

Legend

Vegetation Types

CUM - Cultural Meadow	MAM - Meadow Marsh
CUP - Cultural Plantation	MAS - Shallow Marsh
CUS - Cultural Savannah	OAO - Open Aquatic
CUT - Cultural Thicket	SAF - Floating-leaved Shallow Aquatic
CUW - Cultural Woodland	SAS - Submerged Shallow Aquatic
FOC - Coniferous Forest	SDT - Treed Sand Dune
FOD - Deciduous Forest	SWD - Deciduous Swamp
FOM - Mixed Forest	SWT - Thicket Swamp
HED - Hedgerow	TPO - Open Tallgrass Prairie
	TPS - Tallgrass Savannah

Legend

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

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UTM Zone 17N, NAD 83

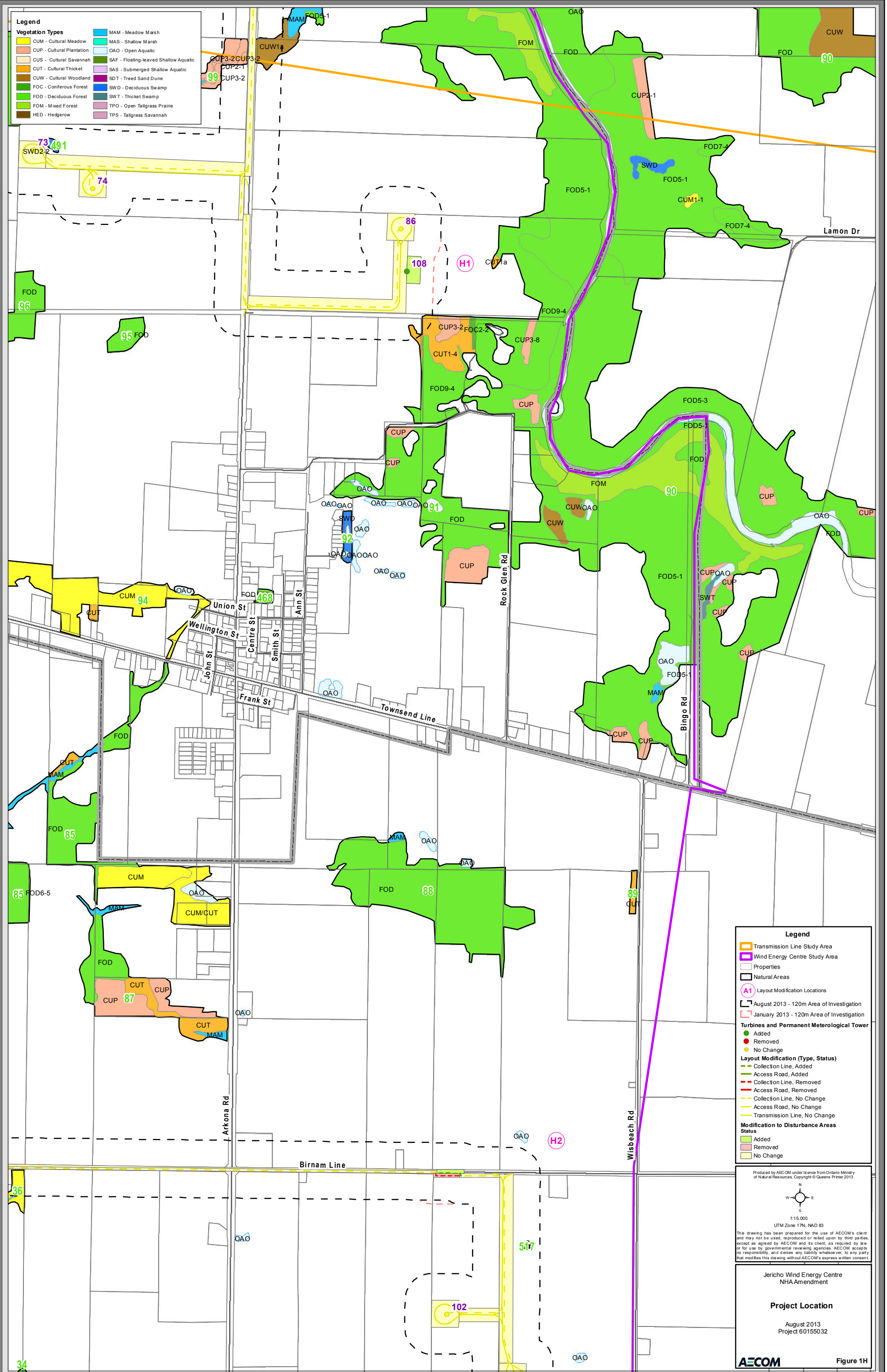
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**Jericho Wind Energy Centre
NHA Amendment**

Project Location

August 2013
Project 60155032

AECOM **Figure 1G**



Legend

Vegetation Types

CUM - Cultural Meadow	MAM - Meadow Marsh
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Legend

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

Turbines and Permanent Meteorological Tower

- Added
- Removed
- No Change

Layout Modification (Type, Status)

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

Modification to Disturbance Areas Status

- Added
- Removed
- No Change

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Jericho Wind Energy Centre
NHA Amendment

