120 m Area of Investigation as a result of Modification J2; therefore, the mitigation measures described for this Feature in the approved NHA and EIS will no longer be applied to WOD-261.
- WOD-262: This Feature is no longer within the 120 m Area of Investigation as a result of Modification A3; therefore, the mitigation measures described for this Feature in the approved NHA and EIS will no longer be applied to WOD-262.
- WOD-267: This Feature is no longer within the 120 m Area of Investigation as a result of Modification A7; therefore, the mitigation measures described for this Feature in the approved NHA and EIS will no longer be applied to WOD-267.

No other changes to the mitigation measures proposed for Significant Woodland Features in the approved NHA and EIS are required to accommodate the proposed Project Location modifications.

5.4 Significant Wildlife Habitat

The significance of some candidate Significant Wildlife Habitat Features (including RH-05 and AWO-22) has yet to be determined, as additional field studies are required to evaluate the significance of these Features. For the purposes of this submission, these candidate Significant Wildlife Habitat Features have been treated as significant and potential effects, mitigation measures and monitoring commitments related to these Features are described below. However, these will only be implemented if the Features in question are deemed to be significant based on the results of pre-construction surveys, as described in **Section 4.1.3**.

5.4.1 New Significant Wildlife Habitat Features Identified Through this NHA Addendum

Two new Significant Wildlife Habitat Features were identified within the 120 m Area of Investigation as a result of the proposed Project Location modifications. A description of the potential effects, mitigation measures and monitoring commitments that will be applied to these Features is provided below.

- **Reptile Hibernacula Feature RH-05:**
The minimum distance from this Feature to the nearest project infrastructure (access road) is 5 m (Modification F3). Therefore, mitigation measures described for Reptile Hibernacula in Section 5.7.3 of the approved NHA and EIS (refer to mitigation measures in Table 5.6) will be applied to RH-05. Two years of post-construction surveys will also be applied to RH-05 if it is confirmed as significant through pre-construction Evaluation of Significance surveys.

- **Rare Vegetation Community Feature RVC-05:**

The minimum distance from this Feature to the nearest Project infrastructure (access road) is 24 m (Modification A1). Therefore, mitigation measures described for Other Rare Vegetation Communities in Section 5.7.3 of the approved NHA and EIS (refer to mitigation measures in Table 5.6) will be applied to RVC-05.

Mitigation measures to address potential effects on Generalized Candidate Significant Wildlife Habitat as described in Section 5.7.3 (Table 5.5) of the approved NHA and EIS will be applied to the following new Generalized Candidate Significant Wildlife Habitat Features identified through this NHA Addendum:

- Bat Maternity Colony Habitat in Natural Areas 118 and 119;
- Plant Species of Conservation Concern Habitat in Natural Areas 117, 118, 119, 145, 172, 233, 290, 293, 298 and 383;
- Insect Species of Conservation Concern Habitat in Natural Area 290; and
- Red-headed Woodpecker Habitat in Natural Areas 118, 119, 145, 233, 290, 293 and 383.

5.4.2 Designation Changes to Previously Identified Significant Wildlife Habitat Features

Distances from Project infrastructure to the following Significant Wildlife Habitat Features previously identified in the approved NHA and EIS changed as a result of the proposed Project Location modifications. An assessment of any changes required to the mitigation measures that will be applied to these Features is provided below.

- **Amphibian Woodland Breeding Habitat Feature AWO-22:**

The distance from this Feature to the disturbance area of an access road decreased from >120 m to >0.1 m (Modification C1). As a result, the designation of this Feature changed from Generalized Candidate Significant Wildlife Habitat to candidate Significant Amphibian Woodland Breeding Habitat Feature AWO-22. Therefore, the mitigation measures for Amphibian Woodland Breeding Habitat as described in Section 5.7.3 (Table 5.6) of the approved NHA and EIS now apply to this Feature. Three years of post-construction surveys will also be applied to Feature AWO-22 if confirmed to be significant through pre-construction Evaluation of Significance surveys.

- **Amphibian Woodland Breeding Habitat Feature AWO-04:**

The distance from this Feature to an access road decreased from 35 m to 9 m (Modification G2). As the access road will be within 30 m of this Feature, three years of post-construction surveys will be applied to Feature AWO-04 if it is confirmed to be significant through pre-construction Evaluation of Significance surveys.

- **Amphibian Woodland Breeding Habitat Feature AWO-16:**

The distance from this Feature to the disturbance area of an access road increased from 1 m to >120 m (Modification B3). As a result, the designation of this Feature changed to Generalized Candidate Significant Wildlife Habitat. Therefore, the mitigation measures for Generalized Candidate Significant Wildlife Habitat as described in Section 5.7.3 (Table 5.5) of the approved NHA and EIS now apply to this Feature.

- **Amphibian Woodland Breeding Habitat Feature AWO-20:**

The distance from this Feature to the disturbance area of an access road increased from 109 m to >120 m (Modification C1). As a result, the designation of this Feature changed to Generalized Candidate Significant Wildlife Habitat. Therefore, the mitigation measures for Generalized Candidate Significant Wildlife Habitat as described in Section 5.7.3 (Table 5.5) of the approved NHA and EIS now apply to this Feature.

- **Turtle Wintering Area Feature TWH-04:**
This Feature is no longer within 120 m of the Project Location. Therefore, the mitigation measures for Turtle Wintering Area as described in Section 5.7.3 (Table 5.6) of the approved NHA and EIS no longer apply to this Feature.
- **Turtle Nesting Habitat Feature TNH-02:**
This Feature is no longer within 120 m of the Project Location. Therefore, the mitigation measures for Turtle Nesting Habitat as described in Section 5.7.3 (Table 5.6) of the approved NHA and EIS no longer apply to this Feature.
- **Generalized Candidate Turtle Wintering Area in Natural Area 516:**
This distance from this feature to an access road decreased from >120 m to 1 m (Modification G5). However, this Feature is no longer considered to contain suitable turtle wintering habitat as a result of site investigations conducted in support of this Addendum. Therefore, mitigation measures to address potential effects on Generalized Candidate Significant Wildlife Habitat as described in Section 5.7.3 (Table 5.5) of the approved NHA and EIS no longer apply to this Feature.
- **Terrestrial Waterfowl (Tundra Swan) Stopover and Staging Area Feature WSST-31:**
This Feature is no longer within 120 m of the Project Location as a result of Modification A7. Therefore, the mitigation measures for Terrestrial Waterfowl (Tundra Swan) Stopover and Staging Areas as described in Section 5.7.3 (Table 5.6) of the approved NHA and EIS no longer apply to this Feature.
- **Bat Maternity Colony Feature BMA-297:**
This Feature is no longer within 120 m of the Project Location as a result of Modification J2. Therefore, the mitigation measures for Bat Maternity Colonies as described in Section 5.7.3 (Table 5.6) of the approved NHA and EIS no longer apply to this Feature.

The distances from the following Features to the Project Location increased to greater than 120 m as a result of the proposed Project Location modifications. Therefore, mitigation measures for Generalized Candidate Significant Wildlife Habitat as described in Section 5.7.3 (Table 5.5) of the approved NHA and EIS no longer apply to these Features:

- Generalized Candidate Significant Marsh Bird Breeding Habitat in Natural Area 249 (Modification B3);
- Generalized Candidate Significant Wildlife Habitat for Plant Species of Conservation Concern and Red-headed Woodpecker in Natural Area 285 (Modification A3);
- Generalized Candidate Significant Wildlife Habitat for Plant Species of Conservation Concern and Red-headed Woodpecker, and Generalized Candidate Bat Maternity Colony in Natural Area 286 (Modification A7);
- Generalized Candidate Significant Wildlife Habitat for Plant Species of Conservation Concern and Red-headed Woodpecker in Natural Area 291 (Modification A7); and
- Generalized Candidate Significant Wildlife Habitat for Plant Species of Conservation Concern in natural area 297 (Modification J2).

The minimum distances from the following Significant Wildlife Habitat Features to the Project Location changed as a result of the proposed Project Location modifications. However, these changes to minimum distances do not require changes to the mitigation measures described in Section 5.7.3 (Table 5.6) of the approved NHA and EIS for these Features:

- **Amphibian Movement Corridor Feature AMC-01:**
The distance from this Feature to the nearest Project Infrastructure (turbine construction disturbance area) decreased to >0.1 m (collection line); however this Feature is still 106 m from an access road (Modification B3).

- **Bat Maternity Colony Feature BMA-097:**

The distance from this Feature to the nearest Project Infrastructure (crane path and collection line) increased from 20 m to 22 m from turbine blade; however, distance from turbine blade as reported in the approved NHA and EIS did not change (i.e., remains within 22 m) (Modification G4).

Minimum distances from the following Generalized Candidate Significant Wildlife Habitat Features to the Project Location changed as a result of the proposed Project Location modifications. However, these changes to minimum distances do not require changes to the mitigation measures as described for Generalized Candidate Significant Wildlife Habitat in Section 5.7.3 (Table 5.5) of the approved NHA and EIS for these Features:

- Bat Maternity Colony Feature in Natural Area 173;
- Turtle Wintering Area Features in Natural Areas 243 and 249;
- Mature Forest Stand Feature in Natural Area 102;
- Turtle Nesting Habitat Feature in Natural Area 249;
- Amphibian Wetland Breeding Habitat Feature in Natural Area 249;
- Plant Species of Conservation Concern Habitat Features in Natural Areas 97, 102, 173, 167 and 249; and
- Red-headed Woodpecker Habitat Features in Natural Areas 97 and 102.

No other changes to the mitigation measures proposed for significant wildlife habitat in the approved NHA and EIS are required to accommodate the proposed Project Location modifications.

5.4.3 Additional Potential Effects and Mitigation Measures for Snapping Turtle

Turtle Wintering Area Feature TWH-01 was assumed to be Significant Wildlife Habitat because it was not possible to complete Evaluation of Significance surveys for this feature due to a lack of property access. Therefore, the mitigation measures for Turtle Wintering Area as described in Section 5.7.3 (Table 5.6) of the approved NHA and EIS will be applied to this Feature.

Turtle Wintering Area Features TWH-02, TWH-05, TWH-06 and TWH-07 were confirmed as Significant Wildlife Habitat due to the presence of Snapping Turtle, as species designated federally and provincially as Special Concern. Snapping Turtles are known to nest often on the side of roads, especially those with gravel shoulders, which increases the risk of road mortality (COSEWIC, 2008). In addition, this species is also threatened by legal and illegal harvesting (COSEWIC, 2008). As such, additional mitigation measures are proposed herein for Turtle Wintering Area Features TWH-02, TWH-05, TWH-06 and TWH-07, which are confirmed to contain habitat for Snapping Turtle (**Table 14**).

5.5 Areas of Natural and Scientific Interest (ANSIs)

The minimum distance from the Project Location to the Provincially Significant Ausable River Valley Life Science ANSI was reduced to 0 m (transmission line in Feature) as a result of Modification E6. The proposed location of the transmission line crossing of this Feature is within an existing road right-of-way therefore no direct loss or fragmentation of the Feature is expected as a result of the proposed Project Location modifications. Vegetation removal is proposed in CUM1-1 communities within the Thomson Line and Elginfield Road right-of-way, which are within the boundaries of this Feature as mapped by MNR. There are no Significant Wildlife Habitat, Significant Wetland or Significant Woodland Features present in the areas where vegetation removal will occur within the ANSI. Given the significance of this Feature, potential effects to this ANSI are comprehensively covered in Section 5.5 (Significant Wetlands), Section 5.6 (Significant Woodlands) and Section 5.7 (Significant Wildlife Habitat) of the approved NHA and EIS. No additional mitigation measures or monitoring commitments are required for this feature beyond those already described in the approved NHA and EIS.

