

Appendix B

Tables

Table 2.1: Agencies Contacted, Records Requested and Records Received		
Information Source and Contact Information	Records Requested	Records Received
<p><u>Source:</u> Ministry of the Environment</p> <p><u>Name, position of contact:</u></p> <p>Doris Dumais, Director, Environmental Assessment and Approvals</p> <p><u>Date(s) contacted:</u></p> <p>December 8, 2011</p>	<ul style="list-style-type: none"> • Copy of the Draft Project Description Report 	<ul style="list-style-type: none"> • None received
<p><u>Source:</u> St. Clair Region Conservation Authority</p> <p><u>Name, position of contact:</u></p> <p>Patty Hayman, Director, Planning and Research and Chris Durand, GIS/IT Technologist</p> <p><u>Date(s) contacted:</u></p> <p>January 26, 2012</p> <p>February 13, 2012</p>	<ul style="list-style-type: none"> • Regulated Area mapping. • Hazard Land mapping. • Site records and/or lists of locally- and regionally-rare plant and animal species. • Any natural area reports and/or mapping for Conservation Areas, ANSIs, Environmentally Sensitive Areas. • ELC mapping • Permitting requirements 	<ul style="list-style-type: none"> • None received
<p><u>Source:</u> Lambton County</p> <p><u>Name, position of contact:</u></p> <p>Kathy Bunting, Clerk</p> <p><u>Date(s) contacted:</u></p> <p>January 27, 2012</p>	<ul style="list-style-type: none"> • Notice of Draft Site Plan request 	<ul style="list-style-type: none"> • Draft Site Plan Report received
<p><u>Source:</u> Municipality of Lambton Shores</p>	<ul style="list-style-type: none"> • Notice of Draft Site Plan request 	<ul style="list-style-type: none"> • Draft Site Plan Report received

Table 2.1: Agencies Contacted, Records Requested and Records Received		
Information Source and Contact Information	Records Requested	Records Received
<u>Name, position of contact:</u> Fran Urbshoot <u>Date(s) contacted:</u> January 27, 2012		
<u>Source:</u> Ausable Bayfield Conservation Authority <u>Name, position of contact:</u> Tom Prout, General manager, Secretary-Treasurer and Tracy Boitson <u>Date(s) contacted:</u> February 13, 2012	<ul style="list-style-type: none"> • Regulated Area mapping. • Hazard Land mapping. • Site records and/or lists of locally- and regionally-rare plant and animal species. • Any natural area reports and/or mapping for Conservation Areas, ANSIs, Environmentally Sensitive Areas. • ELC mapping 	<ul style="list-style-type: none"> • None received
<u>Source:</u> Ministry of Natural Resources <u>Name, position of contact:</u> A/Provincial Renewable Energy Coordinator <u>Date(s) contacted:</u> August 11, 2011	NHA Records review for the district including: <ul style="list-style-type: none"> • Provincial Parks, Conservation Reserves, ANSIs • Wetlands • Woodlands • Valleylands • Significant Wildlife Habitat 	NHA Records review for the district including: <ul style="list-style-type: none"> • Provincial Parks, Conservation Reserves, ANSIs • Wetlands • Woodlands • Valleylands • Significant Wildlife Habitat

Table 2.2 : Potential Wildlife Occurring within the Project Boundary					
Common Name	Scientific Name	S-Rank	G-Rank	COSSARO	COSEWIC
BUTTERFLIES					
Sleepy Duskywing	<i>Erynnis bizo</i>	S1	G5		
Dusted Skipper	<i>Atrytonopsis hianna</i>	S1	G4G5		
AMPHIBIANS					
Red-spotted Newt	<i>Notophthalmus viridescens</i>	S5	G5T5		
Spotted Salamander	<i>Ambystoma maculatum</i>	S4	G5		
Northern Redback Salamander	<i>Plethodon cinereus</i>	S5	G5		
American Toad	<i>Anaxyrus americanus</i>	S5	G5		
Tetraploid Gray Treefrog	<i>Hyla versicolor</i>	S5	G5		
Western Chorus Frog (carolinian)	<i>Pseudacris triseriata</i>	S4	G5	NAR	NAR
Spring Peeper	<i>Pseudacris crucifer</i>	S5	G5		
Bullfrog	<i>Lithobates catesbeiana</i>	S4	G5		
Northern Green Frog	<i>Lithobates clamitans</i>	S5	G5		
Wood Frog	<i>Lithobates sylvatica</i>	S5	G5		
Northern Leopard Frog	<i>Lithobates pipiens</i>	S5	G5	NAR	NAR
REPTILES					
Snapping Turtle	<i>Chelydra serpentina</i>	S3	G5	SC	SC
Midland Painted Turtle	<i>Chrysemys picta marginata</i>	S5	G5T5		
Northern Map Turtle	<i>Graptemys geographica</i>	S3	G5	SC	SC
Eastern Gartersnake	<i>Thamnophis sirtalis</i>	S5	G5		
Eastern Ribbon Snake	<i>Thamnophis sauritus</i>	S3	G5	SC	SC
Redbelly Snake	<i>Storeria occipitomaculata</i>	S5	G5		
Brown Snake	<i>Storeria dekayi</i>	S5	G5		NAR
BIRDS					
Canada Goose	<i>Branta canadensis</i>	S5	G5		
Mute Swan	<i>Cygnus olor</i>	SNA	G5		
Wood Duck	<i>Aix sponsa</i>	S5	G5		
Mallard	<i>Anas platyrhynchos</i>	S5	G5		
Northern Shoveler	<i>Anas clypeata</i>	S4	G5		
Ruddy Duck	<i>Oxyura jamaicensis</i>	S4B,S4N	G5		
Ring-necked Pheasant	<i>Phasianus colchicus</i>	SNA	G5		

Common Name	Scientific Name	S-Rank	G-Rank	COSSARO	COSEWIC
Wild Turkey	<i>Meleagris gallopava</i>	S5	G5		
Great Blue Heron	<i>Ardea herodias</i>	S5	G5		
Green Heron	<i>Butorides virescens</i>	S4B	G5		
Turkey Vulture	<i>Cathartes aura</i>	S5B	G5		
Osprey	<i>Pandion haliaetus</i>	S5B	G5		
Bald Eagle	<i>Haliaeetus leucocephalus</i>	S2N,S4B	G4	SC	NAR
Northern Harrier	<i>Circus cyaneus</i>	S4B	G5	NAR	NAR
Sharp-shinned Hawk	<i>Accipiter striatus</i>	S5	G5	NAR	NAR
Cooper's Hawk	<i>Accipiter cooperii</i>	S4	G5	NAR	NAR
Red-tailed Hawk	<i>Buteo jamaicensis</i>	S5	G5	NAR	NAR
American Kestrel	<i>Falco sparverius</i>	S5B	G5		
Virginia Rail	<i>Rallus limicola</i>	S5B	G5		
Killdeer	<i>Charadrius vociferus</i>	S5B, S5N	G5		
Spotted Sandpiper	<i>Actitis macularia</i>	S5	G5		
American Woodcock	<i>Scolopax minor</i>	S4B	G5		
Herring Gull	<i>Larus argentatus</i>	S5B,S5N	G5		
Rock Pigeon	<i>Columba livia</i>	SNA	G5		
Mourning Dove	<i>Zenaida macroura</i>	S5	G5		
Yellow-billed Cuckoo	<i>Coccyzus americanus</i>	S4B	G5		
Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	S5B	G5		
Eastern Screech-Owl	<i>Megascops asio</i>	S5	G5	NAR	NAR
Great Horned Owl	<i>Bubo virginianus</i>	S5	G5		
Ruby-throated Hummingbird	<i>Archilochus colubris</i>	S5B	G5		
Belted Kingfisher	<i>Ceryle alcyon</i>	S4B	G5		
Red-bellied Woodpecker	<i>Melanerpes carolinus</i>	S4	G5		
Downy Woodpecker	<i>Picoides pubescens</i>	S5	G5		
Hairy Woodpecker	<i>Picoides villosus</i>	S5	G5		
Northern Flicker	<i>Colaptes auratus</i>	S4B	G5		
Pileated Woodpecker	<i>Dryocopus pileatus</i>	S5	G5		
Eastern Wood-Pewee	<i>Contopus virens</i>	S4B	G5		SC
Willow Flycatcher	<i>Empidonax traillii</i>	S5B	G5		

Common Name	Scientific Name	S-Rank	G-Rank	COSSARO	COSEWIC
Least Flycatcher	<i>Empidonax minimus</i>	S4B	G5		
Eastern Phoebe	<i>Sayornis phoebe</i>	S5B	G5		
Great Crested Flycatcher	<i>Myiarchus crinitus</i>	S4B	G5		
Eastern Kingbird	<i>Tyrannus tyrannus</i>	S4B	G5		
Yellow-throated Vireo	<i>Vireo flavifrons</i>	S4B	G5		
Warbling Vireo	<i>Vireo gilvus</i>	S5B	G5		
Red-eyed Vireo	<i>Vireo olivaceus</i>	S5B	G5		
Blue Jay	<i>Cyanocitta cristata</i>	S5	G5		
American Crow	<i>Corvus brachyrhynchos</i>	S5B	G5		
Horned Lark	<i>Eremophila alpestris</i>	S5B	G5		
Purple Martin	<i>Progne subis</i>	S4B	G5		
Tree Swallow	<i>Tachycineta bicolor</i>	S4B	G5		
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>	S4B	G5		
Bank Swallow	<i>Riparia riparia</i>	S4B	G5		
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>	S4B	G5		
Black-capped Chickadee	<i>Poecile atricapillus</i>	S5	G5		
Tufted Titmouse	<i>Baeolophus bicolor</i>	S4	G5		
Red-breasted Nuthatch	<i>Sitta canadensis</i>	S5	G5		
White-breasted Nuthatch	<i>Sitta carolinensis</i>	S5	G5		
Brown Creeper	<i>Certhia americana</i>	S5B	G5		
House Wren	<i>Troglodytes aedon</i>	S5B	G5		
Winter Wren	<i>Troglodytes hiemalis</i>	S5B	G5		
Blue-gray Gnatcatcher	<i>Polioptila caerulea</i>	S4B	G5		
Eastern Bluebird	<i>Sialia sialis</i>	S5B	G5	NAR	NAR
Veery	<i>Catharus fuscescens</i>	S4B	G5		
Hermit Thrush	<i>Catharus guttatus</i>	S5B	G5		
Wood Thrush	<i>Hylocichla mustelina</i>	S4B	G5		THR
American Robin	<i>Turdus migratorius</i>	S5B	G5		
Gray Catbird	<i>Dumetella carolinensis</i>	S4B	G5		
Northern Mockingbird	<i>Mimus polyglottos</i>	S4	G5		
Brown Thrasher	<i>Toxostoma rufum</i>	S4B	G5		