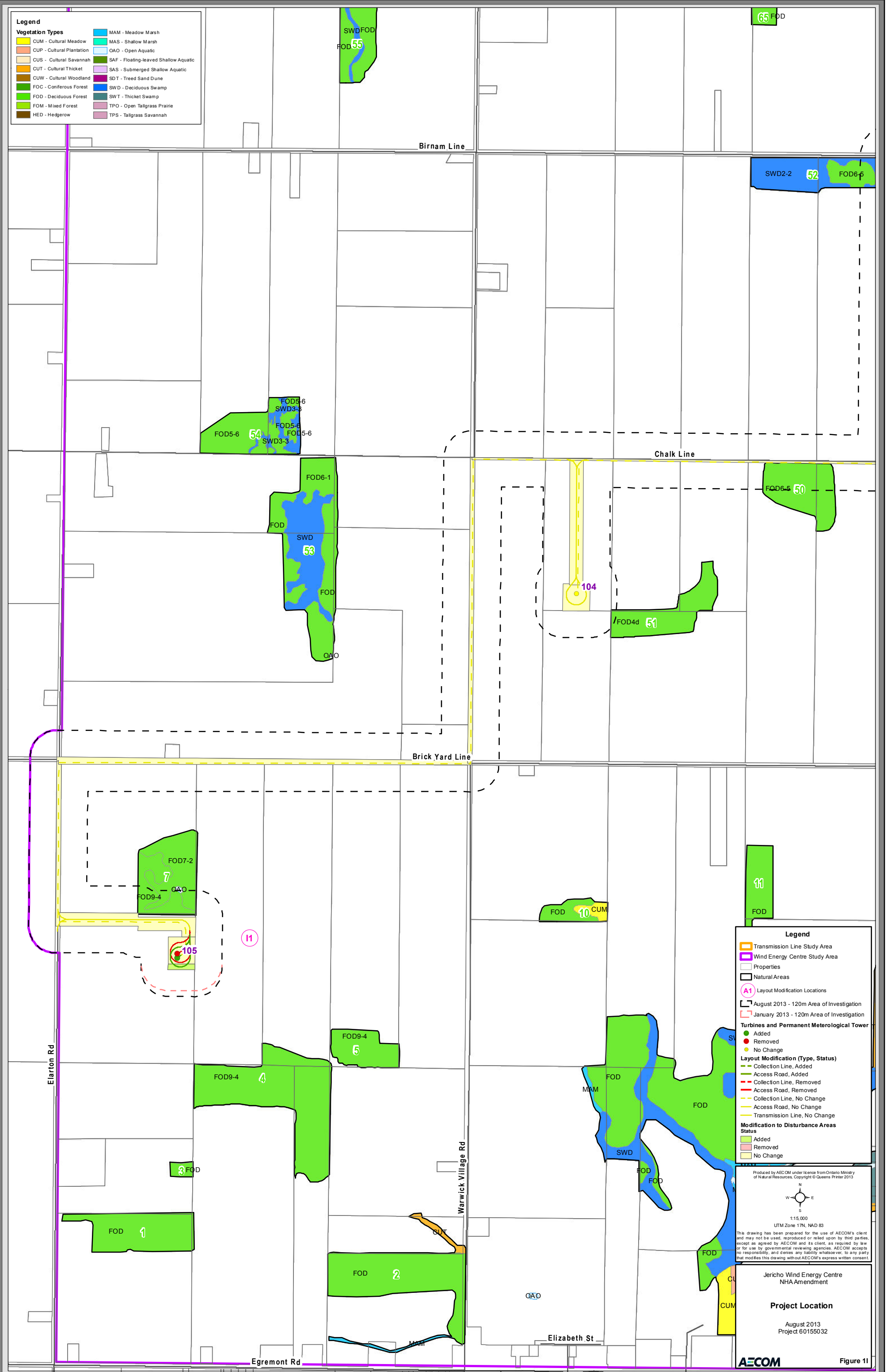
Project Location

August 2013
Project 60155032

AECOM

Figure 1H

Legend	
Vegetation Types	
CUM - Cultural Meadow	MAM - Meadow Marsh
CUP - Cultural Plantation	MAS - Shallow Marsh
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FOD - Deciduous Forest	SWD - Deciduous Swamp
FOM - Mixed Forest	SWT - Thicket Swamp
HED - Hedgerow	TPO - Open Tallgrass Prairie
	TPS - Tallgrass Savannah



Legend	
[Orange outline]	Transmission Line Study Area
[Purple outline]	Wind Energy Centre Study Area
[Black outline]	Properties
[Grey outline]	Natural Areas
[Circle with A1]	Layout Modification Locations
[Dashed line]	August 2013 - 120m Area of Investigation
[Solid line]	January 2013 - 120m Area of Investigation
[Green circle]	Turbines and Permanent Meteorological Tower
[Green circle]	Added
[Red circle]	Removed
[Yellow circle]	No Change
[Green line]	Layout Modification (Type, Status)
[Green line]	Collection Line, Added
[Red line]	Access Road, Added
[Red line]	Collection Line, Removed
[Red line]	Access Road, Removed
[Yellow line]	Collection Line, No Change
[Yellow line]	Access Road, No Change
[Yellow line]	Transmission Line, No Change
[Green box]	Modification to Disturbance Areas Status
[Green box]	Added
[Red box]	Removed
[Yellow box]	No Change

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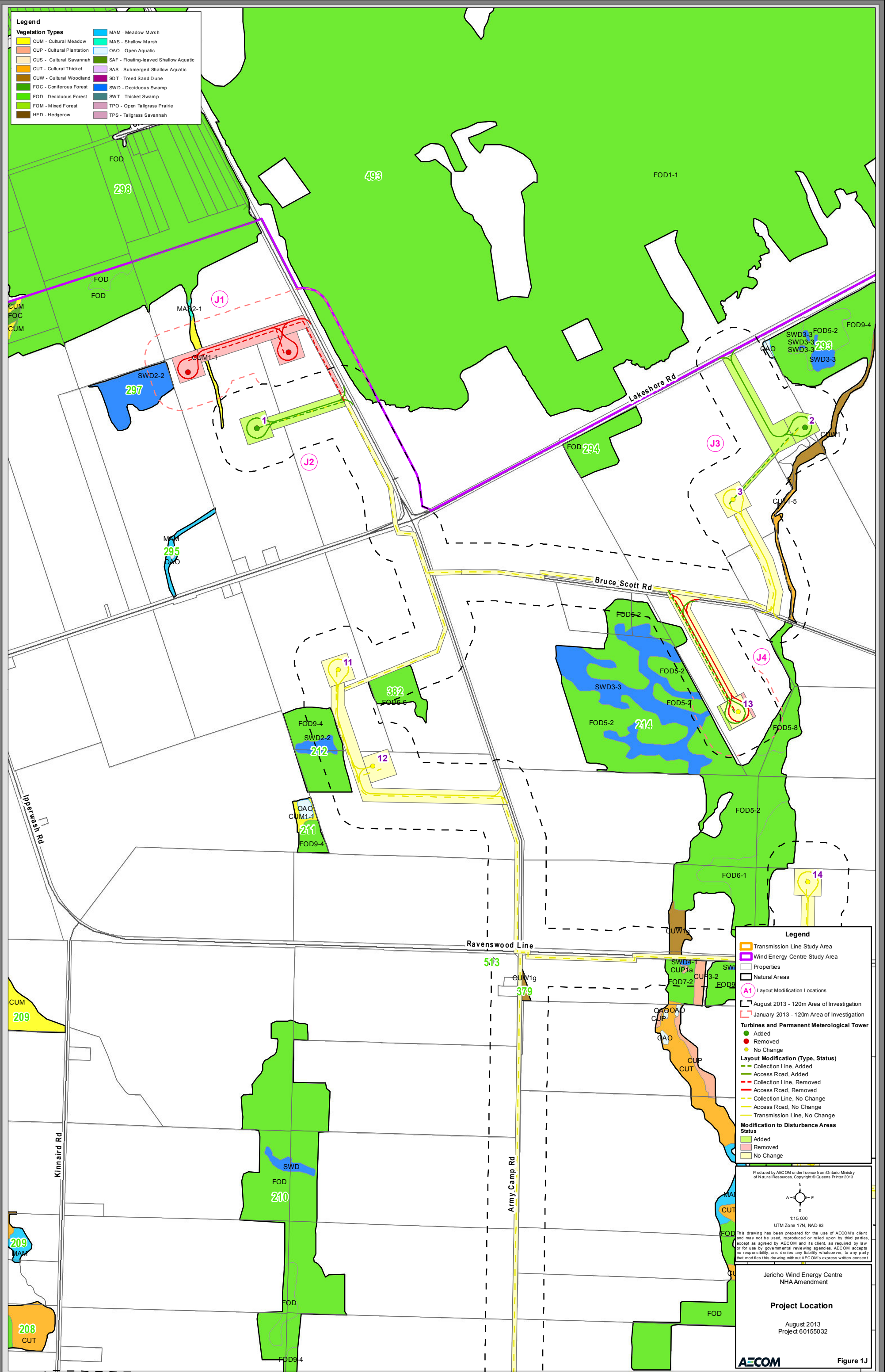
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Jericho Wind Energy Centre
NHA Amendment