Table 14. Additional Potential Effects on Turtle Wintering Areas and Mitigation Measures

Significant Features(s)	Potential Effects	Performance Objectives	Mitigation Strategy	Residual Effects	Monitoring Plan and Contingency Measures
<p>Turtle Wintering Areas Confirmed to Contain Snapping Turtle Habitat</p> <p>Project Infrastructure requiring EIS:</p> <ul style="list-style-type: none"> • Access roads <p>Minimum distance to nearest access road:</p> <ul style="list-style-type: none"> • TWH-02: >0.1 m • TWH-05: >0.1 m • TWH-06: 107 m • TWH-07: 7 m 	<p>Construction/Decommissioning</p> <ul style="list-style-type: none"> • Accidental intrusion into natural features resulting in habitat damage. 	<ul style="list-style-type: none"> • Avoid accidental intrusion into habitat. 	<ul style="list-style-type: none"> • Clearly delineate habitat boundaries where construction will occur within 30 m using protective fencing (sediment and erosion control fence) to ensure that construction activities occur outside the habitat boundaries as per Figure 3.5d in the approved NHA and EIS. • Construction activities will be limited to the disturbance areas as detailed on Figure 1 of this NHA Addendum. 	<ul style="list-style-type: none"> • Disruption to turtle wintering areas avoided through habitat delineation and fencing. • Negligible residual effects. 	<ul style="list-style-type: none"> • Undertake on-site inspections by an Environmental Monitor to ensure that protective fencing is intact and that there is no damage caused during construction on the following basis: <ul style="list-style-type: none"> ▪ Weekly during active construction periods; ▪ Prior to, during and post forecasted large rainfall events (>20 millimetres in 24 hours) or significant snowmelt events (<i>i.e.</i>, spring freshet); and ▪ Daily during extended rain or snowmelt periods. ▪ Inspection not required during inactive construction periods, where the site is left alone for 30 days or longer. • Contingency Measures: <ul style="list-style-type: none"> ▪ Repair protective fencing if damaged. ▪ Consultation with MNR to determine additional contingency measures if necessary.
	<ul style="list-style-type: none"> • Disruption or possible mortality of turtles moving between wintering ponds and other areas. • Possible injury/mortality from intrusion into construction site. 	<ul style="list-style-type: none"> • Minimize disruption to turtle movement. • Prevent injury and/or mortality of turtles during construction. 	<ul style="list-style-type: none"> • Post speed limits (30 km/hr) and turtle crossing signage along access roads within 120 m of Significant Turtle Wintering Areas. • Do not clear vegetation within 30 m of ponds in April, May, September or October. No vegetation within the defined habitat is to be removed. If this is not possible, MNR will be consulted regarding any additional mitigation measures that may be required. • To avoid collisions with turtles, schedule construction activities within 30 m to occur during daylight hours and not during the period of emergence (March 15 to May 31). If construction must occur during this timing window, conduct area searches for turtles daily prior to construction activities. • Educate construction site staff about turtle species that may potentially occur in the Study Area and the steps to be taken if an encounter occurs. • If roadside nests are encountered during construction, the site should be avoided and the local MNR office should be contacted immediately. • Fence area as far from pond and as close to proposed road as possible. 	<ul style="list-style-type: none"> • Disruption and/or mortality minimized through construction timing and speed limits. • Low likelihood of occurring and limited magnitude. 	<ul style="list-style-type: none"> • If construction occurs within 30 m of a turtle wintering area (if determined to be significant) between March 15 and May 31, conduct area searches for turtles by a qualified Biologist prior to soil stripping or grubbing, as well as daily prior to construction activities by the Contractor within the construction footprint. • Contingency Measures: <ul style="list-style-type: none"> ▪ Turtles encountered within the construction area will be moved to a safe location (nearby pond) under the direction of the Environmental Monitor or a qualified Biologist. A Turtle Relocation Plan will be prepared, to be implemented in the event that turtles need to be handled or moved.

Table 14. Additional Potential Effects on Turtle Wintering Areas and Mitigation Measures

Significant Features(s)	Potential Effects	Performance Objectives	Mitigation Strategy	Residual Effects	Monitoring Plan and Contingency Measures
	<ul style="list-style-type: none"> Increased erosion and sedimentation resulting from clearing and grubbing, backfilling and stockpiling. 	<ul style="list-style-type: none"> Minimize erosion and sedimentation in wintering pond. 	<ul style="list-style-type: none"> Install sediment and erosion control fencing along edge of construction area if within 30 m of habitat feature as per Ontario Provincial Standards Specifications (OPSD 219.130). 	<ul style="list-style-type: none"> Erosion and sedimentation mitigated through sediment and erosion control fencing. Moderate likelihood; if erosion and sedimentation occur, negative effects may be measurable but would likely represent a small change relative to existing conditions. 	<ul style="list-style-type: none"> Monitor on-site conditions (<i>i.e.</i>, erosion and sediment control, spills, flooding, etc.) by an Environmental Monitor where construction occurs within 30 m of a feature on the following basis: <ul style="list-style-type: none"> Weekly during active construction periods; Prior to, during and post forecasted large rainfall events (>20 millimetres in 24 hours) or significant snowmelt events (<i>i.e.</i>, spring freshet); Daily during extended rain or snowmelt periods; Monthly during inactive construction periods, if the site is left alone for 30 days or longer. Contingency Measures: <ul style="list-style-type: none"> Suspend work if excessive flows of sediment discharges occur until additional mitigation measures are in place (e.g. install the extra erosion and sediment control materials kept on site, such as heavy duty silt fencing, straw bales, etc.).
	<ul style="list-style-type: none"> Possible indirect effects on wintering pond condition through changes to surface water drainage patterns. 	<ul style="list-style-type: none"> Minimize indirect effects on pond through changes in surface water drainage patterns. 	<ul style="list-style-type: none"> Ensure Best Management Practices are used to maintain current drainage patterns, including: <ul style="list-style-type: none"> Implement infiltration techniques to the maximum extent possible. Minimize paved surfaces and design roads to promote infiltration. Limit changes in land contours. Ensure no grade changes within 30 m of pond. 	<ul style="list-style-type: none"> Indirect effects to habitat minimized by maintaining grade. Low likelihood of occurring and limited magnitude. 	<ul style="list-style-type: none"> Inspect locations following completion of access roads by an Environmental Monitor to ensure no changes in drainage patterns. Examine condition of wintering ponds within 30 m of access roads following completion of construction. Contingency Measures: <ul style="list-style-type: none"> If surface water drainage alterations are detected, undertake corrective measures to restore drainage pattern.
	<p>Operation</p> <ul style="list-style-type: none"> Risk of road mortality to turtles moving between wintering ponds and other areas. 	<ul style="list-style-type: none"> Minimize turtle mortality along access roads. 	<ul style="list-style-type: none"> Maintain wildlife crossing signs and limit speed of vehicles (30 km/hr) along access roads within 120 m of Significant Turtle Wintering Areas. 	<ul style="list-style-type: none"> Risk of turtle road mortality reduced through mitigation measures. Low likelihood of occurring and limited magnitude due to limited volume of maintenance vehicles. 	<ul style="list-style-type: none"> No monitoring or contingency measures required.
	<ul style="list-style-type: none"> Increased access for poaching as a result of access roads. 	<ul style="list-style-type: none"> Avoid increased access for poaching during operation. 	<ul style="list-style-type: none"> Install a gate on access roads that are within 120 m of Significant Turtle Wintering Areas to prevent public access. 	<ul style="list-style-type: none"> Potential increased access for poaching minimized through the application of mitigation measures. Low likelihood of poaching as access roads are located in agricultural fields on private property. 	<ul style="list-style-type: none"> No monitoring or contingency measures required.

Table 14. Additional Potential Effects on Turtle Wintering Areas and Mitigation Measures

Significant Features(s)	Potential Effects	Performance Objectives	Mitigation Strategy	Residual Effects	Monitoring Plan and Contingency Measures
	<ul style="list-style-type: none"> Possible mortality to turtles nesting on side of access road. 	<ul style="list-style-type: none"> Prevent mortality of nesting turtles during operation. 	<ul style="list-style-type: none"> Construct access roads that are within 120 m of Significant Turtle Wintering Areas designed using materials that are not suitable for turtle nesting. 	<ul style="list-style-type: none"> Possible mortality to nesting turtles on side of access roads minimized through application of mitigation measures. Low likelihood of mortality due to lack of suitable habitat on side of access roads. 	<ul style="list-style-type: none"> No monitoring or contingency measures required.

6. Summary and Conclusions

As was the case for the original proposed Project (as described in the approved NHA and EIS), the significance of anticipated residual effects associated with the proposed Project Location modifications is predicted to be low provided that the recommended mitigation measures are properly implemented and proactively managed throughout the duration of construction and post-construction activities. Mitigation and compensation measures will address the minimal vegetation removal within Significant Woodlands and the Provincially Significant Ausable River Valley Life Science ANSI restricted to the Thomson Line and Elginfield Road right-of-way for construction of the transmission line. No other above-ground project infrastructure is proposed to be located within significant natural Features (*i.e.*, Significant Woodlands, Significant Wetlands or Significant Wildlife Habitat) and no vegetation clearing will be required in significant natural Features for the remaining Project Location modifications.

Potential operation effects of turbines on bird and bat mortality will be monitored for at least 3 years post-construction and, if required, mitigation measures (including operational controls) will be implemented in accordance with provincial guidelines and requirements, as described in *Birds and Bird Habitats: Guidelines for Wind Power Projects* (MNR, 2011a) and *Bats and Bat Habitats: Guidelines for Wind Power Projects* (MNR, 2011b).

7. References

AECOM, 2013a:

Jericho Wind Energy Centre Natural Heritage Assessment and Environmental Impact Study Report.
Prepared for NextEra Energy Canada, ULC. February, 2013.

AECOM, 2013b:

Jericho Wind Energy Centre Natural Heritage Assessment and Environmental Impact Study Report Second Addendum. Prepared for NextEra Energy Canada, ULC. January, 2013.

AECOM, 2012:

Jericho Wind Energy Centre Natural Heritage Assessment and Environmental Impact Study Addendum.
Prepared for NextEra Energy Canada, ULC. December 10, 2012.

COSEWIC, 2008:

COSEWIC assessment and status report on the Snapping Turtle *Chelydra serpentina* in Canada. Committee on the Status of Endangered Wildlife In Canada, Ottawa, vii + 47 pp.

Bried, J.T., K.L. Strout and T. Portante, 2012:

Coefficients of Conservatism for the Vascular Flora of New York and New England: Inter-State Comparisons and Expert Opinion Bias. *Northeastern Naturalist*, 19(Sp6): 101-114.

Ontario Ministry of Natural Resources (MNR), 2011a:

Birds and Bird Habitats: Guidelines for Wind Power Projects.

Ontario Ministry of Natural Resources (MNR), 2011b:

Bats and Bat Habitats: Guidelines for Wind Power Projects.

Ontario Ministry of Natural Resources (MNR), 2012:

Natural Heritage Assessment Guide for Renewable Energy Projects. 2nd Edition.