Common Name	Scientific Name	S-Rank	G-Rank	COSSARO	COSEWIC
European Starling	<i>Sturnus vulgaris</i>	SNA	G5		
Cedar Waxwing	<i>Bombycilla cedrorum</i>	S5B	G5		
Ovenbird	<i>Seiurus aurocapilla</i>	S4B	G5		
Louisiana Waterthrush	<i>Parkesia motacilla</i>	S3B	G5	SC	SC
Nashville Warbler	<i>Oreothlypis ruficapilla</i>	S5B	G5		
Common Yellowthroat	<i>Geothlypis trichas</i>	S5B	G5		
Hooded Warbler	<i>Setophaga citrina</i>	S3B	G5	NAR	NAR
American Redstart	<i>Setophaga ruticilla</i>	S5B	G5		
Yellow Warbler	<i>Setophaga petechia</i>	S5B	G5		
Chestnut-sided Warbler	<i>Setophaga pensylvanica</i>	S5B	G5		
Eastern Towhee	<i>Pipilo erythrophthalmus</i>	S4B	G5		
Chipping Sparrow	<i>Spizella passerina</i>	S5B	G5		
Field Sparrow	<i>Spizella pusilla</i>	S4B	G5		
Vesper Sparrow	<i>Pooecetes gramineus</i>	S4B	G5		
Savannah Sparrow	<i>Passerculus sandwichensis</i>	S4B	G5		
Song Sparrow	<i>Melospiza melodia</i>	S5B	G5		
Swamp Sparrow	<i>Melospiza georgiana</i>	S5B	G5		
White-throated Sparrow	<i>Zonotrichia albicollis</i>	S5B	G5		
Scarlet Tanager	<i>Piranga olivacea</i>	S4B	G5		
Northern Cardinal	<i>Cardinalis cardinalis</i>	S5	G5		
Rose-breasted Grosbeak	<i>Pheucticus ludovicianus</i>	S4B	G5		
Indigo Bunting	<i>Passerina cyanea</i>	S4B	G5		
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	S5	G5		
Common Grackle	<i>Quiscalus quiscula</i>	S5B	G5		
Brown-headed Cowbird	<i>Molothrus ater</i>	S4B	G5		
Orchard Oriole	<i>Icterus spurius</i>	S4B	G5		
Baltimore Oriole	<i>Icterus galbula</i>	S4B	G5		
House Finch	<i>Carpodacus mexicanus</i>	SNA	G5		
American Goldfinch	<i>Carduelis tristis</i>	S5B	G5		
House Sparrow	<i>Passer domesticus</i>	SNA	G5		
MAMMALS					

Common Name	Scientific Name	S-Rank	G-Rank	COSSARO	COSEWIC
Masked Shrew	<i>Sorex cinereus</i>	S5	G5		
Northern Short-tailed Shrew	<i>Blarina brevicauda</i>	S5	G5		
Red Bat	<i>Lasiurus borealis</i>	S4	G5		
Big Brown Bat	<i>Eptesicus fuscus</i>	S5	G5		
Hoary Bat	<i>Lasiurus cinereus</i>	S4	G5		
Eastern Cottontail	<i>Sylvilagus floridanus</i>	S5	G5		
European Hare	<i>Lepus europaeus</i>	SNA	G5		
Eastern Chipmunk	<i>Tamias striatus</i>	S5	G5		
Woodchuck	<i>Marmota monax</i>	S5	G5		
Grey Squirrel	<i>Sciurus carolinensis</i>	S5	G5		
Red Squirrel	<i>Tamiasciurus hudsonicus</i>	S5	G5		
Beaver	<i>Castor canadensis</i>	S5	G5		
Muskrat	<i>Ondatra zibethicus</i>	S5	G5		
Meadow Vole	<i>Microtus pennsylvanicus</i>	S5	G5		
Coyote	<i>Canis latrans</i>	S5	G5		
Red Fox	<i>Vulpes vulpes</i>	S5	G5		
Raccoon	<i>Procyon lotor</i>	S5	G5		
Mink	<i>Mustela vison</i>	S4	G5		
Striped Skunk	<i>Mephitis mephitis</i>	S5	G5		
White-tailed Deer	<i>Odocoileus virginianus</i>	S5	G5		

COSSARO – Committee on the Status of Species at Risk in Ontario

COSEWIC – Committee on the Status of Endangered Wildlife in Canada

Status:

S1 – Critically Imperiled

S2 – Imperiled

S3 – Vulnerable

S4 – Apparently Secure

S5 – Secure

SNA – Not applicable

G5 – Very common globally

? – Rank uncertain

END – Endangered

THR – Threatened

SC – Special Concern

Common Name	Scientific Name	S-Rank	Provincial Status (COSSARO)	National Status (COSEWIC)	Source	Description of Habitat
VEGETATION						
Caughuawaga Hawthorn	<i>Crataegus suborbiculata</i>	S1	--	--	NHIC	Occurring on abandoned farmland, along streams, and in forest openings, especially on soils high in calcium. Moderately shade-tolerant. Often forming thickets of several different species (Farrar, 1995).
Narrow-leaved puccoon	<i>Lithospermum incisum</i>	S1	--	--	NHIC	Dry plains, dunes, barrens and dry disturbed ground (Reznicek et al., 2011; Gleason and Cronquist, 1991)
Giant Ironweed	<i>Vernonia gigantea</i>	S1	--	--	NHIC	Occurs in wet woods, thickets, and meadows, and tends to be weedy in pastures (Reznicek et al., 2011; Gleason and Cronquist, 1991).
Moss Phlox	<i>Phlox subulata</i>	S1?	--	--	NHIC	Often a garden escapee; occurs in sandy and gravelly soil or rock-ledges in clearings, shores, banks, and roadsides (Reznicek et al., 2011; Gleason and Cronquist, 1991).
Puttyroot	<i>Aplectrum hyemale</i>	S2	--	--	NHIC	Occurs in moist to swampy deciduous forests; flowers in late spring (Sheviak and Catling, 2002).
Pawpaw	<i>Asimina triloba</i>	S3	--	--	NHIC	Occurs on the rich moist soils of floodplains and wet woods; in colonies as an understory tree; shade-tolerant (Farrar, 1995).
Crowned Beggar-ticks	<i>Bidens trichosperma</i>	S2	--	--	NHIC	Wet meadows and swamps; flowers late summer and fall (Newcomb, 1977).
Shellbark Hickory	<i>Carya laciniosa</i>	S3	--	--	NHIC	Occurs on moist to wet sites, in valleys and along stream banks; mixed with other broadleaf trees (Farrar, 1995).
Chinese Hemlock-parsley	<i>Conioselinum chinense</i>	S2	--	--	NHIC	Occurs in wet meadows, bogs, and swamps (Gleason and Cronquist 1991).
Ram's Head Lady-slipper	<i>Cypripedium arietinum</i>	S3	--	--	NHIC	Usually on acidic soils in coniferous and mixed forests, coniferous fens, and beach thickets (Gleason and Cronquist, 1991; Sheviak and Catling, 2002).
Prostrate Tick-trefoil	<i>Desmodium rotundifolium</i>	S2	--	--	NHIC	Barrens and dry forests (Gleason and Cronquist, 1991).
Burning Bush	<i>Euonymus atropurpureus</i>	S3	--	--	NHIC	Moist woods (Gleason Cronquist, 1991)
Pumpkin Ash	<i>Fraxinus profunda</i>	S2?	--	--	NHIC	Wet forests and swamps (Gleason Cronquist, 1991).

Common Name	Scientific Name	S-Rank	Provincial Status (COSSARO)	National Status (COSEWIC)	Source	Description of Habitat
Hairy Bedstraw	<i>Galium pilosum</i>	S3	--	--	NHIC	Dry woods and thickets; fields and grasslands (Gleason and Cronquist, 1991; Newcomb, 1977; Reznicek et al., 2011).
Stiff Gentian	<i>Gentianella quinquefolia</i>	S2	--	--	NHIC	Woods and moist to wet open areas (Gleason and Cronquist, 1991).
Rattlesnake Hawkweed	<i>Hieracium venosum</i>	S2	--	--	NHIC	Dry open woods and sandy banks (Gleason and Cronquist, 1991; Reznicek et al., 2011)
Green Violet	<i>Hybanthus concolor</i>	S2	--	--	NHIC	Rich forests, swamp, and ravines (Gleason and Cronquist, 1991; Reznicek et al., 2011)
Yellow Star-grass	<i>Hypoxis hirsuta</i>	S3	--	--	NHIC	Sandy open ground and forests, as well as fens and mesic meadows (Reznicek et al., 2011)
Sharp-fruited Rush	<i>Juncus acuminatus</i>	S3	--	--	NHIC	Wet soil in lowland forests, meadows, and shorelines (Gleason and Cronquist, 1991)
Tall Blazing Star	<i>Liatris aspera</i>	S2	--	--	NHIC	In sandy soil in dry, open areas and forests (Gleason and Cronquist, 1991).
Slender Blazing Star	<i>Liatris cylindracea</i>	S3	--	--	NHIC	Dry, open areas (Gleason and Cronquist, 1991).
Woodland Flax	<i>Linum virginianum</i>	S2	--	--	NHIC	Upland forests, hillsides, and banks (Reznicek et al., 2011).
Sundial Lupine	<i>Lupinus perennis</i>	S3	--	--	NHIC	Dry, open forests and clearings (Gleason and Cronquist, 1991).
Scarlet Beebalm	<i>Monarda didyma</i>	S3	--	--	NHIC	Mesic thickets and woods (Gleason and Cronquist, 1991).
Pillose Evening Primrose	<i>Oenothera pilosella</i>	S2	--	--	NHIC	Moist fields, meadows, and open woods (Gleason and Cronquist, 1991).
Soft-hairy False Gromwell	<i>Onosmodium molle</i> ssp. <i>hispidissimum</i>	S2	--	--	NHIC	Moderately dry, open places (Gleason and Cronquist, 1991).
Shumard oak	<i>Quercus shumardii</i>	S3	SC	SC	NHIC	Moist slopes, banksides, bottomland, and poorly-drained upland (Nixon, 1997).
Riddell's Goldenrod	<i>Solidago riddellii</i>	S3	SC	SC	NHIC	Wet prairie-like and marshy sites (Semple and Cook, 2006).
Great Plains Ladies'-tresses	<i>Spiranthes magnicamporum</i>	S3?	--	--	NHIC	Fens and prairies (Sheviak and Brown, 2002).
Culver's root	<i>Veronicastrum virginicum</i>	S2	--	--	NHIC	Dry to moist upland forests and prairies (Gleason and Cronquist, 1991).

Table 2.3: Potential Species of Conservation Concern occurring within the Project Boundary						
Common Name	Scientific Name	S-Rank	Provincial Status (COSSARO)	National Status (COSEWIC)	Source	Description of Habitat
American Gromwell	<i>Lithospermum latifolium</i>	S3	--	--	NHIC	Occurs along shaded riverbanks and floodplains and at forest edges (Reznicek et al. 2011).
Brainerd's Hawthorn	<i>Crataegus brainerdii</i>	S2	--	--	NHIC	Usually found in dry, sandy places such as savannas, roadsides, fields and pastures (Reznicek et al. 2011).
Dodge's Hawthorn	<i>Crataegus dodgei</i>	S4	--	--	NHIC	From dry, open places such as roadsides and fields to the borders of forests and swamps (Reznicek et al. 2011).
Round-leaved Hawthorn	<i>Crataegus lumaria</i>	S3?	--	--	NHIC	Like other hawthorns, typically occurs in disturbed or successional sites such as forest edges, pastures, and stream sides (Gleason and Cronquist, 1991).
Middlesex Frosted Hawthorn	<i>Crataegus perjucunda</i>	S1?	--	--	NHIC	Like other hawthorns, typically occurs in disturbed or successional sites such as forest edges, pastures, and stream sides (Gleason and Cronquist, 1991).
A Moss	<i>Astomum muhlenbergia</i>	S2	--	--	NHIC	Occurs along roadsides and in soil, fields, lawns and grassy areas (Zander, 2007).
Green Dragon	<i>Arisaema dracontium</i>	S3	SC	SC	NHIC	Flowering late spring; mesic to wet deciduous woods, thickets, and bottomlands (Thompson, 2000)
BUTTERFLIES						
Sleepy Duskywing	<i>Erynnis brizo</i>	S1	--	--	NHIC	Larvae can be found in leaf-nests in species of oak; adults occur in oak woods and can be seen on flowers or in mud puddles (Layberry et al., 1998). Local population is known to occur in Pinery Provincial Park.
Dusted Skipper	<i>Atrytonopsis hianna</i>	S1	--	--	NHIC	The larval diet consists of Little bluestem (<i>Schizachyrium scoparium</i>) and big bluestem (<i>Andropogon gerardii</i>) grasses. The species is apparently restricted to sandy, very dry sites in Lambton county and has been reported nectaring on Incised puccoon (<i>Lithospermum incisum</i>) (Layberry et al., 1998).
REPTILES						
Snapping Turtle	<i>Chelydra serpentina</i>	S3	SC	SC	OHSA	Snapping Turtles inhabit ponds, sloughs, streams, rivers, and shallow bays that are characterized by slow moving water, aquatic vegetation, and soft bottoms. Females show strong nest site fidelity and nest in sand or gravel banks at waterway edges in late May or early June (COSEWIC, 2008).
Northern Map Turtle	<i>Graptemys geographica</i>	S3	SC	SC	OHSA	Map turtles are highly aquatic and inhabit slow moving, large rivers and lakes with soft bottoms and abundant