Project Location
August 2013
Project 60155032

Vegetation Types	
CUM - Cultural Meadow	MAM - Meadow Marsh
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Legend	
[Orange outline]	Transmission Line Study Area
[Purple outline]	Wind Energy Centre Study Area
[White outline]	Properties
[Grey outline]	Natural Areas
[Pink circle]	Layout Modification Locations
[Black dashed line]	August 2013 - 120m Area of Investigation
[Red dashed line]	January 2013 - 120m Area of Investigation
[Green circle]	Turbines and Permanent Meteorological Tower
[Red circle]	Added
[Yellow circle]	Removed
[White circle]	No Change
[Green line]	Layout Modification (Type, Status)
[Green dashed line]	Collection Line, Added
[Green solid line]	Access Road, Added
[Red dashed line]	Collection Line, Removed
[Red solid line]	Access Road, Removed
[Yellow dashed line]	Collection Line, No Change
[Yellow solid line]	Access Road, No Change
[Purple solid line]	Transmission Line, No Change
[Green shaded area]	Modification to Disturbance Areas Status
[Light Green shaded area]	Added
[Light Purple shaded area]	Removed
[Light Yellow shaded area]	No Change

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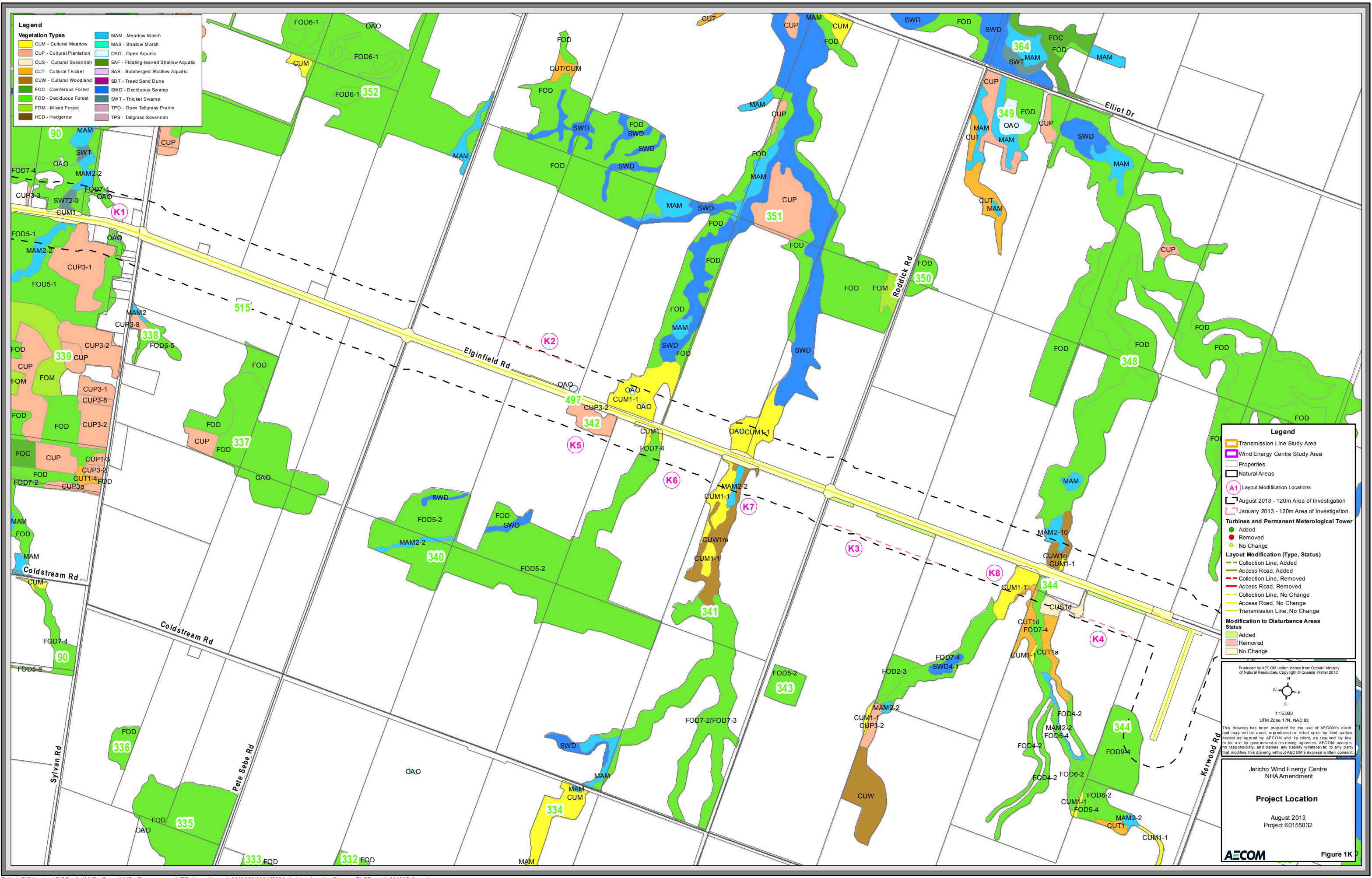
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Jericho Wind Energy Centre
NHA Amendment