Appendix A

MNR Confirmation and Re-confirmation Letters

February 7, 2013

Jericho Wind, Inc.
390 Bay Street, Suite 1720
Toronto, ON, M5H 2Y2

RE: NHA Confirmation for Jericho Wind Energy Centre

Dear Tom Bird:

In accordance with the Ministry of the Environment's (MOE's) Renewable Energy Approvals (REA) Regulation (O.Reg.359/09), the Ministry of Natural Resources (MNR) has reviewed the Natural Heritage Assessment and Environmental Impact Study Report for the Jericho Wind Energy Centre project located in the Municipalities of Lambton Shores and North Middlesex and the Township of Warwick, and submitted by Jericho Wind, Inc on February 7, 2013. The Natural Heritage Assessment and Environmental Impact Study Report also includes the Parkhill Interconnect Renewable Energy Approval Application – Natural Heritage Assessment and Environmental Impact Study Report (Appendix A).

In accordance with Section 28(2) and 38(2)(b) of the REA regulation, MNR provides the following confirmations following review of the natural heritage assessment:

1. The MNR confirms that the determination of the existence of natural features and the boundaries of natural features was made using applicable evaluation criteria or procedures established or accepted by MNR.
2. The MNR confirms that the site investigation and records review were conducted using applicable evaluation criteria or procedures established or accepted by MNR, if no natural features were identified.
3. The MNR confirms that the evaluation of the significance or provincial significance of the natural features was conducted using applicable evaluation criteria or procedures established or accepted by MNR.
4. The MNR confirms that the project location is not in a provincial park or conservation reserve.
5. The MNR confirms that the environmental impact study report has been prepared in accordance with procedures established by the MNR.

In accordance with Section 28(3)(c) and 38(2)(c), MNR also offers the following comments in respect of the project.

Preconstruction Monitoring

In accordance with Appendix D of MNR's NHA Guide, a commitment has been made to complete pre-construction assessment(s) of habitat use for the following candidate significant wildlife habitats, the results of which will be submitted to MNR:

- Waterfowl (Tundra Swan) Stopover and Staging Areas (WSST-01, WSST-31 and WSST-37);
- Waterfowl (Aquatic) Stopover and Staging Areas (WSSA-01 and WSSA-02);
- Raptor Wintering Area (RWA-01);
- Bat Maternity Colonies (BMA-051, BMA-090A, BMA-090B, BMA-098, BMA-102B, BMA-120, BMA-145, BMA-147, BMA-179, BMA-188, BMA-214 and BMA-297);
- Turtle Wintering Areas (TWH-01, TWH-02, TWH-03, TWH-04, TWH-05, TWH-06, TWH-07 and TWH-08);
- Reptile Hibernacula (RH-01, RH-02, RH-03 and RH-04);
- Bald Eagle and Osprey Nesting, Foraging and Perching Habitat (BEN-01 Jericho and BAL-001 Parkhill Interconnect);
- Turtle Nesting Habitat (TNH-02);
- Seeps and Springs (SS-01);
- Amphibian Woodland Breeding Habitat (AWO-01, AWO-02, AWO-03, AWO-04, AWO-05, AWO-06, AWO-08, AWO-09, AWO-10, AWO-11, AWO-12, AWO-13, AWO-16, AWO-17, AWO-19 and AWO-20);
- Amphibian Wetland Breeding Habitat (AWE-01, AWE-02, AWE-03, AWE-04 and AWE-05);
- Amphibian Movement Corridors (AMC-01).

MNR has reviewed and confirmed the assessment methods and the range of mitigation options. Pending completion of the assessments and determination of significance, the appropriate mitigation is expected to be implemented, as committed to in the environmental impact study.

Turbine 9

If pre-construction assessment(s) indicate Turbine 9 is located in Significant Wildlife Habitat for Waterfowl (Tundra Swan) Stopover and Staging Areas (WSST-37), **MNR does not support the construction of this turbine.**

Post-Construction Monitoring

A commitment has been made in the Environmental Impact Study to conduct post-construction monitoring and if determined necessary, implement mitigation measures. For the Jericho Wind Energy Centre this includes the following significant natural features, the results of which will be submitted to MNR:

- Bat Maternity Colonies (BMA-143, BMA-155, BMA-168, BMA-216, BMA-217 and BMA-382);

The following candidate significant natural features will also be monitored post-construction if they are deemed significant during pre-construction surveys, the results of which will be submitted to MNR:

- Waterfowl (Tundra Swan) Stopover and Staging Areas (WSST-01, WSST-31 and WSST-37);
- Raptor Wintering Area (RWA-01);
- Bat Maternity Colonies (BMA-051, BMA-090A, BMA-090B, BMA-098, BMA-102B, BMA-120, BMA-145, BMA-147, BMA-179, BMA-188, BMA-214 and BMA-297)
- Reptile Hibernacula (RH-01, RH-03 and RH-04)
- Bald Eagle and Osprey Nesting, Foraging and Perching Habitat (BEN-01 Jericho and BAL-001 Parkhill Interconnect);
- Turtle Nesting Habitat (TNH-02);

- Amphibian Woodland Breeding Habitat (AWO-01, AWO-02, AWO-03, AWO-04, AWO-05, AWO-06, AWO-08, AWO-09, AWO-10, AWO-11, AWO-12, AWO-13, AWO-16, AWO-17, AWO-19 and AWO-20);
- Amphibian Wetland Breeding Habitat (AWE-01, AWE-02, AWE-03, AWE-04 and AWE-05);
- Amphibian Movement Corridors (AMC-01).

In addition to the NHA and EIS, an Environmental Effects Monitoring Plan (EEMP) that address post-construction mortality monitoring and mitigation for birds and bats must be prepared and implemented. Environmental Effects Monitoring Plans for birds and bats must be prepared in accordance with MNR Guidelines and should be reviewed by MNR in advance of submitting a REA application to MOE in order to minimize potential delays in determining if the application is complete. Comments provided by the MNR with respect to the EEMP must be submitted as part of the application for a REA.

This confirmation letter is valid for the project as proposed in the natural heritage assessment and environmental impact study, including those sections describing the Environmental Effects Monitoring Plan and Construction Plan Report. Should any changes be made to the proposed project that would alter the NHA, MNR may need to undertake additional review of the NHA.

Where specific commitments have been made by the applicant in the NHA/EIS with respect to project design, construction, rehabilitation, operation, mitigation, or monitoring, MNR expects that these commitments will be considered in MOE's Renewable Energy Approval decision and, if approved, be implemented by the applicant.

In accordance with S.12 (1) of the Renewable Energy Approvals Regulation, this letter must be included as part of your application submitted to the MOE for a Renewable Energy Approval.

Please be aware that your project may be subject to additional legislative approvals as outlined in the Ministry of Natural Resources' *Approvals and Permitting Requirements Document*. These approvals are required prior to the construction of your renewable energy facility.

If you wish to discuss any part of this confirmation letter, please contact Jim Beal at Jim.Beal@ontario.ca or 705-755-3203.

Sincerely,



Kazia Milian
Planning Coordinator
Southern Region MNR

cc Jim Beal, Renewable Energy Operations Team, Coordinator, MNR
Mitch Wilson, District Manager, Aylmer District, MNR
Narren Santos, Environmental Approvals Access & Service Integration Branch, MOE
Zeljko Romic, Environmental Approvals Access & Service Integration Branch, MOE
Jessica MacKay Ward, Ecologist, AECOM

Ministry of
Natural Resources
Renewable Energy Operations Team
300 Water Street
4th Floor, South Tower
Peterborough, Ontario K9J 8M5

Ministère des
Richesses naturelles



February 7, 2013

Jericho Wind, Inc.
390 Bay Street, Suite 1720
Toronto, ON, M5H 2Y2

RE: Modifications to the Jericho Wind Energy Centre Project Location

Dear Mr Tom Bird,

The Ministry of Natural Resources (MNR) has received the document dated December 10, 2012 which describes modifications to the Jericho Wind Energy Centre project location made subsequent to MNR's letter confirming the Natural Heritage Assessment in respect of the project.

Upon review of the modifications, MNR is satisfied that the Natural Heritage Assessment requirements of Ontario Regulation 359/09 have been met. Please add this letter as an addendum to the confirmation letter issued February 7, 2013 for the Jericho Wind Energy Centre project.

If you wish to discuss any part of this letter please contact Jim Beal at jim.beal@ontario.ca or 705-755-3203.

Sincerely,

A handwritten signature in blue ink that reads "K. Milian".

Kazia Milian
Planning Coordinator
Southern Region MNR

cc Jim Beal, Renewable Energy Operations Team, Coordinator, MNR
Mitch Wilson, District Manager, Aylmer District, MNR
Narren Santos, Environmental Approvals Access & Service Integration Branch, MOE
Zeljko Romic, Environmental Approvals Access & Service Integration Branch, MOE
Jessica MacKay Ward, Ecologist, AECOM

Ministry of
Natural Resources
Renewable Energy Operations Team
300 Water Street
4th Floor, South Tower
Peterborough, Ontario K9J 8M5

Ministère des
Richesses naturelles



February 7, 2013

Jericho Wind, Inc.
390 Bay Street, Suite 1720
Toronto, ON, M5H 2Y2

RE: Modifications to the Jericho Wind Energy Centre Project Location #2

Dear Mr Tom Bird,

The Ministry of Natural Resources (MNR) has received the document dated January 2013 and received January 29, 2013 which describes modifications to the Jericho Wind Energy Centre project location made subsequent to MNR's letter confirming the Natural Heritage Assessment in respect of the project.

Upon review of the modifications, MNR is satisfied that the Natural Heritage Assessment requirements of Ontario Regulation 359/09 have been met. Please add this letter as an addendum to the confirmation letter issued February 7, 2013 and re-confirmation letter issued February 7, 2013 for the Jericho Wind Energy Centre project.

If you wish to discuss any part of this letter please contact Jim Beal at jim.beal@ontario.ca or 705-755-3203.

Sincerely,

A handwritten signature in blue ink that reads "K Milian".

Kazia Milian
Planning Coordinator
Southern Region MNR

cc Jim Beal, Renewable Energy Operations Team, Coordinator, MNR
Mitch Wilson, District Manager, Aylmer District, MNR
Narren Santos, Environmental Approvals Access & Service Integration Branch, MOE
Zeljko Romic, Environmental Approvals Access & Service Integration Branch, MOE
Jessica MacKay Ward, Ecologist, AECOM

Appendix B

Field Notes

- Appendix B1. Ecological Land Classification (ELC), Vascular Plant Inventory and Incidental Wildlife
- Appendix B2. Woodland Breeding Bird Species of Conservation Concern Surveys
- Appendix B3. Turtle Wintering Area Evaluation of Significance Surveys

**Appendix B1. Ecological Land
Classification (ELC),
Vascular Plant
Inventory and
Incidental Wildlife**



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1:2,000
UTM Zone 17N, NAD 83

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Jericho Wind Energy Centre
NHA Amendment
Natural Area 90
T-Line Field Map
July 2013
Project 60155032