Common Name	Scientific Name	S-Rank	Provincial Status (COSSARO)	National Status (COSEWIC)	Source	Description of Habitat
						aquatic vegetation. Basking sites include rocks and deadheads adjacent to deep water (COSEWIC 2002) Nesting occurs in soft sand or soil and at a distance from the water, hibernation is communal and occurs at the bottoms of lakes (MacCulloch, 2002). Females leave the water in June to nest (MacCulloch, 2002).
Eastern Ribbonsnake	<i>Thamnophis sauritus</i>	S3	SC	SC	EC, OHSa	The Eastern Ribbonsnake is restricted to southern Ontario, where it is quite local, and is usually found close to water (Lamond, 1994). They often frequent the edge of shallow ponds, streams, marshes, swamps, or bogs with dense vegetation nearby that provides cover, with abundant exposure to sunlight and upland areas for nesting (COSEWIC, 2002). Ontario ribbonsnakes have been found to hibernate in animal burrows or rock crevices (Lamond, 1994).
BIRDS						
Bald Eagle	<i>Haliaeetus leucocephalus</i>	S1S2N,S4B	SC	NAR	Stantec	Almost always nests near water, usually on large lakes. Large stick nests are placed in trees located within mature woodlots. They usually require 250 ha of mature forest for breeding, however, along Lake Erie, where the lake provides a valuable food source; the eagles will nest in smaller woodlots or even single trees (Sandilands, 2005). This species has experienced a relatively recent and substantial increase in population as well as an expansion in range following a decline during the mid-20th century (Cadman et al, 2007). The Lake Erie shoreline is the predominant area for breeding Bald Eagles in southwestern Ontario (Ontario Breeding Bird Atlas, 2005).
Louisiana Waterthrush	<i>Seiurus motacilla</i>	S3B	SC	SC	NHIC	In Ontario, the species prefers deciduous and mixed forests with a strong Eastern Hemlock component, in deeply incised ravines (Cadman et al. 2007). It will also inhabit large flooded tracts of mature deciduous swamp forest. It shows a preference for nesting along pristine headwater streams and associated wetlands occurring in large expanses of mature forest and less frequently inhabits wooded swamps (COSEWIC, 2006). The primary limiting factor for this species appears to be its natural breeding range limits, with secondary factors including urbanization, loss of forest cover and associated increase of parasitism

Table 2.3: Potential Species of Conservation Concern occurring within the Project Boundary

Common Name	Scientific Name	S-Rank	Provincial Status (COSSARO)	National Status (COSEWIC)	Source	Description of Habitat
						by the Brown-headed Cowbird; activities that affect the quality of streams in potential habitat, such as logging, off-road vehicles, agricultural drains, and pollution associated with nearby development could potentially impact the supply of aquatic insects (COSEWIC, 2006).
Hooded Warbler	<i>Wilsonia citrina</i>	S3B	NAR	NAR	EC, OBBA, NHIC	The Hooded Warbler can be found in mature, upland deciduous or mixed forest, with an area of more than 15 hectares, where clearings have been created naturally or by logging (Evans Ogden and Stutchbury, 1994). It prefers clearings with low, dense, shrubby vegetation less than two meters in height. Large tracts of relatively undisturbed forest interior are preferred due to its area sensitive nature and the higher potential for predation and parasitism closer to forest edges (COSEWIC, 2000). The 2001-2005 Ontario Breeding Bird Atlas indicated a significant increase in probability of observation from the first atlas and although it is most common in the Carolinian region, it has expanded its range north, west and east. These changes may be owing to more targeted surveys, an increase in available habitat due to forest maturation as well as climate change (Cadman, 2007).
Wood Thrush	<i>Hylocichla mustelina</i>	S4B	--	THR	OBBA	The Wood Thrush can be found in Carolinian and Great Lakes-St. Lawrence forest zones; undisturbed moist mature deciduous or mixed forest with deciduous sapling growth; near pond or swamp; hardwood forest edges; must have some trees higher than 12 m (OMNR, 2000).

COSSARO – Committee on the Status of Species at Risk in Ontario
 COSEWIC – Committee on the Status of Endangered Wildlife in Canada

Source:

- EC – Environment Canada/Canadian Wildlife Service Species At Risk Website
- NHIC – Natural Heritage Information Database
- OBBA – Ontario Breeding Bird Atlas
- OHSA – Ontario Herpetofaunal Summary Atlas
- AMO – Atlas of the Mammals of Ontario
- DFO – direct correspondence with DFO
- MNR – direct correspondence with MNR
- Stantec – observed in the Study Area during site investigations

Table 2.3: Potential Species of Conservation Concern occurring within the Project Boundary

Common Name	Scientific Name	S-Rank	Provincial Status (COSSARO)	National Status (COSEWIC)	Source	Description of Habitat
<p>Status: S1 – Critically Imperiled S2 – Imperiled S3 – Vulnerable S#B- Breeding status rank ? – Rank uncertain END – Endangered THR - Threatened SC – Special Concern</p>						

Table 3.1: Survey Dates					
Purpose	General Methods	Date	Time(s) and Duration	Weather	Staff
Site Investigation Surveys					
ELC and Significant Wildlife Habitat	Ecological Land Classification Vegetation Survey, Wetland Delineation, Woodland Assessment and Wildlife Assessment	Nov 7, 2011	14:00-18:00 (4hrs)	14°C, 2 wind, 60% cloud, no rain, no rain before	S. Martin
ELC and Significant Wildlife Habitat	Ecological Land Classification Vegetation Survey, Wetland Delineation, Woodland Assessment and Wildlife Assessment	Nov 8, 2011	08:00-18:00 (12hrs)	16°C, 2 wind, 70% cloud, no rain, no rain before	S. Martin
ELC and Significant Wildlife Habitat	Ecological Land Classification Vegetation Survey, Wetland Delineation, Woodland Assessment and Wildlife Assessment	Nov 9, 2011	08:00-18:00 (12hrs)	15°C, 2 wind, 70% cloud, no rain, no rain before	S. Martin
ELC and Significant Wildlife Habitat	Ecological Land Classification Vegetation Survey, Wetland Delineation, Woodland Assessment and Wildlife Assessment	Nov 10, 2011	08:00-13:00 (7hrs)	6°C, 2 wind, 70% cloud, no rain, no rain before	S. Martin
ELC and Significant Wildlife Habitat	Ecological Land Classification Vegetation Survey, Wetland Delineation, Woodland Assessment and Wildlife Assessment	Nov 11, 2011	08:00-13:00 (7hrs)	6°C, 1 wind, 60% cloud, no rain, no rain before	S. Martin
ELC and Significant Wildlife Habitat	Ecological Land Classification Vegetation Survey, Wetland Delineation, Woodland Assessment and Wildlife Assessment	Nov 14, 2011	13:00-18:45 (5.75hrs)	12°C, 2 wind, 100% cloud, heavy rain, rain the day before	C. Payette
ELC and Significant Wildlife Habitat	Ecological Land Classification Vegetation Survey, Wetland Delineation, Woodland Assessment and Wildlife Assessment	Nov 15, 2011	08:00-06:15 (10.25hrs)	11°C, 3 wind, 10% cloud, no precipitation, rain the day before	C. Payette
ELC and Significant Wildlife Habitat	Ecological Land Classification Vegetation Survey, Wetland Delineation, Woodland Assessment and Wildlife Assessment	Nov 16, 2011	08:00-17:45 (9.5hrs)	6°C, 4 wind, 10% cloud, no precipitation, no precipitation within the last 24hrs	C. Payette
ELC and Significant Wildlife Habitat	Ecological Land Classification Vegetation Survey, Wetland Delineation, Woodland Assessment and Wildlife Assessment	Nov 17, 2011	08:00-18:15 (8.25hrs)	2°C, 4 wind, 100% cloud, no precipitation, no precipitation within the last 24hrs	C. Payette
ELC and Significant Wildlife Habitat	Ecological Land Classification Vegetation Survey, Wetland Delineation, Woodland Assessment and Wildlife Assessment	Nov 22, 2011	08:15-5:00 (9.75hrs); 10:00am – 5:00pm (7hrs)	2°C, 4 wind, 100% cloud, no precipitation, no precipitation within the last 24hrs	C. Payette, N. Charlton
ELC and Significant Wildlife Habitat	Ecological Land Classification Vegetation Survey, Wetland Delineation, Woodland Assessment and Wildlife Assessment	Nov 23, 2011	7:45-17:45 (10hrs); 10:00pm – 5:00pm (7hrs)	4°C, 4 wind, 100% cloud, no precipitation, no precipitation within the last 24hrs	C. Payette, N. Charlton
ELC and Significant Wildlife Habitat	Ecological Land Classification Vegetation Survey, Wetland Delineation, Woodland Assessment and Wildlife Assessment	Dec 15, 2011	8:00-4:30 (8.5hrs)	9°C, 1-5 wind, 100% cloud, light rain, heavy rain the day before	N. Leava, C. Payette