Project Location

August 2013
Project 60155032



Legend

Vegetation Types	
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HED - Hedgerow	TPO - Open Tallgrass Prairie
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Legend

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

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Jericho Wind Energy Centre
NHA Amendment

Project Location

August 2013
Project 60155032

1.2 Summary of NHA Addendum

Changes required to the approved NHA and EIS in order to address the proposed Project Location modifications are summarized in **Table 2** below. The relevant sections of this NHA Addendum pertaining to these changes are also provided in the table below.

Table 2. Summary of Changes to Approved NHA and EIS

Approved NHA and EIS Section	Change	Refer to Addendum Section(s)
2. Records Review	<p>Methods: No changes.</p> <p>Results: No changes.</p>	Section 2
3. Site Investigation	<p>Methods: Site investigations were conducted in 2012 and 2013 where the 120 m Area of Investigation for proposed Project Location modifications (dated August 2013 on Figure 1) extended beyond the 120 m Area of Investigation in the approved NHA and EIS (dated January 2013 on Figure 1). Thirteen Natural Areas (90, 117, 118, 119, 145, 172, 233, 290, 293, 298, 340, 383 and 516) were surveyed to determine whether they contain wetlands, woodlands, or candidate Significant Wildlife Habitat. These site investigations were conducted following the survey methods described in the approved NHA and EIS.</p> <p>In addition, where minimum distances from Project infrastructure to Natural Areas described in the approved NHA and EIS changed as a result of the proposed Project Location modifications (refer to Table 1), the Significant Wildlife Habitat Features within those Natural Areas were re-examined to determine whether the modifications resulted in changes to the designation of candidate Significant Wildlife Habitat and Generalized Candidate Significant Wildlife Habitat.</p> <p>Results: The following Features were carried forward to the Evaluation of Significance as a result of the proposed Project Location modifications:</p> <ul style="list-style-type: none"> • Wetlands WET-026 and WET-048; • Woodlands WOD-097, WOD-111, WOD-263, WOD-265 and WOD-277; • Amphibian Woodland Breeding Habitat (AWO-22); • Reptile Hibernacula (RH-05); • Rare Vegetation Community (RVC-05); • Plant Species of Conservation Concern Habitat (SCP-24, SCP-25, SCP-26, SCP-27, SCP-28, SCP-29, SCP-30, SCP-31, SCP-32 and SCP-33); • Red-headed Woodpecker Habitat (RHW-05 and RHW-06); and • Many Generalized Candidate Significant Wildlife Habitat Features (refer to Section 3.2.4). 	Section 3.1
4. Evaluation of Significance	<p>Methods: Wetland Features WET-026 and WET-048 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.</p> <p>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.</p> <p>Evaluation of Significance studies are required for the Candidate Reptile Hibernaculum (RH-05), Candidate Amphibian Woodland Breeding Habitat (AWO-22), Candidate Plant Species of Conservation Concern Habitat (SCP-24, SCP-25, SCP-26, SCP-27, SCP-28, SCP-29, SCP-30, SCP-31, SCP-32 and SCP-33), and Candidate Red-headed Woodpecker Habitat (RHW-05 and RHW-06) Features identified in this NHA Addendum. The results of Evaluation of Significance studies completed for Candidate Turtle Wintering Areas are also presented herein.</p> <p>Results: The following Features were treated as significant or evaluated and confirmed to be significant and carried forward to the EIS as a result of the proposed Project Location modifications:</p> <ul style="list-style-type: none"> • Wetland Feature WET-026 and WET-048; • Woodland Features WOD-097, WOD-111, WOD-263, WOD-265 and WOD-277; • Reptile Hibernaculum Feature RH-05; • Rare Vegetation Community Feature RVC-05; • Amphibian Woodland Breeding Habitat Feature AWO-22; • Turtle Wintering Area Features TWH-01, TWH-02, TWH-05, TWH-06 and TWH-07; and • Many Generalized Candidate Significant Wildlife Habitat Features (refer to Section 4.2.4). 	Section 4.1

Table 2. Summary of Changes to Approved NHA and EIS

Approved NHA and EIS Section	Change	Refer to Addendum Section(s)
5. EIS	<p>Changes to the potential effects, mitigation measures and monitoring commitments are required (and described herein) for the following Features:</p> <ul style="list-style-type: none"> • Significant Wetlands WET-025, WET-044, WET-046, WET-048, WET-062, WET-063 and WET-078; • Significant Woodlands WOD-084, WOD-097, WOD-110, WOD-111, WOD-175, WOD-181, WOD-192, WOD-201, WOD-261, WOD-262, WOD-265 and WOD-267; • Reptile Hibernaculum Feature RH-05; • Rare Vegetation Community Feature RVC-05; • Amphibian Woodland Breeding Habitat Features AWO-16, AWO-20 and AWO-22; • Turtle Wintering Area Feature TWH-04; • Turtle Nesting Habitat Feature TNH-02; • Bat Maternity Colony Feature BMA-297; • Terrestrial Waterfowl (Tundra Swan) Stopover and Staging Area Feature WSST-31; and • Generalized Candidate Significant Wildlife Habitat Features (numerous). <p>Additional mitigation measures are described herein for Turtle Wintering Areas which contain Snapping Turtle.</p>	Section 5

2. Amendments to the Records Review

The Records Review in the approved NHA and EIS was conducted for the entire Project Study Area, rather than encompassing only the Project Location and an additional 120 m surrounding the Project Location as required by O.Reg. 359/09. This was done in order to accommodate any potential changes to project layout that may occur later in the project planning process. Consequently, no changes to the Records Review are required as a result of the proposed Project Location modifications.