AECOM
Figure 1

Plant Species List
2012

Dicot Herbs - Asteraceae						Dicot Herbs						Dicot Herbs					
1	2	3	4	5		1	2	3	4	5		1	2	3	4	5	
Common Yarrow (<i>Achillea millefolium</i>)						Shepherd's Purse (<i>Capsella bursa-pastoris</i>)						Kidney-leaf Buttercup (<i>Ranunculus abortivus</i>)					
White Snakeroot (<i>Ageratina altissima</i>)						Cutleaf Toothwort (<i>Cardamine concatenata</i>)						Tall Buttercup (<i>Ranunculus acris</i>)					
Corn Ragweed (<i>Ambrosia artemisiifolia</i>)						Turtlehead (<i>Cardamine diphylla</i>)						Hooked Buttercup (<i>Ranunculus recurvatus</i>)					
Giant Ragweed (<i>Ambrosia trifida</i>)						Penn. Bitter-cress (<i>Cardamine pennsylvanica</i>)						<i>Ranunculus</i>					
Field Pussiesoots (<i>Antennaria neglecta</i>)						<i>Cardamine</i>						Sheep Sorrel (<i>Rumex acetosella</i>)					
<i>Artemisia</i>						Blue Cohosh (<i>Caulophyllum thalictroides</i>)						Curly-leaf Dock (<i>Rumex crispus</i>)					
Common Burdock (<i>Arctium minus</i>)						Mouse-ear Chickweed (<i>Cerastium fontanum</i>)						Bitter Dock (<i>Rumex obtusifolius</i>)					
Nodding Beggar-ticks (<i>Bidens cernua</i>)						Turtlehead (<i>Chelone glabra</i>)						Bloodroot (<i>Sanguinaria canadense</i>)					
Devil's Beggar-ticks (<i>Bidens frondosa</i>)						Spotted Water-hemlock (<i>Cicuta maculata</i>)						Black Snakeroot (<i>Sanicula marilandica</i>)					
Spotted Knapweed (<i>Centaurea biebersteinii</i>)						Water-hemlock (<i>Cicuta virosa</i>)						Bouncing Bet (<i>Saponaria officinalis</i>)					
Brown Knapweed (<i>Centaurea jacea</i>)						Enchanter's Nightshade (<i>Circaea lutetiana</i>)						Marsh Skullcap (<i>Scutellaria galericulata</i>)					
Chicory (<i>Cichorium intybus</i>)						Carolina Spring Beauty (<i>Claytonia caroliniana</i>)						Mad Dog Skullcap (<i>Scutellaria lateriflora</i>)					
Canada Thistle (<i>Cirsium arvense</i>)						Virginia Spring Beauty (<i>Claytonia virginica</i>)						White Campion (<i>Silene latifolia</i>)					
Bull Thistle (<i>Cirsium vulgare</i>)						Virgin's-bower (<i>Clematis virginiana</i>)						Bladder Campion (<i>Silene vulgaris</i>)					
Horseweed (<i>Conyza canadensis</i>)						Field Bindweed (<i>Convolvulus arvensis</i>)						Hemlock Water-parsnip (<i>Stium suave</i>)					
Daisy Fleabane (<i>Erigeron annuus</i>)						Dog-strangling Vine (<i>Cynanchum rossicum</i>)						Bitter Nightshade (<i>Solanum dulcamara</i>)					
Philadelphia Fleabane (<i>Erg. philadelphicus</i>)						Wild Carrot (<i>Daucus carota</i>)						Black Nightshade (<i>Solanum ptychanthum</i>)					
<i>Erigeron</i>						Deptford Pink (<i>Dianthus armeria</i>)						Grassleaf Stitchwort (<i>Stellaria graminea</i>)					
Joe-pye-weed (<i>Eupatorium maculatum</i>)						Squirrel-corn (<i>Dicentra canadensis</i>)						Common Chickweed (<i>Stellaria media</i>)					
Boneset (<i>Eupatorium perfoliatum</i>)						Dutchman's-breeches (<i>Dicentra cucullaria</i>)						Early Meadow-rue (<i>Thalictrum dioicum</i>)					
Large-leaved Aster (<i>Eurybia macrophylla</i>)						Wild Teasel (<i>Dipsacus fullonum</i>)						Tall Meadow-rue (<i>Thalictrum pubescens</i>)					
Fiat-top Goldenrod (<i>Euthamia graminifolia</i>)						Wild Cucumber (<i>Echinocystis lobata</i>)						Field Penny-cress (<i>Thlaspi arvense</i>)					
Orange Hawkweed (<i>Hieracium aurantiacum</i>)						Viper's Bugloss (<i>Echium vulgare</i>)						Foamflower (<i>Tiaralia cordifolia</i>)					
Field Hawkweed (<i>Hieracium caespitosum</i>)						Northern Willow-herb (<i>Epilobium ciliatum</i>)						Star-flower (<i>Trientalis borealis</i>)					
<i>Hieracium</i>						Hairy Willow-herb (<i>Epilobium hirsutum</i>)						Red Clover (<i>Trifolium pratense</i>)					
Elecampane (<i>Inula helenium</i>)						Small-fl. Willow-herb (<i>Epilobium parviflorum</i>)						White Clover (<i>Trifolium repens</i>)					
Prickly Lettuce (<i>Lactuca scariola</i>)						<i>Epilobium</i>						<i>Trifolium</i>					
<i>Lactuca</i>						Worm Mustard (<i>Erysimum cheiranthoides</i>)						Stinging Nettle (<i>Urtica dioica</i>)					
Ox-eye Daisy (<i>Leucanthemum vulgare</i>)						<i>Euphorbia</i>						Greater Bladderwort (<i>Utricularia vulgaris</i>)					
Pineapple-weed (<i>Matricaria discoidea</i>)						Hemp Nettle (<i>Galeopsis tetrahit</i>)						Common Mullein (<i>Verbascum thapsus</i>)					
Tall White Lettuce (<i>Prenanthes altissima</i>)						Wild Madder (<i>Galium mollugo</i>)						Blue Vervain (<i>Verbena hastata</i>)					
Black-eyed Susan (<i>Rudbeckia hirta</i>)						Marsh Bedstraw (<i>Galium palustre</i>)						White Vervain (<i>Verbena urticifolia</i>)					
Tall Goldenrod (<i>Solidago altissima</i>)						Sweet-scented Bedstraw (<i>Galium triflorum</i>)						Water Speedwell (<i>Veron. anagallis-aquatica</i>)					
Blue-stem Goldenrod (<i>Solidago caesia</i>)						<i>Galium</i>						Common Speedwell (<i>Veronica officinalis</i>)					
Canada Goldenrod (<i>Solidago canadensis</i>)						Spotted Geranium (<i>Geranium maculatum</i>)						<i>Veronica</i>					
Zig-zag Goldenrod (<i>Solidago flexicaulis</i>)						Herb-robert (<i>Geranium robertianum</i>)						Cow Vetch (<i>Vicia cracca</i>)					
Giant Goldenrod (<i>Solidago gigantea</i>)						Yellow Avens (<i>Geum aleppicum</i>)						<i>Vicia</i>					
Early Goldenrod (<i>Solidago juncea</i>)						White Avens (<i>Geum canadense</i>)						Periwinkle (<i>Vinca minor</i>)					
Gray Goldenrod (<i>Solidago nemoralis</i>)						Urban Avens (<i>Geum urbanum</i>)						Dog Violet (<i>Viola conspersa</i>)					
<i>Solidago</i>						Dame's Rocket (<i>Hesperis matronalis</i>)						Yellow Violet (<i>Viola pubescens</i>)					
Field Sow-thistle (<i>Sonchus arvensis</i>)						Virg. Water-leaf (<i>Hydrophyllum virginianum</i>)						Com. Blue Violet (<i>Viola soraria</i>)					
<i>Sonchus</i>						Com. St. John's-wort (<i>Hypericum perforatum</i>)						<i>Viola</i>					
Heart-leaf Aster (<i>Symph. cordifolium</i>)						Spotted Jewelweed (<i>Impatiens capensis</i>)						Michigan Lily					
Heath Aster (<i>Symph. ericoides</i>)						Wood Nettle (<i>Laportea canadensis</i>)											
Tall White Aster (<i>Symph. lanceolatum</i>)						Motherwort (<i>Leonurus cardiaca</i>)											
Calico Aster (<i>Symph. lateriflorum</i>)						Field Peppergrass (<i>Lepidium campestre</i>)											
New England Aster (<i>Symph. novae-angliae</i>)						Eur. Gromwell (<i>Lithospermum officinale</i>)											
Purple-stem Aster (<i>Symph. puniceus</i>)						Butter & Eggs (<i>Lineria vulgaris</i>)											
Common Tansy (<i>Tanacetum vulgare</i>)						Great Lobelia (<i>Lobelia siphilitica</i>)											
Common Dandelion (<i>Taraxacum officinale</i>)						<i>Lobelia</i>											
Com. Goatsbeard (<i>Tragopogon pratensis</i>)						Cut-leaf Bugleweed (<i>Lycopus americanus</i>)											
Cott'sfoot (<i>Tussilago farfara</i>)						Northern Bugleweed (<i>Lycopus uniflorus</i>)											
						Fringed Loosetrife (<i>Lysimachia ciliata</i>)											
						Moneywort (<i>Lysimachia nummularia</i>)											
						<i>Lysimachia</i>											
						Purple Loosetrife (<i>Lythrum salicaria</i>)											
						Black Medick (<i>Medicago lupulina</i>)											
						Alfalfa (<i>Medicago sativa</i>)											
						White Sweet-clover (<i>Melilotus alba</i>)											
						Yellow Sweet-clover (<i>Melilotus officinalis</i>)											
						Wild Mint (<i>Mentha arvensis</i>)											
						Wild Bergamot (<i>Monarda fistulosa</i>)											
						Small Forget-me-not (<i>Myosotis laxa</i>)											
						Forget-me-not (<i>Myosotis scorpioides</i>)											
						Water-cress (<i>Nasturtium officinale</i>)											
						Com. Evening-primrose (<i>Oenothera biennis</i>)											
						Sweet-cicely (<i>Osmorhiza berterii</i>)											
						Yellow Wood-sorrel (<i>Oxalis stricta</i>)											
						Wild Parsnip (<i>Pastinaca sativa</i>)											
						English Plantain (<i>Plantago lanceolata</i>)											
						Common Plantain (<i>Plantago major</i>)											
						Rugel's Plantain (<i>Plantago rugelii</i>)											
						May-apple (<i>Podophyllum peltatum</i>)											
						Pale Smartweed (<i>Polygonum lapathifolium</i>)											
						Lady's-thumb (<i>Polygonum persicaria</i>)											
						Virginia Knotweed (<i>Polygonum virginianum</i>)											
						<i>Polygonum</i>											
						<i>Polygonum</i>											
						Rough Cinquefoil (<i>Potentilla norvegica</i>)											
						Rough-fruited Cinquefoil (<i>Potentilla recta</i>)											
						Common Cinquefoil (<i>Potentilla simplex</i>)											
						<i>Potentilla</i>											
						Heal-all (<i>Prunella vulgaris</i>)											
						Shinleaf (<i>Pyrola elliptica</i>)											

D - Dominant: represented by large numbers; generally forming >10% ground cover or >25% vegetation cover in any one stratum
 F - Fairly common (=Abundant in ELC): generally widespread represented by fairly large numbers of individual clumps; usually forming >10% ground cover
 U - Uncommon (=Occasional in ELC): present as widespread scattered individuals or represented by one or more clumps of many individuals (most species will fall into this category)
 R - Rare: represented in the polygon by less than about five individuals or small clumps

Map Number: NA90-T-Line 1 CUMM-1/CUM1 4
 Date: Aug 1, 2015 2 NAM2 5
 Surveyors: RA, AW 3

Significant Wildlife Habitat Form

AECOM

Study Area:	BLW <u>VER</u> GSH	Map #:	90 (T-LINE)
Date:	AUG 2 2013	Time Started:	11:50
Field Staff:	ROS ANKEN / ADAM W.	Time Finished:	12:15
Weather Conditions:			

Colonial Nesting Tree/Shrub Birds, Osprey Breeding/Feeding, Bald Eagle Breeding/Nesting Habitat
(FET1, FOC, FOM, FOD, SWC, SWM, SWD)