Table 3.1: Survey Dates					
Purpose	General Methods	Date	Time(s) and Duration	Weather	Staff
ELC and Significant Wildlife Habitat	Ecological Land Classification Vegetation Survey, Wetland Delineation, Woodland Assessment and Wildlife Assessment	Dec 16, 2011	9:00-5:30 (8.5hrs); 8:45-4:45 (7hrs)	0°C, 3-4 wind, 40-60% cloud, no precipitation, rain and snow the day before	N. Leava, C. Payette
ELC and Significant Wildlife Habitat	Ecological Land Classification Vegetation Survey, Wetland Delineation, Woodland Assessment and Wildlife Assessment	May 28, 2012	9:30am-6:00pm (8.5hrs); 10:00am – 5:00pm (7hrs)	33°C, 3 wind, 40% cloud, no precipitation, rain the day before	C. Payette, N. Charlton
Waterfowl Stopover and Staging Assessment	Driving transects to look for flooded fields and congregations of tundra swans	March 30, 2012	9:00-18:30 (9.5hrs)	6°C, 4-5 wind, 50-100% cloud, wet snow and rain, no precipitation within the last 24hrs	B. Holden, M. Ross
ELC and Significant Wildlife Habitat	Ecological Land Classification Vegetation Survey, Wetland Delineation, Woodland Assessment and Wildlife Assessment	May 31, 2012	9:15am-3:30pm (6.25hrs); 10:00am – 5:00pm (7hrs)	15°C, 2-3 wind, 10% cloud, no precipitation, no precipitation within the last 24hrs	C. Payette, N. Charlton
ELC and Significant Wildlife Habitat	Ecological Land Classification Vegetation Survey, Wetland Delineation, Woodland Assessment and Wildlife Assessment	July 4, 2012	11:00 – 2:00 (3hrs); 11:00am-1:30pm (2.5hrs)	32°C, 3 wind, 20% cloud, no precipitation, rain the day before	N. Charlton, C. Payette
ELC and Significant Wildlife Habitat	Ecological Land Classification Vegetation Survey, Wetland Delineation, Woodland Assessment and Wildlife Assessment	July 10, 2012	7:45-6:45 (11hrs)	29°C, 3-4 wind, 0% cloud, no precipitation, no precipitation within the last 24hrs	C. Payette
ELC and Significant Wildlife Habitat	Ecological Land Classification Vegetation Survey, Wetland Delineation, Woodland Assessment and Wildlife Assessment	Oct 2, 2012	12:00-19:00 (7hrs)	15°C, 1 wind, 100% cloud, no precipitation, no precipitation within the last 24 hrs	D. Graham
ELC and Significant Wildlife Habitat	Ecological Land Classification Vegetation Survey, Wetland Delineation, Woodland Assessment and Wildlife Assessment	Oct 3, 2012	11:30-17:30 (6 hrs)	20°C, 1 wind, 20% cloud, no precipitation, no precipitation within the last 24 hrs	D. Graham, B. Miller, H. Hughues
ELC and Significant Wildlife Habitat	Ecological Land Classification Vegetation Survey, Wetland Delineation, Woodland Assessment and Wildlife Assessment	Nov 29, 2012	14:00-16:00 (2 hrs)	-5°C, 1-2 wind, 70% cloud, no precipitation, no precipitation within the last 24 hrs	B. Miller
ELC and Significant Wildlife Habitat	Ecological Land Classification Vegetation Survey, Wetland Delineation, Woodland Assessment and Wildlife Assessment	Dec 3, 2012	10:00-16:00 (6 hrs)	10°C, 1 wind, 100% cloud, no precipitation, rain within the last 24 hrs	B. Miller, K. St. James
Evaluation of Significance Surveys					
Amphibian Call Surveys	Point counts using Marsh Monitoring Protocol	April 27, 2012	9:00pm-11:30pm (2hrs)	3.5°C, 1 wind, partial cloud, no precipitation, no precipitation within the last 24hrs	A. McCreery, M. Oxlade
Amphibian Call Surveys	Point counts using Marsh Monitoring Protocol	May 30, 2012	9:00pm-11:00pm (2hrs)	13°C, 3-4 wind, 60% cloud, no precipitation, rain the day before	C. Payette, N. Charlton

Table 3.1: Survey Dates					
Purpose	General Methods	Date	Time(s) and Duration	Weather	Staff
Amphibian Call Surveys	Point counts using Marsh Monitoring Protocol	June 20, 2012	9:45pm-12:00am (2.25hrs)	30°C, 0 wind, 0% cloud, no precipitation, no precipitation within the last 24hrs	N. Leava, K. Walpole

Table 3.2: Summary of Corrections to Records Review for Cedar Point Wind Project

Features within 120m of the Project Location	Records Review Results	Correction made as a result of site investigation	Report Section Providing Criteria Used in Determination of Correction
Wetlands	Uttoxeter Locally-Significant Wetland	New wetland communities identified: Features 6, 7, 9, 10, 16, 25, 26, 27, 29, 31, 35, 37, 38, 39, 40, 41, 47, 50, 52, 53, 56, 58, 62 and 74. No boundary changes proposed for the Uttoxeter Locally-Significant Wetland.	3.2.2.3
Woodlands	57 woodland features identified	New woodland features identified: Forty-eight woodlands were identified within the ZOI (Woodlands 3-62) and 10 woodlands were identified as overlapping with the Project Location (Woodlands 3, 6, 7, 10, 18, 19, 20 and 23). No boundary changes proposed.	3.2.3
Wildlife Habitat: Specialized Habitats	Potential for breeding amphibians (Table 3.4, Appendix B)	Additional amphibian breeding habitats (woodland) identified.	3.2.5
Wildlife Habitat: Species of Conservation Concern	Potential for rare and declining species (Table 3.4, Appendix B)	Additional habitats identified for Hooded Warbler and Wood Thrush.	

Table 3.3: Description and Characterizations of Features found within 120 m of the Cedar Point Wind Project							
Feature ID	Size (ha)	Type	Composition	Attributes	Function	Figure #	Significance (including rationale)
3	8.2	Woodland Wetland	FOD9-4, FOD	Fresh – Moist Shagbark Hickory Deciduous Forest, Deciduous Forest	<ul style="list-style-type: none"> Large woodland Close to other significant natural features Provides water protection 	10	Unknown, requires Evaluation of Significance
5	8.5	Woodland	FOD9	Fresh – Moist Oak – Maple – Hickory Deciduous Forest	<ul style="list-style-type: none"> Large woodland Interior habitat Provides water protection Woodland diversity representation 	10	Unknown, requires Evaluation of Significance
6	38.1	Woodland Wetland	SWD2-2, FOD9-2, FOD6-5, FOD5-2, FOD4-2, FOD5-6	This woodland/wetland contains: Green Ash Mineral Deciduous Swamp, Fresh – Moist Oak – Maple Deciduous Forest, Fresh – Moist Sugar Maple – Hardwood Deciduous Forest, Dry – Fresh Sugar Maple – Beech Deciduous Forest, Dry-Fresh White Ash Deciduous Forest, and Dry-Fresh Sugar Maple – Basswood Deciduous Forest	<ul style="list-style-type: none"> Large woodland Interior habitat Close to other significant natural features Provides water protection Woodland diversity representation 	9	Unknown, requires Evaluation of Significance
7	15.5	Woodland Wetland	FOD5-2, SWD3-2, FOD4	This woodland/wetland contains: Dry – Fresh Sugar Maple – Beech Deciduous Forest, Silver Maple Mineral Deciduous Swamp, and Dry-Fresh Deciduous Forest	<ul style="list-style-type: none"> Large woodland Interior habitat Close to other significant natural features Provides water protection Woodland diversity representation 	9	Unknown, requires Evaluation of Significance
9	3.9	Woodland	FOD2-4	Dry – Fresh Oak – Hardwood Deciduous Forest	<ul style="list-style-type: none"> None observed 	9	Unknown, requires Evaluation of Significance
10	7.7	Woodland	FOD2-4	Dry – Fresh Oak – Hardwood Deciduous Forest	<ul style="list-style-type: none"> Large woodland Provides water protections 	9	Unknown, requires Evaluation of Significance
16	1.8	Woodland Wetland	SWD4-2	White Elm Mineral Deciduous Swamp	<ul style="list-style-type: none"> None observed 	9	Unknown, requires Evaluation of Significance
17	2.3	Woodland	FOD9-3	Fresh – Moist Bur Oak Deciduous Forest	<ul style="list-style-type: none"> Close to other significant natural features Provides water protection Woodland diversity representation 	8	Unknown, requires Evaluation of Significance
18	10.6	Woodland	FOD9-3	Fresh – Moist Bur Oak Deciduous Forest	<ul style="list-style-type: none"> Large woodland Interior habitat Woodland diversity representation 	8	Unknown, requires Evaluation of Significance
19	24.7	Woodland	FOD5-2	Dry – Fresh Sugar Maple – Beech Deciduous Forest	<ul style="list-style-type: none"> Large woodland Interior habitat Woodland diversity representation 	6	Unknown, requires Evaluation of Significance
20	3.2	Woodland	FOD7	Fresh – Moist Lowland Deciduous Forest	<ul style="list-style-type: none"> Close to other significant natural features Provides connectivity between significant natural features Provides water protection 	6	Unknown, requires Evaluation of Significance
23	8.9	Woodland	FOD3	Dry – Fresh Poplar – White Birch Deciduous Forest	<ul style="list-style-type: none"> Large woodland Interior habitat 	6	Unknown, requires Evaluation of Significance

Table 3.3: Description and Characterizations of Features found within 120 m of the Cedar Point Wind Project							
Feature ID	Size (ha)	Type	Composition	Attributes	Function	Figure #	Significance (including rationale)
					<ul style="list-style-type: none"> • Close to other significant natural features • Provides water protection 		
24	1.9	Woodland	FOD7	Fresh – Moist Lowland Deciduous Forest	<ul style="list-style-type: none"> • None observed 	6	Unknown, requires Evaluation of Significance
25	22.6	Woodland Wetland	SWD2-2, CUP2-1, FOD6-5	This woodland/wetland contains: Green Ash Mineral Deciduous Swamp, Black Walnut - White Pine Mixed Plantation, and Fresh-Moist Sugar Maple – Hardwood Deciduous Forest	<ul style="list-style-type: none"> • Large woodland • Interior habitat • Close to other significant natural features • Provides water protection 	8	Unknown, requires Evaluation of Significance
26	10.9	Woodland Wetland	SWD2-3*	Ash-Maple-Cottonwood Mineral Deciduous Swamp	<ul style="list-style-type: none"> • Large woodland • Interior habitat • Close to other significant natural features • Provides water protection 	7	Unknown, requires Evaluation of Significance
27	47.7	Woodland Wetland	SWD2-2, FOD6-5	This woodland/wetland contains: Green Ash Mineral Deciduous Swamp, Fresh-Moist Sugar Maple – Hardwood Deciduous Forest	<ul style="list-style-type: none"> • Large woodland • Interior habitat • Provides water protection 	7	Unknown, requires Evaluation of Significance
28	6.3	Woodland	FOD6-5	Fresh-Moist Sugar Maple – Hardwood Deciduous Forest	<ul style="list-style-type: none"> • Large woodland • Interior habitat • Close to other significant natural features • Provides water protection 	7	Unknown, requires Evaluation of Significance
29	18.8	Woodland Wetland	FOD6-5, SWD3-4*	This woodland/wetland contains: Fresh-Moist Sugar Maple – Hardwood Deciduous Forest, Mixed-maple Deciduous Swamp	<ul style="list-style-type: none"> • Large woodland • Interior habitat • Close to other significant natural features • Provides water protection 	8	Unknown, requires Evaluation of Significance
30	5.2	Woodland	FOD9-4	Fresh – Moist Shagbark Hickory Deciduous Forest	<ul style="list-style-type: none"> • Large woodland • Close to other significant natural features • Provides water protection • Woodland diversity representation 	8	Unknown, requires Evaluation of Significance
31	16.9	Woodland Wetland	FOD5-3, FOD7-1, FOD4-2	This woodland contains: Dry – Fresh Sugar Maple – Oak Deciduous Forest, Fresh – Moist White Elm Lowland Deciduous Forest, and Dry-Fresh White Ash Deciduous Forest	<ul style="list-style-type: none"> • Large woodland • Interior habitat • Close to other significant natural features • Provides water protection • Woodland diversity representation 	6	Unknown, requires Evaluation of Significance
32	15.0	Woodland	FOD5-3	Dry – Fresh Sugar Maple – Oak Deciduous Forest	<ul style="list-style-type: none"> • Large woodland • Interior habitat • Close to other significant natural features • Woodland diversity representation • Provides water protection 	6	Unknown, requires Evaluation of Significance
33	10.8	Woodland	FOD4-2	Dry-Fresh White Ash Deciduous Forest	<ul style="list-style-type: none"> • Large woodland • Close to other significant natural features 	6	Unknown, requires Evaluation of Significance