3. Amendments to the Site Investigation

3.1 Methods

Site investigations were conducted between May and July 2012 and between March and August 2013 within 13 Natural Areas (90, 117, 118, 119, 145, 172, 233, 290, 293, 298, 340, 383 and 516) for the purpose of this NHA Addendum, following the methods described in the approved NHA and EIS. Of these, four are new Natural Areas that were not previously within 120 m of the proposed Project Location:

- Natural Area 117 (is now within the 120 Area of Investigation as a result of Modification F2 (refer to **Table 1** and **Figure 1F**);
- Natural Area 118 is now within the 120 Area of Investigation as a result of Modification F3 (refer to **Table 1** and **Figure 1F**);
- Natural Area 119 is now within the 120 Area of Investigation as a result of Modification F3 (refer to **Table 1** and **Figure 1F**); and
- Natural Area 383 is now within the 120 Area of Investigation as a result of Modification F2 (refer to **Table 1** and **Figure 1F**).

Six of the Natural Areas were previously identified in the approved NHA and EIS; however, the 120 m Area of Investigation for the proposed Project Location modifications extends beyond the approved 120 m Area of Investigation to include new portions of these Natural Areas:

- Natural Area 145, as a result of Modification D4 (refer to **Table 1** and **Figure 1D**);
- Natural Area 172, as a result of Modification C1 (refer to **Table 1** and **Figure 1C**);
- Natural Area 233, as a result of Modification B2 (refer to **Table 1** and **Figure 1B**);
- Natural Area 290, as a result of Modification A1 (refer to **Table 1** and **Figure 1A**);
- Natural Area 293, as a result of Modification J3 (refer to **Table 1** and **Figure 1J**); and
- Natural Area 298, as a result of Modification J2 (refer to **Table 1** and **Figure 1J**).

Two of the remaining Natural Areas were previously identified in the approved NHA and EIS; although the 120 m Area of Investigation remained the same, previously described vegetation community boundaries were refined and new vegetation communities were delineated during the site investigations conducted in support of the detailed design of the transmission line:

- Natural Area 90, as a result of Modification K1 (refer to **Table 1** and **Figure 1K**); and
- Natural Area 340, as a result of Modification K6 (refer to **Table 1** and **Figure 1K**).

In addition, Natural Area 516 was revisited on March 27, 2013 to obtain more detailed site investigation information in support of the identification of candidate Significant Wildlife Habitat potentially affected by Modification G5 (refer to **Table 1** and **Figure 1G**). The results of these site investigations are reported in this NHA Addendum. The remaining proposed Project Location modifications did not require additional site investigations.

3.1.1 Wetlands

For the purpose of this NHA Addendum, the 13 Natural Areas described above (90, 117, 118, 119, 145, 172, 233, 290, 293, 298, 340, 383 and 516) were assessed for the presence of wetland Features following the methods described in the approved NHA and EIS.

3.1.2 Woodlands

For the purpose of this NHA Addendum, the 13 Natural Areas described above (90, 117, 118, 119, 145, 172, 233, 290, 293, 298, 340, 383 and 516) were assessed for the presence of woodland Features following the methods described in the approved NHA and EIS.

3.1.3 Wildlife Habitat

For the purpose of this NHA Addendum, the 13 Natural Areas described above (90, 117, 118, 119, 145, 172, 233, 290, 293, 298, 340, 383 and 516) were assessed for the presence of candidate Significant Wildlife Habitat Features following the methods described in the approved NHA and EIS. A summary of these methods and the results of assessments of the above Natural Areas for each type of Significant Wildlife Habitat identified through the Records Review and Site Investigation in the approved NHA and EIS are provided in **Section 3.2.4** below.

Where minimum distances from Project infrastructure to Natural Areas described in the approved NHA and EIS changed as a result of the proposed Project Location modifications (refer to **Table 1**), the Significant Wildlife Habitat Features within those Natural Areas were re-examined to determine whether the modifications resulted in changes to the designation of candidate Significant Wildlife Habitat and Generalized Candidate Significant Wildlife Habitat as

per Appendix D of the Natural Heritage Assessment Guide for Renewable Energy Projects (MNR, 2012). The results of site investigations within those Natural Areas are presented in the approved NHA and EIS and therefore are not repeated here.

3.1.4 Areas of Natural and Scientific Interest (ANSIs)

Where minimum distances from Project infrastructure to Provincially Significant ANSIs 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. The attributes, composition and function of Provincially Significant ANSIs within the Project Study Area are presented in the approved NHA and EIS and, therefore, are not repeated here.

3.2 Results

3.2.1 Vegetation Communities

The vegetation communities identified through site investigations conducted for this NHA Addendum are summarized in **Table 3** (refer to **Figures 1A to 1K** for ELC mapping). Vegetation communities not listed in the table below are the same as reported in the approved NHA and EIS. The dates, start and end times, and weather conditions of field investigations are provided in **Table 3**. Detailed field notes are provided in **Appendix B**. The qualifications of all field personnel were provided in Appendix E of the approved NHA and EIS.

Site investigations conducted in Natural Area 290 on April 2, 2013 in support of this NHA Addendum identified that the small, linear Gray Dogwood Cultural Thicket Type (CUT1-4) vegetation community that was previously described in the approved NHA and EIS has since been cleared by the landowner. As such, this vegetation community no longer exists. Updated ELC mapping is depicted on **Figure 1A**.

A total of 209 plant species were identified within the 13 Natural Areas (90, 117, 118, 119, 145, 172, 233, 290, 293, 298, 340, 383 and 516) where site investigations were conducted in support of this NHA Addendum (refer to **Appendix C** for a full list of plant species observed in each Natural Area). When compared with provincial plant species rarity rankings, there are 144 recorded species that are ranked as S5 (Secure) and eight that are ranked as S4 (Apparently Secure) in the province of Ontario. One provincially rare species, Giant Ironweed (*Vernonia altissima*; currently accepted scientific name is *Vernonia gigantea*), was indicated to be found in Natural Area 233 in a Dry Fresh Sugar Maple - Black Walnut Deciduous Forest Type (FOD5a) during site investigations conducted on July 26, 2012. Field notes recording the occurrence of this species are provided in **Appendix B**. However, this species is ranked as S1 (Critically Imperiled; rank uncertain) and grows in wet prairies, thickets, moist woods and grassy meadows. As reported in the approved NHA and EIS (AECOM, 2013a), Giant Ironweed was last observed in the vicinity of the Project Area in 1984. Given its extreme rarity in this area and its specific habitat requirements, this species was considered not to have the potential to occur in the Project Study Area in the approved NHA and EIS. The habitat in which this species was recorded, a closed canopy Dry Fresh Sugar Maple - Black Walnut Deciduous Forest Type (FOD5a), does not meet the habitat requirements of Giant Ironweed and therefore it is highly unlikely that this very rare species was observed at this location. In addition, the occurrence of this species could not be confirmed through correspondence with the field personnel who recorded it. For these reasons, it was assumed that this species was recorded in error and therefore this record was not considered further in this NHA Addendum due to insufficient data.