Nest bowls present: No Yes (if yes, photograph and complete the following)

UTMs: _____ Number of nests: _____

Description of nests (location, e.g. in tree/on built structure; material; evidence of recent use; birds present): _____

Description of habitat (note riparian areas if present, evidence of disturbance): _____

Waterfowls Stopover/Nesting, Amphibian Breeding, Turtle Nesting/Over-wintering, Marsh Breeding Birds
(CUM1, CUT1, MAM, MAS, SAS1, SAM1, SAF1, SWD, SWT1, SWT2) (FOC, FOM, FOD, SWC, SWM, SWD, BOO1, FEO1)

Standing water present: No Yes (if yes, photograph and complete the following)

UTMs: _____ Area of standing water delineated on field map

Water depth (m): _____ % open water: _____ % emergent vegetation: _____

Description of standing water (permanent pool, evidence of annual spring flooding, etc): _____

Area and soil/substrate of shoreline habitat: _____

Type and abundance of cover in open water habitat: _____

Type and abundance of cover in surrounding habitat: _____

Evidence of disturbance (e.g. cattle grazing): _____

Evidence of use by waterfowl, amphibians, turtles (e.g. broken eggs), marsh breeding birds: _____

Complete Vernal Pool Habitat Description Form

Snake Hibernacula

Fissured rock/foundation or rock/debris pile present: No Yes (if yes, photograph and complete the following)

UTMs: _____ Likelihood to extend below frost line: _____

% canopy cover: _____ % slope: _____ Distance to open canopy (m): _____

Description of fissure or stone pile (composition/material, dimenstions, etc): _____

Description of surrounding habitat (type & abundance of cover, evidence of disturbance, etc): _____

Seeps and Springs (FOC, FOM, FOD, SWC, SWM, SWD)

Evidence of seep or spring: No Yes (if yes, photograph and complete the following)

UTMs: _____ Description (indicator species, etc): _____

NHA Site Investigation - Significant Wildlife Habitat Form

AECOM

Colonial Nesting Bird Breeding Habitat (Bank and Cliff Swallows)
 (CUM1, CUT1, CUS, BLO1, BLS1, BLT1, CLO1, CLS1, CLT1)
 Eroding bank, sandy hill, pits, steep slope or rock face present:
 No Yes (if yes, photograph and complete the following)
 UTM: _____ Location (e.g. aggregate pit, bridge): _____
 Evidence of use by bank or cliff swallows (provide number of nests): _____

Colonial Nesting Ground Breeding Birds, Shorebird Migratory Stopover Areas
 (BBO1, BBO2, BBS1, BBS2, BBT1, BBT2, SDO1, SDS2, SDT1, MAM1, MAM2, MAM3, MAM4, MAM5)
 Shoreline of lake, large river or large wetland present:
 No Yes (if yes, photograph and complete the following)
 UTM: _____ Rocky island or peninsula present: _____
 Mudflat present: _____ Evidence of disturbance (e.g. cattle grazing): _____
 Description of habitat (size of rocky outcrop/mudflat, substrate/soil type, type and abundance of cover): _____

Raptor Winter Feeding and Roosting, Open Country or Shrub/Early Successional Bird Breeding Habitat
 CUT1, CUS1, >30ha, CUM1 >30ha, FOC, FOD, FOM with a CUM, CUT, CUS, CUW > 20ha, or a CUM, CUS, CUT, CUW >15ha
 Large meadow, old field or generally open habitat (e.g. CUM, CUS, CUT, CUS, CUW) present:
 Large open habitat present: No Yes (if yes, photograph and complete the following)
 UTM: _____ Evidence of disturbance (e.g. cattle grazing): _____
 Description of habitat (abundance of food plants for rodents, abundance of perches, height of vegetation): _____

Old-growth or Mature Forests, Interior Forest Breeding Birds
 (FOD, FOC, FOM, SWC, SWM, SWD. Mature forest (>60 years) present)
 Mature forest present: No Yes (if yes, photograph and complete the following)
 UTM: _____ Age of oldest trees: _____
 Evidence of disturbance (e.g. selective cutting): _____
 Description of habitat (structural complexity, abundance of snags and/or downed woody debris, etc): _____

Photo #	Location or Subject	Photo #	Location or Subject

Species of Conservation Concern Habitat and Incidental Wildlife – Jericho



Study Area: NA-90 - T Line Jericho

Field Staff: RA, AW

Time Started: 11:50am

Date (yyyy-mm-dd): 2013-08-01

Feature No.: NA90-T Line

Time Finished: 12:15pm

Observed Species List

Species Code	UTM	EV	Notes	Species Code	UTM	EV	Notes
COYE		SM					
INBA		SM					
GACA		SM					
CEWA		SM					
ANCA		SM					
MOOO		SM					
SWSP		SM					
BLJA		SM					
AMBO		SH					
NOCA		SM					

Note: Evidence Codes (EV)

Breeding Bird (Possible)

SH=Suitable Habitat, SM=Singing Male;

Breeding Bird (Probable)

T-Territory, D=Display, P=Pair, N=Nest Building, V= Visiting Nest; A=Anxiety Behavior;

Breeding Bird (Confirmed)

DD=Distraction, NU=Used Nest, FY=Fledged Young, NE=Eggs, NY=Young, FS=Faeces/Faecal sack, AE=Nest Entry

Other Wildlife Evidence:

OB=observed, VO=Vocalization, CA=Carcass, DP=Distinctive Parts, HO=House/Den, FY=Eggs/young, TK=tracks, FE=Feeding evidence, SC= Scat, SI=Other signs (specify)

PLANTS

Species	Habitat Description	ELC	Habitat Present (Y/N; UTM; description of habitat if present)
American Gromwell (<i>Lithospermum latifolium</i>) - S3 Bloom Time - Spring	Grows in rich deciduous woodlands, wooded floodplains, and shaded riverbanks as well as along the edges of woodlands	FOD7	Y (N) UTM:
A Moss (<i>Astomum muehlenbergianum</i>)- S2 Bloom Time - Spring	Thin soil over level outcrop ledges and on soil under grasses in open prairie.	ALO, TPO	Y (N) UTM:
Autumn Coral-root (<i>Corallorhiza odontorhiza</i>) - S2 Bloom Time - Summer to Fall	Found growing in openings of red pine or white pine plantations as well as dry sandy woods.	FOM1, FOM2, CUP3	(Y) N UTM: N/C - ASA
Broad Beech Fern (<i>Phegopteris hexagonoptera</i>) - SC Bloom Time - not a flowering plant	Species grows in rich, mature deciduous woods in southern Ontario.		Y (N) UTM:
Burning Bush (<i>Euonymus atropurpureus</i>) - S3	Grows in dry to moist thickets, valleys, and forest edges. Similar Species: European Burning Bush (<i>Euonymus europaeus</i>). Distinctive Feature: Burning Bush has hairs on the underside of leaves while the European species does not.		Y (N) UTM:
Carey's Sedge (<i>Carex careyana</i>) - S2 Bloom Time - May and June	Occurs in rich deciduous woods, often on floodplains and slopes and mesic to dry-mesic hardwood forests.	FOD8, FOD7, FOD9, SWD	Y (N) UTM:
Caughuawaga Hawthorn (<i>Crataegus suborbiculata</i>) - S1	Occurs in old fields, poorly managed pastures, fencelines and roadsides.	(CUM1) CUS1, CUT1	(Y) N UTM: N/O
Round-leaved Hawthorn (<i>Crataegus lumaria</i>) - S3?	Occurs in old fields, poorly managed pastures, fencelines and roadsides.	(CUM1) CUS1, CUT1	(Y) N UTM: N/O
Chinese Hemlock Parsley (<i>Conioselinum chinense</i>) - S2 Bloom Time - summer to fall	Swampy places with deciduous trees, white cedars, tamarack; springy river banks, creek borders, wet borders of streams & rivers. Also calcareous seepage slopes.	SWC1, SWC3, SWC4, SWM1, SWM2, SWM4, SWM5, SWM8	Y (N) UTM:
Cream Violet (<i>Viola striata</i>) - S3 Bloom Time- March-June).	Inhabits rich floodplain forest and low, wet woods.	FOD8, FOD7, FOD9, SWM, SWD	Y (N) UTM:
Double-striped Bluet (<i>Enallagma basidens</i>)-S3	Inhabits fishless ponds, lakes and boggy swamps.	OA0, SA, SWM, SWD	Y (N) UTM:

Species of Conservation Concern Habitat and Incidental Wildlife – Jericho

Species	Habitat Description	ELC	Habitat Present (Y/N; UTM; description of habitat if present)
Eastern Green-violet (<i>Hybanthus concolor</i>) - S2 <u>Bloom Time – mid March to August</u>	Occurs in rich, wet-mesic floodplain forests as well as mesic forests over limestone. Includes floodplains and river banks.	ALT1, FOD7	Y (N) UTM:
Green Dragon (<i>Arisaema dracontium</i>) - SC/S3 <u>Bloom Time – May and June</u>	Species found in damp deciduous forest and along river streams. Particularly Maple forest and forest dominated by Red Ash and White Elm.	FOD6, FOD7, FOD9	Y (N) UTM:
Harbinger-of-spring (<i>Eriogonum buibosum</i>) - S3 <u>Bloom Time – early to late April</u>	Occurs in rich, moist deciduous woods, especially on floodplains.	FOD6, FOD7, FOD8, FOD9	Y (N) UTM:
Hazel Dodder (<i>Cuscuta coryli</i>) –SH	Occurs in open, moist tall-grass prairie and meadows - parasitic on <i>Aster</i> , <i>Hellanthus</i> , <i>Monarda</i> , <i>Rubus</i> , <i>Solidago</i> .	RBO, TPO2, CUM1	(Y) N UTM: N/O
Leonard's Small Skullicap (<i>Scutellaria parvula</i>) –S3 <u>Bloom Time – late Spring to early Summer</u>	Occurs on open, rocky ground and prairies.	ALO, TPO	Y (N) UTM:
Mead's Sedge (<i>Carex meadii</i>) –S2 <u>Bloom Time –late spring to early summer</u>	Occurs in prairies and moist or dry open areas.	TPO, CUM1	(Y) N UTM: N/O
Ovate Beak Grass –S1 <u>Bloom Time- mid Summer</u>	prefers riparian woodlands ¹⁴ ; floodplain swamps and river banks.	FOD6, FOD7, FOD9, SWD	Y (N) UTM:
Pawpaw (<i>Asimina triloba</i>) –S3 <u>Bloom Time – March-May</u>	Occurs in moist deciduous woods and stream banks.	FOD6, FOD7, FOD9	Y (N) UTM:
Perfoliate Tinker's-weed (<i>Triosteum perfoliatum</i>) – S1 <u>Bloom Time – May, June, July</u>	Grows in rich, deciduous woods.		Y (N) UTM:
Pumpkin Ash (<i>Fraxinus profunda</i>) – S2?	This species is a wetland obligate and only grows in bottomland swamps and floodplains. Distinctive Feature: the base of the trunk swells outward, resembling a pumpkin in larger trees.		Y (N) UTM:
Riddell's Goldenrod (<i>Oligoneuron riddellii</i>)-SC	Riddell's Goldenrod grows in wet habitats such as wet marshes, moist prairies, fens, old fields and seepy banks.	ALO, TPO, CUM1	(Y) N UTM: N/O
Shellbark Hickory (<i>Carya laciniosa</i>) – S3	Typically found in wet or wet-mesic deciduous forests and along stream banks. Similar Species: Shagbark Hickory. Distinctive Feature: Larger leaves and leaflets of 7.		Y (N) UTM:
Shumard Oak (<i>Quercus shumardii</i>) –SC	Species inhabits mesic and mesic-hydric sites on clay and clay-loam soils with poor drainage.		Y (N) UTM:
Slim-flowered Muhly (<i>Muhlenbergia tenuiflora</i>) – S2	Found in rich deciduous forest dominated by either oak or beech-maple. It can also occur on rocky or sandy soils, wooded dunes, hillsides, and riverbanks.	SDT1, FOD5, FOD9	Y (N) UTM:
Southern Tickseed (<i>Bidens coronata</i>)-S2	Inhabits dry to moist sandy fields and sandy openings in prairies.	TPO, CUM1	Y (N) UTM:
Stiff Gentian (<i>Gentianella quinquefolia</i>) - S2 <u>Bloom Time – late summer to mid fall</u>	Found in moist soils of streambanks, edges of woods, wet prairies, marshy meadows, bluffs and wooded hillsides.	BLO1, BLS1, BLT1, TPO2, TPS2, TPW2, MAM2, FOD7	(Y) N UTM: N/O (ASH)
Stiff Goldenrod (<i>Solidago rigida</i>) –S3 <u>Bloom Time-early June to end of November</u>	Occurs on dry open ground, particularly in prairie remnants; along roadsides and railway, and waste places.	TPO1, CUM1	(Y) N UTM: N/O
Tall Tickseed (<i>Coreopsis tripteris</i>)-S2 <u>Bloom Time-late summer to early fall.</u>	Occurs in prairies and open woods, and thickets.	TPO, TPS, TPW, FOD1, FOD2, FOD3, FOD4, FOD5, CUT1	Y (N) UTM:
Winged –Loosestrife (<i>Lythrum alatum</i>)-S3 <u>Bloom Time- mid to late summer</u>	found in prairies, meadows, open woods, thickets and wet disturbed areas.	TPO, CUM1, FOM, FOD, CUM1, CUT1, MAM2	(Y) N UTM: N/O
Woodland Bulrush (<i>Scirpus expansus</i>) - S1	Grows in seepage areas, stream banks, and marshes. It is predominately found in the Asuable River.		Y (N) UTM:

MAMMALS

Species	Habitat Description	ELC	Habitat Present (Y/N; UTM; description of habitat if present)
Little Brown Bat (<i>Myotis lucifugus</i>)-SC	This species roosts in caves, quarries, tunnels, hollow trees or buildings but requires nearby wetlands and forest edges for hunting.	FOD, SWD	Y (N) UTM:
Northern Long-eared Bat (<i>Myotis septentrionalis</i>)-SC	The Northern Long-eared Bat roosts and hibernates in mines, caves, and man-made structures but prefers hollow trees in wooded areas	FOD, SWD	Y (N) UTM:
Tri-colored Bat (<i>Perimyotis subflavus</i>)-SC	The Tricoloured Bat is one of the common bats in Ontario. It prefers to roost in trees, cliff crevices, and caves usually in open woodlands that are near water	FOD, SWD	Y (N) UTM:

Species of Conservation Concern Habitat and Incidental Wildlife – Jericho



Species	Habitat Description	ELC	Habitat Present (Y/N; UTM; description of habitat if present)
Woodland Vole (<i>Microtus pinetorum</i>)-SC	The Woodland Vole inhabits mature deciduous forests where it can burrow into loose sandy soils and deep humus. Other habitats also include grasslands, meadows, and orchards	FOD	Y (N) UTM:

REPTILES

Species	Habitat Description	ELC	Habitat Present (Y/N; UTM; description of habitat if present)
Eastern Ribbonsnake (<i>Thamnophis sauritus</i>) - SC	Assessed as SWH. Record species if found.	MAM, MAS	not required.
Milksnake (<i>Lampropeltis triangulum</i>) -SC	Assessed as SWH. Record species if found.	CUM, CUT	not required.
Northern Map Turtle (<i>Graptemys geographica</i>) -SC	Large water bodies with soft bottoms & aquatic veg; basks on logs, rocks, beaches, grassy edges; may nest at some distance from water; aquatic corridors (e.g. stream) required for movement.	OAD, SA	Y (N) UTM:

INSECTS

Species	Habitat Description	ELC	Habitat Present (Y/N; UTM; description of habitat if present)
Azure Bluet (<i>Enallagma aspersum</i>)- S3	Found in fishless ponds and other small water bodies. Distinctive Features: Male – Large Blue eyespot and mostly black dorsal surface on abdomen with a blue tip; Females: Green eyespots and almost all black dorsal surface and black tip. Similar Species: Common Blue Damselfly – has more blue than black on abdomen.	OAD	Y (N) UTM:
Blue-ringed Dancer (<i>Argia sedula</i>) – S2	Found in streams and rivers of small to medium size and where there is dense herbaceous vegetation along the banks or shores.		Y (N) UTM:
Dusky Dancer (<i>Argia translate</i>) –S3	Inhabits small to medium, slow flowing sandy or rocky streams or large rivers in quite open areas or with wooded banks.	OAD, SA, SWM, SWD	Y (N) UTM:

BIRDS

Species	Habitat Description	ELC	Habitat Present (Y/N; UTM; description of habitat if present)
Bald Eagle (<i>Haliaeetus leucocephalus</i>)-SC	Assessed as SWH. Record species if found.	-	not required.
Hooded Warbler (<i>Wilsonia Citrina</i>) - SC	An area-sensitive species requiring large tracts of mature, closed canopy, deciduous forests. They generally nest above ground and prefer forests with tall trees that are along stream bottoms or at ravine edges	-	Y (N) UTM:
Louisiana Waterthrush (<i>Seiurus motacilla</i>) -SC	<u>Mature forests</u> along steeply sloped ravines adjacent to running water. Trees, bushes, exposed roots, cliffs, banks and mossy logs are favoured nesting spots. Riparian woodlands are preferred stopover sites during migration.	FOD, FOM	Y (N) UTM:

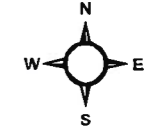
Map Document: (N:\projects\60-60155032\2010\Final\GIS\patan\MXD\FinalMap\Map\Map\Project_ELC_Mapping\Gishe\GSH_Amphibian\0155032_GSH_Amphibian\ELCSurvey\shs_372_GSH115.mxd)
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- Legend**
- Turbine Layout
 - Access Road
 - Collection Line
 - Property Boundary
 - Natural Feature and ID
 - ELC Polygon Boundary
 - Valley Land
 - Area of Disturbance
 - ANSI
 - Evaluated Wetlands - PSW
 - Watercourse



Basemapping from Ontario Ministry of Natural Resources
Orthophotography: 2010
Turbine Layout: April 8, 2012



Metres
0 25 50 100
1:2,500
UTM Zone 17N, NAD 83

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Jericho ELC Survey
3424
117_JER3425/JER3426

May 2012
Project 60155032

AECOM

Figure 1

Significant Wildlife Habitat Form

AECOM

Study Area:	BLW <u>JER</u> GSH	Map #:	117-JER3424, 3426
Date:	May 17, 2012	Time Started:	16:00
Field Staff:	Charlotte M. MacLeod	Time Finished:	17:15
Weather Conditions: 16°C, sunny, cloud cover 50%, wind 2			

Colonial Nesting Tree/Shrub Birds, Osprey Breeding/Feeding, Bald Eagle Breeding/Nesting Habitat
(FET1, FOC, FOM, FOD, SWC, SWM, SWD)

Nest bowls present: No Yes (if yes, photograph and complete the following)

UTMs: _____ Number of nests: _____

Description of nests (location, e.g. in tree/on built structure; material; evidence of recent use; birds present): _____

Description of habitat (note riparian areas if present, evidence of disturbance): _____

Waterfowls Stopover/Nesting, Amphibian Breeding, Turtle Nesting/Over-wintering, Marsh Breeding Birds
(CUM1, CUT1, MAM, MAS, SAS1, SAM1, SAF1, SWD, SWT1, SWT2) (FOC, FOM, FOD, SWC, SWM, SWD, BOO1, FEO1)

Standing water present: No Yes (if yes, photograph and complete the following)

UTMs: _____ Area of standing water delineated on field map _____

Water depth (m): _____ % open water: _____ % emergent vegetation: _____

Description of standing water (permanent pool, evidence of annual spring flooding, etc): _____

Area and soil/substrate of shoreline habitat: _____

Type and abundance of cover in open water habitat: _____

Type and abundance of cover in surrounding habitat: _____

Evidence of disturbance (e.g. cattle grazing): _____

Evidence of use by waterfowl, amphibians, turtles (e.g. broken eggs), marsh breeding birds: _____

Complete Vernal Pool Habitat Description Form

Snake Hibernacula

Fissured rock/foundation or rock/debris pile present: No Yes (if yes, photograph and complete the following)

UTMs: _____ Likelihood to extend below frost line: _____

% canopy cover: _____ % slope: _____ Distance to open canopy (m): _____

Description of fissure or stone pile (composition/material, dimensions, etc): _____

Description of surrounding habitat (type & abundance of cover, evidence of disturbance, etc): _____

Seeps and Springs (FOC, FOM, FOD, SWC, SWM, SWD)

Evidence of seep or spring: No Yes (if yes, photograph and complete the following)

UTMs: _____ Description (indicator species, etc): _____

NHA Site Investigation - Significant Wildlife Habitat Form

AECOM

Colonial Nesting Bird Breeding Habitat (Bank and Cliff Swallows)
 (CUM1, CUT1, CUS, BLO1, BLS1, BLT1, CLO1, CLS1, CLT1)
 Eroding bank, sandy hill, pits, steep slope or rock face present:
 No Yes (if yes, photograph and complete the following)
 UTM: _____ Location (e.g. aggregate pit, bridge): _____
 Evidence of use by bank or cliff swallows (provide number of nests): _____

Colonial Nesting Ground Breeding Birds, Shorebird Migratory Stopover Areas
 (BBO1, BBO2, BBS1, BBS2, BBT1, BBT2, SDO1, SDS2, SDT1, MAM1, MAM2, MAM3, MAM4, MAM5)
 Shoreline of lake, large river or large wetland present:
 No Yes (if yes, photograph and complete the following)
 UTM: _____ Rocky island or peninsula present: _____
 Mudflat present: _____ Evidence of disturbance (e.g. cattle grazing): _____
 Description of habitat (size of rocky outcrop/mudflat, substrate/soil type, type and abundance of cover): _____

Raptor Winter Feeding and Roosting, Open Country or Shrub/Early Successional Bird Breeding Habitat
 CUT1, CUS1, >30ha, CUM1 >30ha, FOC, FOD, FOM with a CUM, CUT, CUS, CUW > 20ha, or a CUM, CUS, CUT, CUW > 15ha
 Large meadow, old field or generally open habitat (e.g. CUM, CUS, CUT, CUS, CUW) present:
 Large open habitat present: No Yes (if yes, photograph and complete the following)
 UTM: _____ Evidence of disturbance (e.g. cattle grazing): _____
 Description of habitat (abundance of food plants for rodents, abundance of perches, height of vegetation): _____

Old-growth or Mature Forests, Interior Forest Breeding Birds
 (FOD, FOC, FOM, SWC, SWM, SWD. Mature forest (>60 years) present)
 Mature forest present: No Yes (if yes, photograph and complete the following)
 UTM: _____ Age of oldest trees: _____
 Evidence of disturbance (e.g. selective cutting): _____
 Description of habitat (structural complexity, abundance of snags and/or downed woody debris, etc): _____