Table 3.3: Description and Characterizations of Features found within 120 m of the Cedar Point Wind Project							
Feature ID	Size (ha)	Type	Composition	Attributes	Function	Figure #	Significance (including rationale)
					<ul style="list-style-type: none"> Provides water protection 		
34	8.4	Woodland	FOD5-3	Dry – Fresh Sugar Maple – Oak Deciduous Forest	<ul style="list-style-type: none"> Large woodland Interior habitat Close to other significant natural features Provides water protection Woodland diversity representation 	6	Unknown, requires Evaluation of Significance
35	13.6	Woodland Wetland	FOD2-4, SWD4-2, FOD5-3	This woodland/wetland contains: Dry – Fresh Oak – Hardwood Deciduous Forest , White Elm Mineral Deciduous Swamp , Dry – Fresh Oak – Hardwood Deciduous Forest	<ul style="list-style-type: none"> Large woodland Interior habitat Close to other significant natural features Provides water protection 	6	Unknown, requires Evaluation of Significance
36	3.2	Woodland	FOD4	Dry – Fresh Upland Deciduous Forest	<ul style="list-style-type: none"> Close to other significant natural features Provides water protection 	6	Unknown, requires Evaluation of Significance
37	7.2	Woodland Wetland	FOD5-3 , SWD3-2	This woodland/wetland contains: Dry – Fresh Sugar Maple – Oak Deciduous Forest , Silver Maple Mineral Deciduous Swamp	<ul style="list-style-type: none"> Large woodland Provides water protection Close to other significant natural features Woodland diversity representation 	6	Unknown, requires Evaluation of Significance
38	0.9	Woodland Wetland	SWD4-2	White Elm Mineral Deciduous Swamp	<ul style="list-style-type: none"> None observed 	6	Unknown, requires Evaluation of Significance
39	3.9	Woodland Wetland	SWD4-2	White Elm Mineral Deciduous Swamp	<ul style="list-style-type: none"> Provides water protection Close to other significant natural features 	5	Unknown, requires Evaluation of Significance
40	14.9	Woodland Wetland	SWD2-2, FOD7-3	This woodland/wetland contains: Green Ash Mineral Deciduous Swamp and Fresh – Moist Willow Lowland Deciduous Forest	<ul style="list-style-type: none"> Large woodland Interior habitat Provides water protection Close to other significant natural features 	5	Unknown, requires Evaluation of Significance
41	66.0	Woodland Wetland	SWD2-2	Green Ash Mineral Deciduous Swamp	<ul style="list-style-type: none"> Large woodland Interior habitat Close to other significant natural features Provides water protection 	5	Unknown, requires Evaluation of Significance
45	70.3	Woodland	FOD6-5	Fresh-Moist Sugar Maple – Hardwood Deciduous Forest	<ul style="list-style-type: none"> Large woodland Interior habitat Close to other significant natural features Provides connectivity between significant natural features Provides water protection 	5	Unknown, requires Evaluation of Significance
47	50.5	Woodland Wetland	FOD5-2, SWD3-2, SWD2-2, FOD2-4, FOD7-3, FOD5-2	This woodland/wetland contains: Dry – Fresh Sugar Maple – Beech Deciduous Forest, Silver Maple Mineral Deciduous Swamp, Green Ash Mineral Deciduous Swamp, Dry – Fresh Oak – Hardwood Deciduous Forest, Fresh – Moist Willow Lowland Deciduous Forest, and Dry – Fresh Sugar Maple - Beech Deciduous Forest	<ul style="list-style-type: none"> Large woodland Provides water protection Close to other significant natural features Woodland diversity representation 	5	Unknown, requires Evaluation of Significance

Table 3.3: Description and Characterizations of Features found within 120 m of the Cedar Point Wind Project							
Feature ID	Size (ha)	Type	Composition	Attributes	Function	Figure #	Significance (including rationale)
48	31.1	Woodland	FOD5-2	Dry – Fresh Sugar Maple – Beech Deciduous Forest	<ul style="list-style-type: none"> Large woodland Interior habitat Close to other significant natural features Provides water protection Woodland diversity representation 	5	Unknown, requires Evaluation of Significance
50	1.3	Woodland Wetland	FOD7-3	Fresh – Moist Willow Lowland Deciduous Forest	<ul style="list-style-type: none"> Close to other significant natural features Provides water protection 	3	Unknown, requires Evaluation of Significance
51	54.0	Woodland	FOD6	Fresh – Moist Sugar Maple Deciduous Forest	<ul style="list-style-type: none"> Large woodland Interior habitat Close to other significant natural features Provides water protection 	3	Unknown, requires Evaluation of Significance
52	28.8	Woodland Wetland	SWD4-2	White Elm Mineral Deciduous Swamp	<ul style="list-style-type: none"> Large woodlot Interior habitat 	3	Unknown, requires Evaluation of Significance
53	52.5	Woodland Wetland	FOD6-1, CUP3-2, FOD6-2, FOD3-1, FOD7-3, SWD2-2	<p>This woodland/wetland contains: Dry-Fresh White Birch Deciduous Forest, White Pine Coniferous Plantation, Fresh – Moist Sugar Maple – Black Maple Deciduous Forest, Dry – Fresh Poplar Deciduous Forest, Fresh – Moist Willow Lowland Deciduous Forest, and Green Ash Mineral Deciduous Swamp.</p> <p>This is the Arberader Creek Woodlot – Significant Woodland in Lambton County.</p>	<ul style="list-style-type: none"> Large woodlot Interior habitat Close to other significant natural features Provides water protection Woodland diversity representation Contains a rare vegetation community 	3	Yes: Arberader Creek Woodlot, Significant in Lambton County
55	79.3	Woodland	FOD7-6*	Fresh-Moist Ash-Basswood Lowland Deciduous Forest	<ul style="list-style-type: none"> Large woodlot Interior habitat Close to other significant natural features Provides water protection 	3	Unknown, requires Evaluation of Significance
56	41.0	Woodland Wetland	SWD3-2	Silver Maple Mineral Deciduous Swamp	<ul style="list-style-type: none"> Large woodlot Interior habitat Close to other significant natural features Provides water protection Woodland diversity representation 	2	Unknown, requires Evaluation of Significance
57	19.8	Woodland Wetland	SWD3-2	<p>Silver Maple Mineral Deciduous Swamp.</p> <p>This is the Uttoxeter Swamp Locally-Significant Wetland.</p>	<ul style="list-style-type: none"> Large woodlot Interior habitat Close to other significant natural features Provides water protection Woodland diversity representation 	2	No: Uttoxeter Swamp Locally-Significant Wetland, previously evaluated
58	27.4	Woodland Wetland	FOD7-2, FOD9-2	Fresh-Moist Ash Lowland Deciduous Forest, Fresh – Moist Oak – Maple Deciduous Forest	<ul style="list-style-type: none"> Large woodlot Interior habitat Close to other significant natural features Provides water protection 	2	Unknown, requires Evaluation of Significance
62	96.1	Woodland	FOD6-5, SWD2-2, FOD5-2	This woodland/wetland contains: Fresh-Moist Sugar Maple – Hardwood Deciduous Forest , Green Ash Mineral Deciduous	<ul style="list-style-type: none"> Large woodlot 	1	Unknown, requires Evaluation

Table 3.3: Description and Characterizations of Features found within 120 m of the Cedar Point Wind Project

Feature ID	Size (ha)	Type	Composition	Attributes	Function	Figure #	Significance (including rationale)
		Wetland		Swamp , and Dry – Fresh Sugar Maple – Beech Deciduous Forest	<ul style="list-style-type: none"> • Interior habitat • Close to other significant natural features • Provides water protection • Woodland diversity representation • Contains a rare vegetation community 		of Significance
74	19.9	Woodland Wetland	SWD1	Oak Mineral Deciduous Swamp	<ul style="list-style-type: none"> • Large woodlot • Interior habitat • Close to other significant natural features • Woodland diversity representation 	2	Unknown, requires Evaluation of Significance
75	9.7	Woodland	FOD7	Fresh – Moist Lowland Deciduous Forest	<ul style="list-style-type: none"> • Large woodlot • Interior habitat • Woodland diversity representation 	2	Unknown, requires Evaluation of Significance
76	0.4	Woodland	FOD2-1	Dry-Fresh Oak-Red Maple Deciduous Forest	<ul style="list-style-type: none"> • None observed 	4	Unknown, requires Evaluation of Significance
77	1.2	Woodland	FOD2-2	Dry-Fresh Oak – Hickory Deciduous Forest	<ul style="list-style-type: none"> • Close to other significant features • Provides water protection 	4	Unknown, requires Evaluation of Significance

Table 3.4: Description and Characterizations of Candidate Significant Wildlife Habitat found within 120 m of the Cedar Point Wind Project

Associated Feature ID	Size (ha)	Type	Distance to Project Components within 120m	Composition	Attributes	Function	Figure #	Significance
62	676.1	Deer Wintering Area	AR – overlapping UL – overlapping OL – overlapping WT – overlapping BO – overlapping	FOD7-6*, FOD6-5, SWD2-2, FOD5-2, AG	This feature contains: Fresh-Moist Ash-Basswood Lowland Deciduous Forest, Fresh-Moist Sugar Maple – Hardwood Deciduous Forest, Green Ash Mineral Deciduous Swamp, and Dry – Fresh Sugar Maple – Beech Deciduous Forest, agriculture (row crops and pasture).	This feature provides habitat for wintering deer seeking to reduce or avoid the impact of winter conditions.	1	Significant, as determined by MNR
53	3.7	Rare Vegetation Community	UL – underneath	FOD6-2	Fresh – Moist Sugar Maple – Black Maple Deciduous Forest	This vegetation community is rare within the planning area and may contain rare species which depend on the habitat for survival.	3	Assumed Significant, Generalized
6	38.1	Amphibian Breeding (Woodland)	WT – 29 UL – 3 AR – 3 OL – overlapping BO – 5	SWD2-2, FOD9-2, FOD6-5, FOD5-2, FOD4-2, FOD5-6	Green Ash Mineral Deciduous Swamp, Fresh – Moist Oak – Maple Deciduous Forest, Fresh – Moist Sugar Maple – Hardwood Deciduous Forest, Dry – Fresh Sugar Maple – Beech Deciduous Forest, Dry-Fresh White Ash Deciduous Forest, and Dry-Fresh Sugar Maple – Basswood Deciduous Forest	These wetlands within 120 m of a woodland may be used by several species of frogs and/or salamanders for breeding, including western chorus frog.	9	Unknown, requires Evaluation of Significance
7	15.5	Amphibian Breeding (Woodland)	WT – 79 UL – 12 AR – 2 OL – 1 BO – 62	FOD5-2, SWD3-2, FOD4	Dry – Fresh Sugar Maple – Beech Deciduous Forest, Silver Maple Mineral Deciduous Swamp, and Dry-Fresh Deciduous Forest		9	Unknown, requires Evaluation of Significance
25	22.6	Amphibian Breeding (Woodland)	WT – 24 UL – 1 AR – 1 BO – 1	SWD2-2, CUP2-1, FOD6-5	This woodland/wetland contains: Green Ash Mineral Deciduous Swamp, Black Walnut - White Pine Mixed Plantation, and Fresh-Moist Sugar Maple – Hardwood Deciduous Forest		8	Unknown, requires Evaluation of Significance
26	10.9	Amphibian Breeding (Woodland)	WT – 87 UL – underneath BO – 57	SWD2-3*	Ash-Maple-Cottonwood Mineral Deciduous Swamp		7	Unknown, requires Evaluation of Significance
29	18.8	Amphibian Breeding (Woodland)	WT - 86 UL – 1 AR – 1 BO – 58	FOD6-5, SWD3-4*	Fresh-Moist Sugar Maple – Hardwood Deciduous Forest, Mixed-maple Deciduous Swamp		8	Unknown, requires Evaluation of Significance
37	7.2	Amphibian Breeding (Woodland)	WT – 67 UL – 113 AR – 103 BO – 51	FOD5-3, SWD3-2	This woodland/wetland contains: Dry – Fresh Sugar Maple – Oak Deciduous Forest, Silver Maple Mineral Deciduous Swamp		6	Unknown, requires Evaluation of Significance
47	50.5	Amphibian Breeding (Woodland)	UL – 1 AR – 116	FOD5-2, SWD3-2, SWD2-2, FOD2-4, FOD7-3, FOD5-2	This woodland/wetland contains: Dry – Fresh Sugar Maple – Beech Deciduous Forest, Silver Maple Mineral Deciduous Swamp, Green Ash Mineral Deciduous Swamp, Dry – Fresh Oak – Hardwood Deciduous Forest, Fresh – Moist Willow Lowland Deciduous Forest, and Dry – Fresh Sugar Maple - Beech Deciduous Forest		5	Unknown, requires Evaluation of Significance
56	41.0	Amphibian Breeding (Woodland)	WT – 102 UL – 5 AR – 3 BO – 73	SWD3-2	Silver Maple Mineral Deciduous Swamp		2	Unknown, requires Evaluation of Significance
57	19.8	Amphibian Breeding (Woodland)	UL – 1 AR – 1 BO – 105	SWD3-2	Silver Maple Mineral Deciduous Swamp. This is the Uttoxeter Swamp Locally-Significant Wetland.		2	Unknown, requires Evaluation of Significance
45	70.3	Hooded Warbler	WT – 106 UL - 1 BO – 92	FOD6-5	Fresh-Moist Sugar Maple – Hardwood Deciduous Forest		This species prefers mature, deciduous forest (Carolinian), particularly along stream bottoms, ravine edges and where saplings and shrubbery grow. This habitat was identified in the project area.	5
47	50.5	Hooded Warbler	UL – 1 AR – 116	FOD5-2, SWD3-2, SWD2-2, FOD2-4, FOD7-3, FOD5-2	This woodland/wetland contains: Dry – Fresh Sugar Maple – Beech Deciduous Forest, Silver Maple Mineral Deciduous Swamp, Green Ash Mineral Deciduous Swamp, Dry – Fresh Oak – Hardwood Deciduous Forest, Fresh – Moist Willow Lowland Deciduous Forest, and Dry – Fresh	5	Assumed Significant, Generalized	