Table 3. Ecological Land Classification (ELC) Vegetation Communities

Natural Area	Date, Time and Weather Conditions	ELC Vegetation Community	Area (ha)	Vegetation Composition	Incidental Wildlife Observations
90	August 1, 2013 11:50 – 12:15 Temperature: 20°C	CUM1-1: Dry – Moist Old Field Meadow Type	0.2	The canopy of this pioneer to young meadow consists of Scots Pine. The sub-canopy consists of Green Ash and Scots Pine. The shrub layer consists of Staghorn Sumac with lesser amounts of Gray Dogwood. The ground layer consists of Fescue species, with lesser amounts of Kentucky Bluegrass and Tall Goldenrod.	Birds: Common Yellowthroat, Indigo Bunting, Gray Catbird, Cedar Waxwing, American Crow, Mourning Dove, Swamp Sparrow, Blue Jay, American Robin, Northern Cardinal.
117	May 17, 2012 16:00 – 17:15 Temperature: 16°C Cloud Cover: 5% Beaufort Wind Scale: 2	CUP1-3: Black Walnut Deciduous Plantation Type	1.1	The canopy of this young plantation is dominated by Black Walnut with lesser amounts of Green Ash and Freeman's Maple. The sub-canopy consists of Black Walnut with lesser Green Ash and a Hawthorn species. The shrub layer consists of Black Raspberry, Black Walnut, Hawthorn species, and Morrow's honeysuckle. The ground layer consists of Reed-canary Grass, Tall Goldenrod, Virginia Creeper and Riverbank Grape.	Birds: Eastern Kingbird, Turkey Vulture, Rose-breasted Grosbeak, Northern Cardinal, Gray Catbird, Northern Flicker, Red-winged Blackbird.
		CUM1-1: Dry - Moist Old Field Meadow Type	1.0	The canopy of this young meadow consists of Scots Pine, Freeman's Maple and Black Walnut. The sub-canopy consists of Freeman's Maple, Gray Dogwood and Black Walnut. The shrub layer consists of Kentucky Bluegrass, Tall Goldenrod, Virginia Strawberry and Freeman's Maple.	
118	May 31, 2012 11:15 – 13:45 Temperature: 16°C Cloud Cover: 60% Beaufort Scale: 3	SWD2-2: Green Ash Mineral Deciduous Swamp Type	0.7	The canopy of this mid-age deciduous swamp consists of Green Ash, Trembling Aspen and Shagbark Hickory. The sub-canopy consists of Green Ash, Shagbark Hickory, Black Ash and Ironwood. The shrub layer consists of Green Ash, Black Ash, Ironwood and Shagbark Hickory. The ground cover consists of Spotted Jewelweed, Starry False Solomon, Spotted Geranium and Sensitive Fern.	Birds: Eastern Wood-pewee, Great-crested Flycatcher, Red-eyed Vireo, American Crow, Northern Cardinal, Wood Thrush, Baltimore Oriole, Indigo Bunting, Song Sparrow, House Wren, Chipping Sparrow, Black-capped Chickadee, Common Yellowthroat
		FOD5-2: Dry - Fresh Sugar Maple - Beech Deciduous Forest Type <u>Inclusions:</u> CUP3-9: Norway Spruce - European Larch Coniferous Plantation Type CUW1/CUT1: Cultural Thicket/Woodland Ecosite	5.1	The canopy of this mid-age forest consists of Sugar maple, American Beech and Green Ash. The sub-canopy consists of Sugar Maple, American Beech and Green Ash. The shrub layer consists of Choke Cherry, Green Ash and Prickly Gooseberry. The ground cover consists of Spotted Geranium and Enchanter's Nightshade.	
119	May 31, 2012 8:00 – 10:45 Temperature: 14°C Cloud Cover: 70% Beaufort Wind Scale: 1	FOD5-2: Dry - Fresh Sugar Maple - Beech Deciduous Forest Type	8.5	The canopy of this mature forest consists of Sugar Maple, American Beech, Basswood and Green Ash. The sub-canopy consists of Sugar Maple, American Beech and White Ash. The shrub layer consists of White Ash, American Beech and Sugar Maple. The ground cover consists of Spotted Geranium, Thicket-creeper, False Solomon Seal and Jack-in-the-pulpit.	Birds: House Wren, American Robin, Red Vireo, Wood Thrush, Red-breasted Grosbeak, Mourning Dove, Red-tailed Hawk, Downy Woodpecker, White-breasted Nuthatch, Red-bellied Woodpecker, Common Grackle, Blue Jay, Baltimore Oriole, Eastern Peewee, Gray Catbird, Indigo Bunting, Northern Cardinal, American Crow Herpetofauna: Green Frog