Photo #	Location or Subject	Photo #	Location or Subject
GEDC 0647	garbage pile		
GEDC 0648-	CUM 2		
0649			
GEDC 0651-0652	CUP 2-3		

Species of Conservation Concern Habitat and Incidental Wildlife – Jericho



Study Area: Jericho

Field Staff: Charlotte Mark D'A

Time Started: 16:00

Date (yyyy-mm-dd): 2012-05-17

Feature No.: 117-JER3424, 3426

Time Finished: 17:15

Observed Species List

Species Code	UTM	EV	Notes	Species Code	UTM	EV	Notes
EAKI		OB	eastern Kingbird				
TUVU		OB	turkey vulture				
RBCR		OB	rose-breasted grosbeak				
NOCA		VO	northern cardinal				
GRCA		VO	gray catbird				
NDFL		VO	northern flicker				
RWBL		VO	red-winged blackbird				

Note: Evidence Codes (EV) Breeding Bird (Possible) SH=Suitable Habitat, SM=Singling Male; Breeding Bird (Probable) T-Territory, D=Display, P=Pair, N=Nest Building, V= Visiting Nest; A=Anxiety Behavior; Breeding Bird (Confirmed) DD=Distraction, NU=Used Nest, FY=Fledged Young, NE=Eggs, NY=Young, FS=Food/Faecal sack, AE=Nest Entry
 Other Wildlife Evidence: OB=observed, VO=Vocalization, CA=Carcass, DP=Distinctive Parts, HO=House/Den, FY=Eggs/young, TK=tracks, FE=Feeding evidence, SC= Scat, SI=Other signs (specify)

PLANTS

Species	Habitat Description	ELC	Habitat Present (Y/N; UTM; description of habitat if present)
Muehlenberg's Astomum Moss (<i>Astomum muehlenbergianum</i>) - S2	Thin soil over level outcrop ledges and on soil under grasses in open prairie.	ALO, TPO	Y <input checked="" type="radio"/> UTM:
Carey's Sedge (<i>Carex careyana</i>) - S2 Bloom Time - May and June	Occurs in rich deciduous woods, often on floodplains and slopes and mesic to dry-mesic hardwood forests.	FOD6, FOD7, FOD8, SWD	Y <input checked="" type="radio"/> UTM:
Chinese Hemlock Parsley (<i>Conioselinum chinense</i>) - S2 Bloom Time - summer to fall	Swampy places with deciduous trees, white cedars, tamarack; springy river banks, creek borders, wet borders of streams & rivers. Also calcareous seepage slopes.	SWC1, SWC3, SWC4, SWM1, SWM2, SWM4, SWM5, SWM6	Y <input checked="" type="radio"/> UTM:
Cream Violet (<i>Viola striata</i>) - S3 Bloom Time - March-June	Inhabits rich floodplain forest and low, wet woods.	FOD6, FOD7, FOD8, SWM, SWD	Y <input checked="" type="radio"/> UTM:
Eastern Green-violet (<i>Hybanthus concolor</i>) - S2 Bloom Time - mid March to August	Occurs in rich, wet-mesic floodplain forests as well as mesic forests over limestone. Includes floodplains and river banks.	ALT1, FOD7	Y <input checked="" type="radio"/> UTM:
Gray-headed Prairie Coneflower (<i>Ratibida pinnata</i>) - S3 Bloom Time - early June to end of November	Found in prairies and dry, sandy, open ground.	TPO, <input checked="" type="radio"/> CUM1	Y <input checked="" type="radio"/> UTM: none observed
Green Dragon (<i>Arisaema dracontium</i>) - SC/S3 Bloom Time - May and June	Species found in damp deciduous forest and along river streams. Particularly Maple forest and forest dominated by Red Ash and White Elm.	FOD6, FOD7, FOD8	Y <input checked="" type="radio"/> UTM:
Harbinger-of-spring (<i>Eriogonum bulbosum</i>) - S3 Bloom Time - early to late April	Occurs in rich, moist deciduous woods, especially on floodplains.	FOD6, FOD7, FOD8, FOD9	Y <input checked="" type="radio"/> UTM:
Small Skullcap (<i>Scutellaria parvula</i>) - S3 Bloom Time - late Spring to early Summer	Occurs on open, rocky ground and prairies.	ALO, TPO	Y <input checked="" type="radio"/> UTM:
Longleaf Dropseed (<i>Sporobolus asper</i>) - S1S2	Dry prairies, dry, sandy meadows and shores, roadsides and railway tracks.		Y <input checked="" type="radio"/> UTM:
Mead's Sedge (<i>Carex meadli</i>) - S2 Bloom Time - late spring to early summer	Occurs in prairies and moist or dry open areas.	TPO, <input checked="" type="radio"/> CUM1	Y <input checked="" type="radio"/> UTM: N/A

Species of Conservation Concern Habitat and Incidental Wildlife – Jericho

Species	Habitat Description	ELC	Habitat Present (Y/N; UTM; description of habitat if present)
Ovate Beak Grass –S1 <u>Bloom Time</u> - mid Summer	prefers riparian woodlands; floodplain swamps and river banks.	FOD6, FOD7, FOD9, SWD	Y <input checked="" type="radio"/> UTM:
Pawpaw (<i>Asimina triloba</i>) –S3 <u>Bloom Time</u> – March-May	Occurs in moist deciduous woods and stream banks.	FOD6, FOD7, FOD9	Y <input checked="" type="radio"/> UTM:
Riddell's Goldenrod (<i>Oligoneuron riddellii</i>)-SC	Occurs in wet, marshy ground and old fields, prairies; favours railway tracks and right-of-ways.	ALO, TPO, <input checked="" type="radio"/> CUM1	<input checked="" type="radio"/> N UTM: N/O
Schumard's Oak (<i>Quercus schumardii</i>) –SC	Species inhabits mesic and mesic -hydric sites on clay and clay-loam soils with poor drainage.	SWD	Y <input checked="" type="radio"/> UTM:
Southern Tickseed (<i>Bidens coronata</i>)-S2	Inhabits dry to moist sandy fields and sandy openings in prairies.	TPO, <input checked="" type="radio"/> CUM1	<input checked="" type="radio"/> N UTM: N/O
Stiff Gentian (<i>Gentiana quinquefolia</i>) - S2 <u>Bloom Time</u> – late summer to mid fall	Found in moist soils of streambanks, edges of woods, wet prairies, marshy meadows, bluffs and wooded hillsides.	BLO1, BLS1, BLT1, TPO2, TPS2, TPW2, MAM2, FOD7	Y <input checked="" type="radio"/> UTM:
Stiff Goldenrod (<i>Solidago rigida</i>) –S3 <u>Bloom Time</u> - early June to end of November	Occurs on dry open ground, particularly in prairie remnants; along roadsides and railway, and waste places.	TPO1, <input checked="" type="radio"/> CUM1	<input checked="" type="radio"/> N UTM: N/O
Tail Tickseed (<i>Coreopsis tripteris</i>)-S2 <u>Bloom Time</u> -late summer to early fall.	Occurs in prairies and open woods, and thickets.	TPO, TPS, TPW, FOD1, FOD2, FOD3, FOD4, FOD5, CUT1	Y <input checked="" type="radio"/> UTM:
Tuberous Indian Plantain (<i>Arnoglossum plantagineum</i>) - S3 <u>Blooms</u> –mid-March - mid-June	Occurs mainly in flat, sandy areas of the Bruce Peninsula. Fens, wet meadows, and calcareous river flats.	FEO, FES, FET, MAM2, MAM3	Y <input checked="" type="radio"/> UTM:
Winged –Loosestrife (<i>Lythrum alatum</i>)-S3 <u>Bloom Time</u> - mid to late summer	found in prairies, meadows, open woods, thickets and wet disturbed areas.	TPO, CUM1, FOM, FOD, <input checked="" type="radio"/> CUM1, CUT1, MAM2	<input checked="" type="radio"/> N UTM: N/O

MAMMALS

Species	Habitat Description	ELC	Habitat Present (Y/N; UTM; description of habitat if present)
Little Brown Bat (<i>Myotis lucifugus</i>)-SC	Roosts in caves, quarries, tunnels, hollow trees or buildings; maternity sites in attics and bams; feeds primarily in wetlands, forest edges.	FOD	Y <input checked="" type="radio"/> UTM:
Northern Long-eared Bat (<i>Myotis septentrionalis</i>)-SC	Hibernates in mines or caves; roosts in houses, man-made structures but prefers hollow trees or under loose bark; hunts within forests, below canopy	FOD	Y <input checked="" type="radio"/> UTM:
Tri-colored Bat (<i>Perimyotis subflavus</i>)-SC	Open woods near water; roosts in trees, cliff crevices, buildings or caves; hibernates in damp, draft-free, warm caves, mines or rock crevices.	FOD	Y <input checked="" type="radio"/> UTM:
Woodland Voie (<i>Microtus pinetorum</i>)-SC	Mature deciduous forest in the Carolinian forest zone, with loose sandy soil and deep humus; grasslands, meadows and orchards with groundcover of duff or grass	FOD	Y <input checked="" type="radio"/> UTM:

REPTILES

Species	Habitat Description	ELC	Habitat Present (Y/N; UTM; description of habitat if present)
Eastern Ribbonsnake (<i>Thamnophis sauritus</i>) - SC	Assessed as SWH. Record species if found.	MAM, MAS	not required.
Milksnake (<i>Lampropeltis triangulum</i>) -SC	Assessed as SWH. Record species if found.	CUM, CUT	not required.
Northern Map Turtle (<i>Graptemys geographica</i>) - SC	Large water bodies with soft bottoms & aquatic veg; basks on logs, rocks, beaches; may nest at some distance from water; aquatic corridors (e.g. stream) required for movement.	OAO, SA	Y <input checked="" type="radio"/> UTM:

INSECTS

Species	Habitat Description	ELC	Habitat Present (Y/N; UTM; description of habitat if present)
Dusky Dancer (<i>Argia translate</i>) –S3	inhabits small to medium, slow flowing sandy or rocky streams or large rivers in quite open areas or with wooded banks.	OAO, SA	Y <input checked="" type="radio"/> UTM:

BIRDS

Species	Habitat Description	ELC	Habitat Present (Y/N; UTM; description of habitat if present)
Bald Eagle (<i>Haliaeetus leucocephalus</i>)-SC	Assessed as SWH. Record species if found.	-	not required.
Louisiana Waterthrush (<i>Selurus motacilla</i>) -SC	<u>Mature forests</u> along steeply sloped ravines adjacent to running water. Trees, bushes, exposed roots, cliffs, banks and mossy logs are favoured nesting spots. <u>Riparian woodlands</u> are preferred stopover sites during migration.	FOD, FOM	Y <input checked="" type="radio"/> UTM:

Path: N:\projects\60-ecom\60155032\2010\Final\GIS\8\8\Map\Map\Project_ELC_Mapping\Jericho\UER_ELC_Visual\UER_ELC_Only\80155032_JER_ELC_Survey\Blk_118_JER_1658_1693.mxd
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Legend

- Turbine Layout
- Access Road
- - - Collection Line
- Property Boundary
- ▭ Natural Feature and ID
- ▭ ELC Polygon Boundary
- ▭ Valley Land
- ▭ Area of Investigation
- ANSI
- ▭ Evaluated Wetlands - PSW
- Watercourse

0.5 ha

Basemapping from Ontario Ministry of Natural Resources
 Orthophotography: 2010
 Turbine Layout: April 9, 2012