Table 3.4: Description and Characterizations of Candidate Significant Wildlife Habitat found within 120 m of the Cedar Point Wind Project

Associated Feature ID	Size (ha)	Type	Distance to Project Components within 120m	Composition	Attributes	Function	Figure #	Significance
					Sugar Maple - Beech Deciduous Forest			
48	31.1	Hooded Warbler	WT – 89 UL – 8 AR – 1 BO – 51	FOD5-2	Dry – Fresh Sugar Maple – Beech Deciduous Forest		5	Unknown, requires Evaluation of Significance
51	54.0	Hooded Warbler	UL – 1 AR – 111	FOD6	Fresh – Moist Sugar Maple Deciduous Forest		3	Assumed Significant, Generalized
53	52.5	Hooded Warbler	UL - underneath	FOD6-1, CUP3-2, FOD6-2, FOD3-1, FOD7-3, SWD2-2	This woodland/wetland contains: Dry-Fresh White Birch Deciduous Forest, White Pine Coniferous Plantation, Fresh – Moist Sugar Maple – Black Maple Deciduous Forest, Dry – Fresh Poplar Deciduous Forest, Fresh – Moist Willow Lowland Deciduous Forest, and Green Ash Mineral Deciduous Swamp. This is the Arberader Creek Woodlot – Significant Woodland in Lambton County.		3	Assumed Significant, Generalized
55	79.3	Hooded Warbler	WT – 40 UL – 1 AR – 1 BO – 11	FOD7-6*	Fresh-Moist Ash-Basswood Lowland Deciduous Forest		3	Unknown, requires Evaluation of Significance
56	41.0	Hooded Warbler	WT – 102 UL – 5 AR – 3 BO – 73	SWD3-2	Silver Maple Mineral Deciduous Swamp		2	Unknown, requires Evaluation of Significance
62	73.2	Hooded Warbler	WT – 54 UL – underneath AR – 60 BO – 43	FOD6-5, SWD2-2, FOD5-2	This woodland/wetland contains: Fresh-Moist Sugar Maple – Hardwood Deciduous Forest , Green Ash Mineral Deciduous Swamp , and Dry – Fresh Sugar Maple – Beech Deciduous Forest		1	Unknown, requires Evaluation of Significance
3	8.2	Wood Thrush	OL – overlapping	FOD9-4	Fresh – Moist Shagbark Hickory Deciduous Forest		10	Unknown, requires Evaluation of Significance
6	38.1	Wood Thrush	WT – 29 UL – 3 AR – 3 OL – overlapping BO – 5	SWD2-2, FOD9-2, FOD6-5, FOD5-2, FOD4-2, FOD5-6	This woodland/wetland contains: Green Ash Mineral Deciduous Swamp, Fresh – Moist Oak – Maple Deciduous Forest, Fresh – Moist Sugar Maple – Hardwood Deciduous Forest, Dry – Fresh Sugar Maple – Beech Deciduous Forest, Dry-Fresh White Ash Deciduous Forest, and Dry-Fresh Sugar Maple – Basswood Deciduous Forest		9	Unknown, requires Evaluation of Significance
10	7.7	Wood Thrush	OL – overlapping UL – overlapping	FOD2-4	Dry – Fresh Oak – Hardwood Deciduous Forest		9	Unknown, requires Evaluation of Significance
18	10.6	Wood Thrush	WT – 72 UL – 3 AR – 9 OL – overlapping BO – 36	FOD9-3	Fresh – Moist Bur Oak Deciduous Forest	This species prefers mature, deciduous forest near water with a dense shrub layer. This habitat was identified in the project area.	8	Unknown, requires Evaluation of Significance
19	24.7	Wood Thrush	UL – overlapping OL – overlapping BO – 110	FOD5-2	Dry – Fresh Sugar Maple – Beech Deciduous Forest		6	Unknown, requires Evaluation of Significance
23	8.9	Wood Thrush	WT – 69 UL – 1 AR – 106 OL – overlapping BO – 31	FOD3	Dry – Fresh Poplar – White Birch Deciduous Forest		6	Unknown, requires Evaluation of Significance
26	10.9	Wood Thrush	WT – 87 UL –	SWD2-3*	Ash-Maple-Cottonwood Mineral Deciduous Swamp		7	Unknown, requires Evaluation of

Table 3.4: Description and Characterizations of Candidate Significant Wildlife Habitat found within 120 m of the Cedar Point Wind Project								
Associated Feature ID	Size (ha)	Type	Distance to Project Components within 120m	Composition	Attributes	Function	Figure #	Significance
			underneath BO – 57					Significance
27	47.7	Wood Thrush	UL – 1 AR – 1	SWD2-2, FOD6-5	This woodland/wetland contains: Green Ash Mineral Deciduous Swamp, Fresh-Moist Sugar Maple – Hardwood Deciduous Forest		7	Assumed Significant, Generalized
28	6.3	Wood Thrush	WT – 79 UL – 14 AR – 5 BO – 58	FOD6-5	Fresh-Moist Sugar Maple – Hardwood Deciduous Forest		7	Unknown, requires Evaluation of Significance
30	5.2	Wood Thrush	WT – 34 UL – 5 AR – 1 BO – 26	FOD9-4	Fresh – Moist Shagbark Hickory Deciduous Forest		8	Unknown, requires Evaluation of Significance
32	15.0	Wood Thrush	WT – 93 UL – 9 OL – 25 AR – 1 BO – 52	FOD5-3	Dry – Fresh Sugar Maple – Oak Deciduous Forest		6	Unknown, requires Evaluation of Significance
45	70.3	Wood Thrush	WT – 106 UL - 1 BO – 92	FOD6-5	Fresh-Moist Sugar Maple – Hardwood Deciduous Forest		5	Unknown, requires Evaluation of Significance
47	50.5	Wood Thrush	UL – 1 AR – 116	FOD5-2, SWD3-2, SWD2-2, FOD2-4, FOD7-3, FOD5-2	This woodland/wetland contains: Dry – Fresh Sugar Maple – Beech Deciduous Forest, Silver Maple Mineral Deciduous Swamp, Green Ash Mineral Deciduous Swamp, Dry – Fresh Oak – Hardwood Deciduous Forest, Fresh – Moist Willow Lowland Deciduous Forest, and Dry – Fresh Sugar Maple - Beech Deciduous Forest		5	Assumed Significant, Generalized
48	31.1	Wood Thrush	WT – 89 UL – 8 AR – 1 BO – 51	FOD5-2	Dry – Fresh Sugar Maple – Beech Deciduous Forest		5	Unknown, requires Evaluation of Significance
51	54.0	Wood Thrush	UL – 1 AR – 111	FOD6	Fresh – Moist Sugar Maple Deciduous Forest		3	Assumed Significant, Generalized
52	15.9	Wood Thrush	WT – 38 UL – 1 AR – 72 BO – 9	SWD4-2	White Elm Mineral Deciduous Swamp		3	Unknown, requires Evaluation of Significance
53	52.5	Wood Thrush	UL - underneath	FOD6-1, CUP3-2, FOD6-2, FOD3-1, FOD7-3, SWD2-2	This woodland/wetland contains: Dry-Fresh White Birch Deciduous Forest, White Pine Coniferous Plantation, Fresh – Moist Sugar Maple – Black Maple Deciduous Forest, Dry – Fresh Poplar Deciduous Forest, Fresh – Moist Willow Lowland Deciduous Forest, and Green Ash Mineral Deciduous Swamp. This is the Arberader Creek Woodlot – Significant Woodland in Lambton County.		3	Assumed Significant, Generalized
55	79.3	Wood Thrush	WT – 40 UL – 1 AR – 1 BO – 11	FOD7-6*	Fresh-Moist Ash-Basswood Lowland Deciduous Forest		3	Unknown, requires Evaluation of Significance
56	41.0	Wood Thrush	WT – 102 UL – 5 AR – 3 BO – 73	SWD3-2	Silver Maple Mineral Deciduous Swamp		2	Unknown, requires Evaluation of Significance
57	19.8	Wood Thrush	UL – 1 AR – 1 BO – 105	SWD3-2	Silver Maple Mineral Deciduous Swamp. This is the Uttoxeter Swamp Locally-Significant Wetland.		2	Assumed Significant, Generalized
58	27.4	Wood Thrush	WT – 12 UL – 6 AR – 1 BO – 1	FOD7-2, FOD9-4	Fresh-Moist Ash Lowland Deciduous Forest, Fresh – Moist Shagbark Hickory Deciduous Forest		2	Unknown, requires Evaluation of Significance
62	73.2	Wood Thrush	WT – 54 UL –	FOD6-5, SWD2-2, FOD5-2	This woodland/wetland contains: Fresh-Moist Sugar Maple – Hardwood Deciduous Forest , Green Ash Mineral Deciduous Swamp , and Dry – Fresh Sugar Maple – Beech Deciduous		1	Unknown, requires Evaluation of

Table 3.4: Description and Characterizations of Candidate Significant Wildlife Habitat found within 120 m of the Cedar Point Wind Project								
Associated Feature ID	Size (ha)	Type	Distance to Project Components within 120m	Composition	Attributes	Function	Figure #	Significance
			underneath AR – 60 BO – 43		Forest			Significance
75	9.7	Wood Thrush	UL – 5	FOD7	Fresh – Moist Lowland Deciduous Forest		2	Assumed Significant, Generalized
3	2.5	Plant Species of Conservation Concern (communities with Project component overlap)	OL – overlapping	FOD9-4	Fresh – Moist Shagbark Hickory Deciduous Forest	These species have the potential to be found where the project overlaps with deciduous forest habitat.	10	Unknown, requires Evaluation of Significance
6	0.2		OL – overlapping UL – overlapping AR – 89 WT – 100 BO – 68	FOD4-2	Dry-Fresh White Ash Deciduous Forest		9	Unknown, requires Evaluation of Significance
7	0.1		OL – overlapping UL – overlapping AR – 4	FOD4	Dry-Fresh Deciduous Forest		9	Unknown, requires Evaluation of Significance
10	1.4		OL – overlapping UL – overlapping	FOD2-4	Dry – Fresh Oak – Hardwood Deciduous Forest		9	Unknown, requires Evaluation of Significance
18	2.4		OL – overlapping	FOD9-3	Fresh – Moist Bur Oak Deciduous Forest		6	Unknown, requires Evaluation of Significance
19	0.8		OL – overlapping UL – overlapping	FOD5-2	Dry – Fresh Sugar Maple – Beech Deciduous Forest		6	Unknown, requires Evaluation of Significance
20	1.0		UL – overlapping OL – overlapping	FOD7	Fresh – Moist Lowland Deciduous Forest		6	Unknown, requires Evaluation of Significance
23	0.9		WT – 69 UL – 1 AR – 106 OL – overlapping BO – 31	FOD3	Dry – Fresh Poplar – White Birch Deciduous Forest		6	Unknown, requires Evaluation of Significance
24	0.4		OL – overlapping	FOD7	Fresh – Moist Lowland Deciduous Forest		6	Unknown, requires Evaluation of Significance