Table 3. Ecological Land Classification (ELC) Vegetation Communities

Natural Area	Date, Time and Weather Conditions	ELC Vegetation Community	Area (ha)	Vegetation Composition	Incidental Wildlife Observations
145	May 25, 2012 Revisited on: April 2, 2013 8:00 – 9:10 Temperature: -1°C Sunny	FOD6-4: Fresh - Moist Sugar Maple - White Elm Deciduous Forest Type (surveyed from fence line)	3.1	The canopy layer of this mid-age forest is comprised of Sugar Maple with lesser amounts of American Elm and American Basswood. The sub-canopy consists of Sugar Maple with lesser amounts of American Elm and Ironwood. The shrub layer is dominated by equal parts of Choke Cherry and Red-osier Dogwood. The ground layer is comprised of Calico Aster.	Birds: European Starling, Song Sparrow, American Robin, Downy Woodpecker, Horned Lark, Dark-eyed Junco
		SWD3-3: Swamp Maple Mineral Deciduous Swamp Type (surveyed from fence line)	2.0	The canopy of this mid-age deciduous swamp consists of Freeman Maple with lesser amounts of Green Ash. The sub-canopy consists of Freeman Maple with lesser American Elm. The shrub layer is dominated by Red-osier Dogwood. The ground layer is dominated by Calico Aster.	
172	May 1, 2012 13:00 – 13:45 Temperature: 9°C Cloud Cover: 40%	CUT1b: Buckthorn - Prickly Ash - Nannyberry Cultural Thicket Type	1.2	The canopy of this young cultural thicket consists of White Elm. The sub-canopy consists of equal parts of Nannyberry, Common Buckthorn and Prickly Ash with lesser amounts of Cockspur Hawthorn. The shrub layer consists of equal parts of Nannyberry, Common Buckthorn and Prickly Ash with lesser amounts of Ironwood. The ground layer is dominated by Spotted Geranium and Yellow Avens with lesser of Virgin's Bower and Calico Aster.	Birds: Downy Woodpecker, Northern Cardinal, American Robin
233	July 26, 2012 13:30 – 15:00 Temperature: 16°C Cloud Cover: 25%	FOD5a: Dry - Fresh Sugar Maple - Black Walnut Deciduous Forest Type	0.7	The canopy of this young forest consists of Sugar Maple and Black Walnut. The sub-canopy consists of Green Ash, Alternate-leaved Dogwood and Choke Cherry. The shrub layer consists of Choke Cherry and Green Ash. The ground cover consists of Thicket Creeper, Enchanter's Nightshade, Graceful Sedge and Kentucky Bluegrass.	Birds: Black-capped Chickadee, American Crow, American Goldfinch, Wood Pewee Herpetofauna: Green Frog Lepidoptera: Tiger Swallowtail, Black Swallowtail, Cabbage White
		CUP2-1: Black Walnut - White Pine Mixed Plantation Type <u>Inclusion:</u> OAO: Open Aquatic	4.5	The canopy of this young plantation consists of Eastern White Pine and Black Walnut. The sub-canopy consists of Black Walnut, Green Ash and Choke Cherry. The shrub layer consists of Common Blackberry, Wild Red Raspberry, Green Ash and Choke Cherry. The ground cover consists of Thicket Creeper, Kentucky Bluegrass and Enchanter's Nightshade.	
290	April 2, 2013 12:45 – 15:00 Temperature: 0°C	FOD7-2: Fresh - Moist Lowland Deciduous Forest Type	7.6	The canopy layer within this mid-age forest consists of Green Ash with lesser amounts of Black Walnut and Bur Oak. The sub-canopy is comprised of Green Ash with lesser amounts of Bur Oak. The shrub layer consists of a Currant species. The ground layer is dominated by a Goldenrod species with lesser amounts of White Panicle Aster.	Birds: Song Sparrow, American Robin, American Crow, Dark-eyed Junco, Northern Cardinal, Downy Woodpecker, Black-capped Chickadee, Red-winged Blackbird, Common Mallard, Turkey Vulture Mammals: White-tailed Deer, Raccoon, Gray Squirrel
		FOD9-3: Fresh - Moist Bur Oak Deciduous Forest Type	7.3	The canopy of this mid-aged forest is dominated by Bur Oak with lesser Green Ash and Freeman Maple. The sub-canopy consists of Bur Oak, Green Ash and Freeman Maple. The shrub layer is dominated by Roundleaf Dogwood. The ground layer is covered by a Sedge species.	
		CUM1-1: Dry - Moist Old Field Meadow Type <u>Inclusion:</u> OAO: Open Aquatic	2.6	The canopy layer of this young meadow consists of Eastern Cottonwood. The sub-canopy consists of equal parts of Eastern Cottonwood and Black Walnut. The shrub layer is dominated by Gray Dogwood. The ground layer is dominated by a Grass species.	
		FOD7-4: Fresh - Moist Black Walnut Lowland Deciduous Forest Type (surveyed from fence line)	3.0	The canopy layer of this mid-age forest consists of Black Walnut with lesser Green Ash. The sub-canopy is comprised of Black Walnut with lesser Green Ash. The shrub layer consists of Hawthorn species and Common Buckthorn. The ground layer could not be determined from the fence line.	

Table 3. Ecological Land Classification (ELC) Vegetation Communities

Natural Area	Date, Time and Weather Conditions	ELC Vegetation Community	Area (ha)	Vegetation Composition	Incidental Wildlife Observations
		FOD6-1: Fresh - Moist Sugar Maple - Lowland Ash Deciduous Forest Type (surveyed from fence line)	16.8	The canopy layer of this mid-age forest is comprised of Sugar Maple with lesser amounts of Green Ash and Red Oak. The sub-canopy layer consists of Sugar Maple and Green Ash. The shrub layer is dominated by Red-osier Dogwood. The ground layer could not be determined from the fence line.	
293	June 14, 2013 15:30 – 16:00 Temperature: 16°C Cloud Cover: 0% Revisited July 9, 2013 10:00 – 12:00 Temperature: 30°C Cloud Cover: 90%	CUW1: Mineral Cultural Woodland	2.3	The canopy layer of the young woodland is comprised of Eastern Cottonwood, Manitoba Maple, and Green Ash. The sub-canopy is dominated by Riverbank Grape, with lesser amounts of Green Ash, Manitoba Maple, Common Apple and Common Buckthorn. The shrub layer contains Riverbank Grape, Wild Red Raspberry, Tall Goldenrod and Awnless Brome. The ground layer is dominated by Moneywort.	Birds: Blue Jay, Veery, Red-winged Blackbird, Red-bellied Woodpecker, Baltimore Oriole, Brown-headed Cowbird, American Goldfinch, American Robin, Song Sparrow Lepidoptera: Eastern Tiger Swallowtail, Northern Crescent Mammals: White-tailed Deer, Beaver
298	July 4, 2013 15:00 – 16:00 Temperature: 28°C Cloud Cover: Overcast	CUM1-1: Dry - Moist Old Field Meadow Type <u>Inclusion:</u> MAS2-1: Cattail Mineral Shallow Marsh	0.9	The canopy layer of this young meadow consists of Green Ash with lesser amounts of White Ash. The sub-canopy is unpopulated; no trees have reached this height. The shrub layer is dominated by Common Apple with lesser amounts of Hawthorn species and lesser amounts of Common Buckthorn. The ground layer consists of Goldenrod species, Tall White Aster, Cow Vetch and Orchard Grass. The mineral marsh inclusion (MAS2-1) was previously described in the approved NHA and EIS.	Lepidoptera: Silver-spotted Skipper, Red-spotted Purple, Cabbage White, Skipper species Odonata: Widow Skimmer Birds: Red-tailed Hawk, Song Sparrow, Sandhill Crane, American Crow, Grasshopper Sparrow, Common Yellowthroat
340	August 1, 2013 9:45 – 10:30 Temperature: 19°C Cloud Cover: Overcast Beaufort Wind Scale: 3	CUM1-1: Dry - Moist Old Field Meadow Type	0.4	There is no canopy or sub-canopy present in this pioneer cultural meadow. The shrub layer consists of Black Walnut. The ground layer consists of Smooth Brome, Kentucky Bluegrass and Reed Canary grass.	Birds: Tree Swallow, Willow Flycatcher, Song Sparrow, Red-tailed Hawk, Indigo Bunting, Yellow Warbler, Common Yellowthroat, Cedar Waxwing, American Robin, Turkey Vulture
383	May 9, 2012 9:45 – 10:30 Temperature: 12°C Cloud Cover: 60% Beaufort Wind Scale: 2	FOD6-5: Fresh - Moist Sugar Maple - Hardwood Deciduous Forest Type	2.2	The canopy of this mid-age forest consists of American Beech, Sugar Maple, Black Walnut and Ironwood. The sub-canopy consists of American Beech, Ironwood, Sugar Maple and Red Oak. The shrub layer consists of Choke Cherry, Black Raspberry, Prickly Gooseberry and Wild Black Current. The ground cover consists of Yellow Trout Lily, Thicket Creeper, Mayapple and an Avens species.	Birds: Gray Catbird, Blue Jay, American Robin, Great-crested Flycatcher, Red-breasted Nuthatch, House Wren, Downy Woodpecker, Northern Flicker, Common Grackle, American Goldfinch, White-breasted Nuthatch
516	March 27, 2013 17:55 – 18:15 Temperature: 4°C Cloud Cover: Overcast Beaufort Wind Scale: 1	OAO: Open Aquatic	0.1	This man-made dug pond is located behind a residential home and is surrounded by agricultural fields. A fence surrounds the pond on all sides.	No wildlife observed.