N
 W — O — E
 S

Metres
 0 25 50 100
 1:2,500
 UTM Zone 17N, NAD 83

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Jericho ELC Survey
118_JER1658/JER1693
 May 2012
 Project 60155032

AECOM Figure 1

pic # 066

ELC Community Description and Classification	Map #: 118 JCR 1658/1679	Polygon: SW2-2	
	Surveyor(s): SKM, SPJ	Date: 21-05-2012	Time start: 11:15
	UTMZ: 424496	UTMN: 4771182	Time finish: 1:45

Polygon Description

System	Substrate	Topographic Feature	Plant Form	Community
<input checked="" type="checkbox"/> Terrestrial	<input type="checkbox"/> Organic	<input type="checkbox"/> Lacustrine	<input type="checkbox"/> Plankton	<input type="checkbox"/> Lake
<input checked="" type="checkbox"/> Wetland	<input checked="" type="checkbox"/> Mineral Soil	<input type="checkbox"/> Riverine	<input type="checkbox"/> Submerged	<input type="checkbox"/> Pond
<input type="checkbox"/> Aquatic	<input type="checkbox"/> Parent Min.	<input type="checkbox"/> Bottomland	<input type="checkbox"/> Floating-LVD.	<input type="checkbox"/> River
Site	<input type="checkbox"/> Acidic Bedrk	<input type="checkbox"/> Terrace	<input type="checkbox"/> Graminoid	<input type="checkbox"/> Stream
<input type="checkbox"/> Open Water	<input type="checkbox"/> Basic Bedrk	<input type="checkbox"/> Valley Slope	<input type="checkbox"/> Forb	<input type="checkbox"/> Marsh
<input type="checkbox"/> Shallow Water	<input type="checkbox"/> Carb. Bedrk	<input checked="" type="checkbox"/> Tableland	<input type="checkbox"/> Lichen	<input checked="" type="checkbox"/> Swamp
<input checked="" type="checkbox"/> Surficial Dep.		<input type="checkbox"/> Roll. Upland	<input type="checkbox"/> Bryophyte	<input type="checkbox"/> Fen
<input type="checkbox"/> Bedrock		<input type="checkbox"/> Cliff	<input checked="" type="checkbox"/> Deciduous	<input type="checkbox"/> Bog
History		<input type="checkbox"/> Talus	<input type="checkbox"/> Coniferous	<input type="checkbox"/> Barren
<input checked="" type="checkbox"/> Natural		<input type="checkbox"/> Crevice/Cave	<input type="checkbox"/> Mixed	<input type="checkbox"/> Meadow
<input type="checkbox"/> Cultural		<input type="checkbox"/> Alvar		<input type="checkbox"/> Prairie
Cover		<input type="checkbox"/> Rockland		<input type="checkbox"/> Thicket
<input type="checkbox"/> Open		<input type="checkbox"/> Beach / Bar		<input type="checkbox"/> Savannah
<input type="checkbox"/> Shrub		<input type="checkbox"/> Sand Dune		<input type="checkbox"/> Woodland
<input checked="" type="checkbox"/> Treed		<input type="checkbox"/> Bluff		<input type="checkbox"/> Forest
				<input type="checkbox"/> Plantation

Stand Description

Layer	HT	CVR	Species In Order of Decreasing Dominance (up to 4 sp) (>> Much Greater Than; > Greater Than; = About Equal To)
1	2	4	FRAPENN > POPTR0M = CARONAT
2	3	3	FRAPENN > CARONAT > FRANIGR = OSTV.RG
3	4	3	FRAPENN > FRANIGR > OSTVIRG > CARONAT
4	6	4	IMPCAPE > FRANIGR > GERMACA > ONOSEN

HT Codes: 7 < 0.2m 6 > 0.2-0.5m 5 > 0.5-1m 4 > 1-2m 3 > 2-6m 2 > 6-25m 1 > 25m
 CVR Codes: 0 = none 1 0% - 10% 2 10 - 25% 3 25 - 60% 4 > 60%

Stand Composition:	Size Class Analysis:	A < 10	A 10-24	R 25-50	N > 50
BA:	Standing Snags:	O < 10	O 10-24	R 25-50	N > 50
	Deadfall / Logs:	A < 10	A 10-24	R 25-50	N > 50

Abundance Codes: N = None R = Rare O = Occasional A = Abundant

Com. Age: Pioneer Young Mid-Age Mature Old Growth

Ecosite:	Ash Mineral Deciduous Swamp	Code:	SW02
Vegetation Type:	Green Ash Mineral Decid. Swamp	Code:	SW02-2
Inclusion:		Code:	
Complex:		Code:	

Community Profile Diagram/Comments

Notes:

pic # 067 Vernal pool @ 424465, 4771219
 ~ 10x10m ~ 25cm deep
 - no tadpoles

Tree Tally by Species

Prism Factor 2

Species	Tally 1	Tally 2	Tally 3	Tally 4	Total	Rel. Avg.
POPTR0M	1				4	
FRAPENN	1				2	
CARONAT	1				2	
FRAPENN	1				2	
Total						100
Basal Area (BA)						
Dead						

Soils Ontario and ELC Soils Description

Site Metrics	Pit/Auger #		Summary				
	UTM	Zone	Moisture Regime				
Slope	Easting	424463	Drainage				
	Northing	4771197					
	Position	table 1 d					
	Aspect	N					
	Percent	0					
	Slope Length	None					
Depth to...	Mottles	15cm	Effective Texture (indicate below)				
	Gley						
	Water Table	40cm					
	Carbonates	?					
	Bedrock	13					
Soil Horizon Description	1	Depth from zero	0	% CF	% CF	% CF	% CF
		Texture	S:CL				
	2	Depth from zero	15cm	% CF	% CF	% CF	% CF
		Texture	S:CL				
	3	Depth from zero		% CF	% CF	% CF	% CF
		Texture					
	4	Depth from zero		% CF	% CF	% CF	% CF
		Texture					
	% Surface Stone/Rock						
	Moisture Regime		6				
	Drainage		6				

424448, pic # 068

ELC Community Description and Classification

Map #/18 JER. 1658/1699 Polygon: F005-2

Surveyor(s): SKM, SPS Date: 31-05-2012 Time start: 11:15 finish: 1:45

UTMZ: UTMZ: 424385 UTMN: 4771063

Polygon Description

System	Substrate	Topographic Feature	Plant Form	Community
<input checked="" type="checkbox"/> Terrestrial	<input type="checkbox"/> Organic	<input type="checkbox"/> Lacustrine	<input type="checkbox"/> Plankton	<input type="checkbox"/> Lake
<input type="checkbox"/> Wetland	<input checked="" type="checkbox"/> Mineral Soil	<input type="checkbox"/> Riverine	<input type="checkbox"/> Submerged	<input type="checkbox"/> Pond
<input type="checkbox"/> Aquatic	<input type="checkbox"/> Parent Min.	<input type="checkbox"/> Bottomland	<input type="checkbox"/> Floating-LVD.	<input type="checkbox"/> River
Site	<input type="checkbox"/> Acidic Bedrk	<input type="checkbox"/> Terrace	<input type="checkbox"/> Graminoid	<input type="checkbox"/> Stream
<input type="checkbox"/> Open Water	<input type="checkbox"/> Basic Bedrk	<input type="checkbox"/> Valley Slope	<input type="checkbox"/> Forb	<input type="checkbox"/> Marsh
<input type="checkbox"/> Shallow Water	<input type="checkbox"/> Carb. Bedrk	<input checked="" type="checkbox"/> Tableland	<input type="checkbox"/> Lichen	<input type="checkbox"/> Swamp
<input type="checkbox"/> Surficial Dep.		<input type="checkbox"/> Roll. Upland	<input type="checkbox"/> Bryophyte	<input type="checkbox"/> Fen
<input type="checkbox"/> Bedrock		<input type="checkbox"/> Cliff	<input checked="" type="checkbox"/> Deciduous	<input type="checkbox"/> Bog
History		<input type="checkbox"/> Talus	<input type="checkbox"/> Coniferous	<input type="checkbox"/> Barren
<input checked="" type="checkbox"/> Natural		<input type="checkbox"/> Crevice/Cave	<input type="checkbox"/> Mixed	<input type="checkbox"/> Meadow
<input type="checkbox"/> Cultural		<input type="checkbox"/> Alvar		<input type="checkbox"/> Prairie
Cover		<input type="checkbox"/> Rockland		<input type="checkbox"/> Thicket
<input type="checkbox"/> Open		<input type="checkbox"/> Beach / Bar		<input type="checkbox"/> Savannah
<input type="checkbox"/> Shrub		<input type="checkbox"/> Sand Dune		<input type="checkbox"/> Woodland
<input checked="" type="checkbox"/> Treed		<input type="checkbox"/> Bluff		<input checked="" type="checkbox"/> Forest
				<input type="checkbox"/> Plantation

Stand Description

Layer	HT	CVR	Species In Order of Decreasing Dominance (up to 4 sp) (>> Much Greater Than; > Greater Than; = About Equal To)
1	2	4	ACE/JANA > FAG/GRAN > FRA/PENN
2	3	4	ACE/JANA > FAG/GRAN > FRA/PENN
3	5	2	PRU/VIRG = FRA/PENN > RYB/CYNO
4	6	3	GUR/MACH > CIR/LUTE

HT Codes: 7 <0.2m 6 >0.2-0.5m 5 >0.5-1m 4 >1-2m 3 >2-6m 2 >6-25m 1 >25m
 CVR Codes: 0 = none 10% - 10% 2 10 - 25% 3 25 - 60% 4 > 60%

Stand Composition:	Size Class Analysis:	A <10	A 10-24	R 25-50	N >50
BA:	Standing Snags:	O <10	R 10-24	R 25-50	N >50
	Deadfall / Logs:	A <10	O 10-24	R 25-50	N >50

Abundance Codes: N = None R = Rare O = Occasional A = Abundant

Com. Age: Pioneer Young Mid-Age Mature Old Growth

Ecosite:	Dry-Fresh Sugar Maple Decid. For.	Code:	F005
Vegetation Type:	Dry-Fresh Sugar Maple-Beck Dec.	Code:	F005-2
Inclusion:	Worming Spruce Cultural phytos.	Code:	CUPB9
Complex:	Cultural Thicket/Woodland	Code:	CUPB/CUWD

Community Profile Diagram/Comments

large oak pile ~ 2m long x 1m wide
8m tall in height
UTMZ = 424385, 4771063 UTMN = 069

Notes:

Tree Tally by Species

Species	Tally 1	Tally 2	Tally 3	Tally 4	Total	Rel. Avg.
ACE/JANA	6				4	
FAG/GRAN	3				3	
Total						100
Basal Area (BA)						
Dead						

Soils Ontario and ELC Soils Description

Site Metrics	Pit/Auger #					Summary	
		UTM	Zone				
Easting	424385						
Northing	4771063						
Slope	Position	2661m			Drainage		
	Aspect	N					
	Percent	0					
	Slope Length	none					
Depth to...	Mottles	0			Effective Texture (indicate below)		
	Gley	0					
	Water Table	0					
	Carbonates	0 N/D					
	Bedrock	0					
Soil Horizon Description	1	Depth from zero	0	% CF	% CF	% CF	% CF
		Texture	SCL				
	2	Depth from zero	10cm	% CF	% CF	% CF	% CF
		Texture	SC				
	3	Depth from zero		% CF	% CF	% CF	% CF
		Texture					
	4	Depth from zero		% CF	% CF	% CF	% CF
		Texture					
	% Surface Stone/Rock		<5%				
	Moisture Regime		3				
	Drainage		5				