Legend: WT: Wind Turbine; UL: Underground Transmission Line; AR: Access Road, OL: Overhead Transmission Line, BO: Balance of Operations, BU: Building/Substation

Table 4.1: Wetland Characteristics and Ecological Functions Assessment

Feature #	Figure #	Size (ha)	Wetland Type	Site Type	Vegetation Communities	Proximity to other wetlands (m)	Interspersion (estimate)	Flood Attenuation (ha)	Open Water Types	Water Quality Improvement (short term)	Water Quality Improvement (long term nutrient trap)	Water Quality Improvement (groundwater discharge)	Shoreline Erosion	Groundwater Recharge	Summary of Hydrology	Rare Species	Significant Features	Fish Habitat
006a	9	2.1	Swamp	Palustrine	h, ts, gc	834	low	11	No open water	Intermittent inflow; over 50% agricultural landscape; high proportion of live herbs.	Swamp with <50% coverage of organic soil	No evidence of discharge observed	Not applicable	Palustrine feature with clay-till soil	Palustrine wetland on clay-till soil with intermittent inflow, situated in a predominantly agricultural watershed. No evidence of groundwater discharge. Data based on surveys, air photo interpretation, and soil mapping.	None known to be present	None known to be present	Absent
006b	9	0.4	Swamp	Palustrine	h,gc	834	low	52	No open water	Intermittent inflow; over 50% agricultural landscape; high proportion of live herbs.	Swamp with <50% coverage of organic soil	No evidence of discharge observed	Not applicable	Palustrine feature with clay-till soil	Palustrine wetland on clay-till soil with intermittent inflow, situated in a predominantly agricultural watershed. No evidence of groundwater discharge. Data based on surveys, air photo interpretation, and soil mapping.	None known to be present	None known to be present	Absent
007a	9	0.9	Swamp	Palustrine	h, gc	805	low	92	No open water	Intermittent inflow; over 50% agricultural landscape; high proportion of live herbs.	Swamp with <50% coverage of organic soil	No evidence of discharge observed	Not applicable	Palustrine feature with clay-till soil	Palustrine wetland on clay-till soil with intermittent inflow, situated in a predominantly agricultural watershed. No evidence of groundwater discharge. Data based on surveys, air photo interpretation, and soil mapping.	None known to be present	None known to be present	Absent
009a	9	2.9	Swamp	Palustrine	h, gc	55	low	50	No open water	Intermittent inflow; over 50% agricultural landscape; high proportion of live herbs.	Swamp with <50% coverage of organic soil	No evidence of discharge observed	Not applicable	Palustrine feature with clay-till soil	Palustrine wetland on clay-till soil with intermittent inflow, situated in a predominantly agricultural watershed. No evidence of groundwater discharge. Data based on surveys, air photo interpretation, and soil mapping.	None known to be present	None known to be present	Absent
010a	9	2.4	Swamp	Palustrine	h, gc	55	low	50	No open water	Intermittent inflow; over 50% agricultural landscape; high proportion of live herbs.	Swamp with <50% coverage of organic soil	No evidence of discharge observed	Not applicable	Palustrine feature with clay-till soil	Palustrine wetland on clay-till soil with intermittent inflow, situated in a predominantly agricultural watershed. No evidence of groundwater discharge. Data based on surveys, air photo interpretation, and soil mapping.	None known to be present	None known to be present	Absent
016a	9	1.8	Swamp	Palustrine	h, ts, gc	190	low	14	No open water	Intermittent inflow; over 50% agricultural landscape; high proportion of live herbs.	Swamp with <50% coverage of organic soil	No evidence of discharge observed	Not applicable	Palustrine feature with clay-till soil	Palustrine wetland on clay-till soil with intermittent inflow, situated in a predominantly agricultural watershed. No evidence of groundwater discharge. Data based on surveys, air photo interpretation, and soil mapping.	None known to be present	None known to be present	Absent
025a	8	1.6	Swamp	Palustrine	h,gc	180	low	2	No open water	Intermittent inflow; over 50% agricultural landscape; high proportion of live herbs.	Swamp with <50% coverage of organic soil	No evidence of discharge observed	Not applicable	Palustrine feature with clay soil	Palustrine wetland on clay soil with intermittent inflow, situated in a predominantly agricultural watershed. No evidence of groundwater discharge. Data based on surveys, air photo interpretation, and soil mapping.	None known to be present	None known to be present	Absent

Table 4.1: Wetland Characteristics and Ecological Functions Assessment

Feature #	Figure #	Size (ha)	Wetland Type	Site Type	Vegetation Communities	Proximity to other wetlands (m)	Interspersion (estimate)	Flood Attenuation (ha)	Open Water Types	Water Quality Improvement (short term)	Water Quality Improvement (long term nutrient trap)	Water Quality Improvement (groundwater discharge)	Shoreline Erosion	Groundwater Recharge	Summary of Hydrology	Rare Species	Significant Features	Fish Habitat
025b	8	1.6	Swamp	Palustrine	h,ts,gc	180	low	1	No open water	Intermittent inflow; over 50% agricultural landscape; high proportion of live herbs.	Swamp with <50% coverage of organic soil	No evidence of discharge observed	Not applicable	Palustrine feature with clay soil	Palustrine wetland on clay soil with intermittent inflow, situated in a predominantly agricultural watershed. No evidence of groundwater discharge. Data based on surveys, air photo interpretation, and soil mapping.	None known to be present	None known to be present	Absent
026a	7	10.9	Swamp	Palustrine	h,ts	511	moderate	3	No open water	Intermittent inflow; over 50% agricultural landscape; high proportion of live herbs.	Swamp with <50% coverage of organic soil	No evidence of discharge observed	Not applicable	Palustrine feature with clay soil	Palustrine wetland on clay soil with intermittent inflow, situated in a predominantly agricultural watershed. No evidence of groundwater discharge. Data based on surveys, air photo interpretation, and soil mapping.	None known to be present	None known to be present	Absent
027a	7	3.4	Swamp	Palustrine	h,ts,gc	1542	low	675	No open water	Intermittent inflow; over 50% agricultural landscape; high proportion of live herbs.	Swamp with <50% coverage of organic soil	No evidence of discharge observed	Not applicable	Palustrine feature with clay soil	Palustrine wetland on clay soil with intermittent inflow, situated in a predominantly agricultural watershed. No evidence of groundwater discharge. Data based on surveys, air photo interpretation, and soil mapping.	None known to be present	None known to be present	Absent
029a	8	6.5	Swamp	Riverine	h	1505	moderate	932	No open water	Permanent inflow; over 50% agricultural landscape; high proportion of live herbs.	Swamp with <50% coverage of organic soil	No evidence of discharge observed	Not applicable	Riverine feature with bottomland soil of sand, silt or clay.	Riverine wetland on bottomland soil with permanent inflow situated in a predominantly agricultural watershed. No evidence of groundwater discharge. Data based on surveys, air photo interpretation, and soil mapping.	None known to be present	None known to be present	Present
031a	6	16.9	Lowland fores	Riverine	h	800	low	40	No open water	Permanent inflow; over 50% agricultural landscape; high proportion of live herbs.	Swamp with <50% coverage of organic soil	No evidence of discharge observed	Not applicable	Riverine feature with bottomland soil of sand, silt or clay.	Riverine wetland on bottomland soil with permanent inflow situated in a predominantly agricultural watershed. No evidence of groundwater discharge. Data based on surveys, air photo interpretation, and soil mapping.	None known to be present	None known to be present	Present
035a	6	1.2	Swamp	Palustrine	h, gc	682	low	15	No open water	Intermittent inflow; over 50% agricultural landscape; high proportion of live herbs.	Swamp with <50% coverage of organic soil	No evidence of discharge observed	Not applicable	Palustrine feature with clay-till soil	Palustrine wetland on clay-till soil with intermittent inflow, situated in a predominantly agricultural watershed. No evidence of groundwater discharge. Data based on surveys, air photo interpretation, and soil mapping.	None known to be present	None known to be present	Absent
037a	6	1.9	Swamp	Palustrine	h,ts,gc	682	low	30	No open water	Intermittent inflow; over 50% agricultural landscape; high proportion of live herbs.	Swamp with <50% coverage of organic soil	No evidence of discharge observed	Not applicable	Palustrine feature with clay-till soil	Palustrine wetland on clay-till soil with intermittent inflow, situated in a predominantly agricultural watershed. No evidence of groundwater discharge. Data based on surveys, air photo interpretation, and soil mapping.	None known to be present	None known to be present	Absent

Table 4.1: Wetland Characteristics and Ecological Functions Assessment

Feature #	Figure #	Size (ha)	Wetland Type	Site Type	Vegetation Communities	Proximity to other wetlands (m)	Interspersion (estimate)	Flood Attenuation (ha)	Open Water Types	Water Quality Improvement (short term)	Water Quality Improvement (long term nutrient trap)	Water Quality Improvement (groundwater discharge)	Shoreline Erosion	Groundwater Recharge	Summary of Hydrology	Rare Species	Significant Features	Fish Habitat
038a	5	0.9	Swamp	Palustrine	h, ne, gc	497	low	141	No open water	Intermittent inflow; over 50% agricultural landscape; high proportion of live herbs.	Swamp with <50% coverage of organic soil	No evidence of discharge observed	Not applicable	Palustrine feature with clay-till soil	Palustrine wetland on clay-till soil with intermittent inflow, situated in a predominantly agricultural watershed. No evidence of groundwater discharge. Data based on surveys, air photo interpretation, and soil mapping.	None known to be present	None known to be present	Absent
039a	5	3.9	Swamp	Palustrine	h, ne, gc	497	low	13	No open water	Intermittent inflow; over 50% agricultural landscape; high proportion of live herbs.	Swamp with <50% coverage of organic soil	No evidence of discharge observed	Not applicable	Palustrine feature with clay-till soil	Palustrine wetland on clay-till soil with intermittent inflow, situated in a predominantly agricultural watershed. No evidence of groundwater discharge. Data based on surveys, air photo interpretation, and soil mapping.	None known to be present	None known to be present	Absent
040a	5	14.6	Swamp	Riverine	h,gc	478	moderate	4735	No open water	Permanent inflow; over 50% agricultural landscape; high proportion of live herbs.	Swamp with <50% coverage of organic soil	No evidence of discharge observed	Not applicable	Riverine feature with bottomland soil (Sand, silt or clay) and clay soil	Riverine wetland on bottomland soil with permanent inflow situated in a predominantly agricultural watershed. No evidence of groundwater discharge. Data based on surveys, air photo interpretation, and soil mapping.	None known to be present	None known to be present	Present
041a	5	65.7	Swamp	Palustrine	h, ts, gc, ne	478	moderate	5572	No open water	Intermittent inflow; over 50% agricultural landscape; high proportion of live herbs.	Swamp and marsh with <50% coverage of organic soil	No evidence of discharge observed	Not applicable	Palustrine feature with bottomland soil (Sand, silt or clay) and clay soil	Palustrine wetland on bottomland soil with intermittent inflow, situated in a predominantly agricultural watershed. No evidence of groundwater discharge. Data based on surveys, air photo interpretation, and soil mapping.	None known to be present	None known to be present	Absent
047a	5	2.9	Swamp	Palustrine	h, ts, gc	825	moderate	3637	No open water	Intermittent inflow; over 50% agricultural landscape; high proportion of live herbs.	Swamp with <50% coverage of organic soil	No evidence of discharge observed	Not applicable	Palustrine feature with clay soil	Palustrine wetland on clay soil with intermittent inflow, situated in a predominantly agricultural watershed. No evidence of groundwater discharge. Data based on surveys, air photo interpretation, and soil mapping.	None known to be present	None known to be present	Absent
050a	3	1.3	Lowland fores	Riverine	h	1600	low	10	No open water	Permanent inflow; over 50% agricultural landscape; high proportion of live herbs.	Swamp with <50% coverage of organic soil	No evidence of discharge observed	Not applicable	Riverine feature with bottomland soil (Sand, silt or clay) and clay soil	Riverine wetland on bottomland soil with permanent inflow situated in a predominantly agricultural watershed. No evidence of groundwater discharge. Data based on surveys, air photo interpretation, and soil mapping.	None known to be present	None known to be present	Present
052a	3	15.9	Swamp	Palustrine	h	814	low	53	No open water	Intermittent inflow; over 50% agricultural landscape; high proportion of live herbs.	Swamp and marsh with <50% coverage of organic soil	No evidence of discharge observed	Not applicable	Palustrine feature with clay soil	Palustrine wetland on clay soil with intermittent inflow, situated in a predominantly agricultural watershed. No evidence of groundwater discharge. Data based on surveys, air photo interpretation, and soil mapping.	None known to be present	None known to be present	Absent