3.2.2 Wetlands

As a result of the proposed Project Location modifications, site investigations were completed in support of this NHA Addendum within three wetland Features (WET-026, WET-048 and WET-059) that were originally described in the approved NHA and EIS (refer to **Figure 2** for locations). Therefore the attributes, composition and function of these Features were revised, as required, based on the results of site investigations completed in support of this NHA Addendum. **Table 4** below describes the changes affecting these wetland Features.

Two wetland Features (WET-026 and WET-048) were carried forward to the Evaluation of Significance, as changes to the attributes, composition or function of these Features required a new Evaluation of Significance. No changes to the attributes, composition or functions of wetland Feature WET-059 resulted from site investigations conducted in support of Modification D4, and the minimum distance from this Feature to the Project Location remains the same as reported in the approved NHA and EIS (refer to **Table 1** and **Figure 1D**); therefore this Feature is not considered further in this NHA Addendum.

Due to Modification J2, Natural Area 297 is no longer within 120 m of the Project Location; consequently, wetland Feature WET-046 is no longer within the 120 m of Area of Investigation. In addition, the minimum distances from Project infrastructure to wetland Features WET-025 (increased to 22 m from Turbine 75 as a result of Modification G4), WET-044 (increased to 41 m from turbine construction disturbance area as a result of Modification J4), WET-062 (reduced to 50 m from access road as a result of Modification D3) and WET-063 (decreased to 20 m from access road and collection line as a result of Modification G2) changed (refer to **Table 1** and **Figures 1D, 1G and 1J**), but the attributes, composition and function of these Features remained the same as described in the approved NHA and EIS (and therefore are not repeated here). These Features did not require re-evaluation as a result of the proposed Project Location modifications. However, these wetland 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.

The boundary of a Gray Dogwood Mineral Thicket Swamp Type (SWT2-9) located within the Thomson Line right-of-way within WET-050 was refined based on site investigations conducted in Natural Area 90 for this NHA Addendum during the detailed design of the transmission line. Although this refinement did not change the boundary of the Provincially Significant Ausable River Wetland as delineated by MNR, the boundary of WET-050 changed slightly and as a result the total size of the WET-050 changed from 272.3 ha to 272.2 ha. There are no other changes to the attributes, composition and function of this Feature as described in the approved NHA and EIS and therefore these are not repeated here. This Feature did not require re-evaluation but 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.

Table 4. Revisions to Wetland Features Identified Through the Site Investigations

Wetland ID	Natural Area(s)	Minimum Distance from Project Location (m)	Attributes			Composition	Function
			Total Size (ha)	Wetland Type	Site Type		
WET-026	118	(no change)	24.1	Swamp, Marsh	Palustrine, Riverine	<ul style="list-style-type: none"> As a result of Modification F3, the following wetland community is now within the 120 m Area of Investigation. The community is located northeast of Turbine 90: <ul style="list-style-type: none"> Green Ash Mineral Deciduous Swamp Type (SWD2-2): This canopy is dominated by Green Ash, Trembling Aspen, and Shagbark Hickory. The sub-canopy and shrub layer both consist of Green Ash, Shagbark Hickory, Black Ash, and Ironwood. The ground cover layer is comprised of Jewelweed, Starry False Solomon's Seal, Spotted Geranium and Sensitive Fern. 	<ul style="list-style-type: none"> No change from approved NHA and EIS
WET-048	290	Reduced to 61 (turbine construction disturbance area)	13.9	Swamp, Marsh	Palustrine, Riverine	<ul style="list-style-type: none"> As a result of Modification A1, the following wetland community is now within the 120 m Area of Investigation. The community is located west of Turbine 106: <ul style="list-style-type: none"> Fresh - Moist Ash Lowland Deciduous Forest Type (FOD7-2): The canopy consists of Green Ash, Black Walnut and Bur Oak while the sub-canopy consists of Green Ash and Bur Oak. The shrub layer consists of a current species while the ground cover layer is comprised of goldenrod species and Tall White Aster. 	<ul style="list-style-type: none"> No Change from approved NHA and EIS
WET-059	145	(no change)	(no change)	(no change)	(no change)	<ul style="list-style-type: none"> No change from approved NHA and EIS as a result of Modification D4. 	<ul style="list-style-type: none"> No change from approved NHA and EIS