Table 4.1: Wetland Characteristics and Ecological Functions Assessment

Feature #	Figure #	Size (ha)	Wetland Type	Site Type	Vegetation Communities	Proximity to other wetlands (m)	Interspersion (estimate)	Flood Attenuation (ha)	Open Water Types	Water Quality Improvement (short term)	Water Quality Improvement (long term nutrient trap)	Water Quality Improvement (groundwater discharge)	Shoreline Erosion	Groundwater Recharge	Summary of Hydrology	Rare Species	Significant Features	Fish Habitat
053a	3	4.3	Lowland fores	Riverine	h	1000	low	20	No open water	Permanent inflow; over 50% agricultural landscape; high proportion of live herbs.	Swamp with <50% coverage of organic soil	No evidence of discharge observed	Not applicable	Riverine feature with bottomland soil (Sand, silt or clay) and clay soil	Riverine wetland on bottomland soil with permanent inflow situated in a predominantly agricultural watershed. No evidence of groundwater discharge. Data based on surveys, air photo interpretation, and soil mapping.	None known to be present	None known to be present	Present
056a	2	21.3	Swamp	Palustrine	h,ts,ls,gc	32	low	286	No open water	Intermittent inflow; over 50% agricultural landscape; high proportion of live herbs.	Swamp with <50% coverage of organic soil	No evidence of discharge observed	Not applicable	Palustrine feature with loam soil	Palustrine wetland on loam soil with intermittent inflow, situated in a predominantly agricultural watershed. No evidence of groundwater discharge. Data based on surveys, air photo interpretation, and soil mapping.	None known to be present	None known to be present	Absent
057a (Uttoxeter Locally-Sig Swamp)	2	12.6	Swamp	Palustrine	h,ts,gc	32	low	69	No open water	Intermittent inflow; over 50% agricultural landscape; high proportion of live herbs.	Swamp with <50% coverage of organic soil	No evidence of discharge observed	Not applicable	Palustrine feature with loam and sandy loam soils	Palustrine wetland on loam and sandy loam soils with intermittent inflow, situated in a predominantly agricultural watershed. No evidence of groundwater discharge. Data based on surveys, air photo interpretation, and soil mapping.	None known to be present	None known to be present	Absent
058a	2	15.8	Lowland forest	Riverine	h	300	low	45	No open water	Permanent inflow; over 50% agricultural landscape; high proportion of live herbs.	Swamp with <50% coverage of organic soil	No evidence of discharge observed	Not applicable	Riverine feature with bottomland soil (Sand, silt or clay) and clay soil	Riverine wetland on bottomland soil with permanent inflow situated in a predominantly agricultural watershed. No evidence of groundwater discharge. Data based on surveys, air photo interpretation, and soil mapping.	None known to be present	None known to be present	Present
062a	1	4.7	Swamp, Marsh	Riverine	h,ts,gc,ne	644	moderate	3395	No open water	Permanent inflow; over 50% agricultural landscape; high proportion of live herbs.	Swamp and marsh with <50% coverage of organic soil	No evidence of discharge observed	Not applicable	Riverine feature with clay soil	Riverine wetland on clay soil with permanent inflow situated in a predominantly agricultural watershed. No evidence of groundwater discharge. Data based on surveys, air photo interpretation, and soil mapping.	None known to be present	None known to be present	Present
074a	2	19.9	Swamp	Riverine	h, ts	1495	Low	300	No open water	Permanent inflow; over 50% agricultural landscape; high proportion of live herbs.	Swamp with <50% coverage of organic soil	No evidence of discharge observed	Not applicable	Riverine feature with clay soil	Riverine wetland on clay soil with permanent inflow situated in a predominantly agricultural watershed. No evidence of groundwater discharge. Data based on surveys, air photo interpretation, and soil mapping.	None known to be present	None known to be present	Present

Table 4.2: Woodlands: Evaluation of Significance

Feature #	Criteria							Significant (Y/N)
	Size (ha) ¹	Interior habitat ²	Proximity to other significant habitats ³	Linkages ⁴	Water protection ⁵	Diversity ⁶	Uncommon Characteristics ⁷	
3	4.4	No	Yes	No	Yes	Not assessed	No	Yes
5	8.5	Yes	No	No	Yes	Yes	No	Yes
6	38.1	Yes	Yes	No	Yes	Yes	No	Yes
7	15.5	Yes	Yes	No	Yes	Yes	No	Yes
9	3.9	No	No	No	No	No	No	No
10	7.7	No	No	No	Yes	No	No	Yes
16	1.8	No	No	No	No	No	No	No
17	2.3	No	Yes	No	Yes	Yes	No	Yes
18	10.6	Yes	No	No	No	Yes	No	Yes
19	24.7	Yes	No	No	No	Yes	No	Yes
20	3.2	No	Yes	Yes	Yes	Not assessed	No	Yes
23	8.9	Yes	Yes	No	Yes	No	No	Yes
24	1.9	No	No	No	No	No	No	No
25	22.6	Yes	Yes	No	Yes	No	No	Yes
26	10.9	Yes	Yes	No	Yes	No	No	Yes
27	47.7	Yes	No	No	No	No	No	Yes
28	6.3	Yes	Yes	No	Yes	No	No	Yes
29	18.8	Yes	Yes	No	Yes	No	No	Yes
30	5.2	No	Yes	No	Yes	Yes	No	Yes
31	16.9	Yes	Yes	No	Yes	Yes	No	Yes
32	15.0	Yes	Yes	No	Yes	Yes	No	Yes
33	10.8	No	Yes	No	Yes	No	No	Yes
34	8.4	Yes	Yes	No	Yes	Yes	No	Yes
35	13.6	Yes	Yes	No	Yes	No	No	Yes
36	3.2	No	Yes	No	Yes	No	No	Yes
37	7.2	Yes	Yes	No	Yes	Yes	No	Yes
38	0.9	No	No	No	No	No	No	No
39	3.9	No	Yes	No	Yes	No	No	Yes
40	15.3	Yes	Yes	No	Yes	No	No	Yes
41	72.3	Yes	Yes	No	Yes	No	No	Yes
45	70.3	Yes	Yes	Yes	Yes	No	No	Yes
47	50.5	No	Yes	No	Yes	Yes	No	Yes
48	31.1	Yes	Yes	No	Yes	Yes	No	Yes
50	1.3	No	Yes	No	Yes	No	No	Yes
51	54.0	Yes	Yes	No	Yes	No	No	Yes
52	15.9	Yes	No	No	No	No	No	Yes
53	52.5	Yes	Yes	No	Yes	Yes	Yes	Yes
55	79.3	Yes	Yes	No	Yes	No	No	Yes

Feature #	Criteria							Significant (Y/N)
	Size (ha) ¹	Interior habitat ²	Proximity to other significant habitats ³	Linkages ⁴	Water protection ⁵	Diversity ⁶	Uncommon Characteristics ⁷	
56	41.0	Yes	Yes	No	Yes	Yes	No	Yes
57	19.8	Yes	Yes	No	Yes	Yes	No	Yes
58	14.1	Yes	Yes	No	Yes	No	No	Yes
62	75.6	Yes	Yes	No	Yes	Yes	Yes	Yes
74	19.9	Yes	Yes	No	No	Yes	No	Yes
75	9.6	Yes	No	No	No	Yes	No	Yes
76	0.4	No	No	No	No	No	No	No
77	1.2	No	Yes	No	Yes	No	No	Yes

¹ Considered significant if >4 ha based on the woodland size criteria standards within the natural Heritage Assessment Guide for Renewable Energy Projects

² Considered significant if any interior habitat is present (i.e., woodland >100 m from any edge)

³ Considered significant if located within 30 m from another natural feature (>1 ha) or fish habitat

⁴ Considered significant if located within 120 m of two other significant features, and >1ha

⁵ Considered significant if located within 50m of groundwater discharge, headwater area, watercourse or fish habitat, and >0.5 ha

⁶ Considered significant if contains native, naturally occurring vegetation types and >1ha – could not be assessed without full access or nearby road access

⁷ Considered significant if contain a rare (S1-S3) vegetation community, rare plant habitat, or large old trees (>10 trees/ha >100 years or >40 cm DBH)

Table 5.1: Summary of the negative environmental effects of the project during the construction and decommissioning phases

Unique Feature ID	Potential Negative Environmental Effects	Performance Objective	Mitigation Strategy	Construction Monitoring Plan		Contingency Measure
				Monitoring Locations	Frequency of Monitoring	
Significant Woodlands (directly impacted: Features 3, 6, 7, 10, 18, 19, 20 and 23)	Accidental damage to critical root zones outside of those proposed for removal AND Accidental loss of trees or damage to limbs outside of those proposed for removal	Prevent damage to the critical root zones outside of those proposed for removal AND Prevent accidental loss of trees or damage to limbs outside of those proposed for removal	Clearly delineate work area, prior to any construction, using a barrier such as a silt fence to avoid accidental encroachment on the feature that would lead to damage of trees and root zones. Work areas are to correspond to those detailed in Figure 4.1 to 4.10. For those work areas within 1m of a woodland, silt fencing is to be placed at a minimum, at the edge of the woodland as defined by the outer edge of the canopy (i.e. drip line). Silt barriers will be erected along woodland and wetland boundaries located within 30m of construction areas. Workers will be advised not to trespass beyond the boundary of the marked area	-check silt fencing along the periphery of significant woodlands to make sure it is fully functional	-daily when construction activities occur within the immediate vicinity of significant woodlands and when inclement weather is anticipated (i.e. within 24 hrs prior to rain events)	Any tree limbs or root zones that are accidentally damaged by construction activities will be pruned using proper arboricultural techniques
			Erect silt fencing to prevent sedimentation within critical root zones (as detailed in the above the mitigation strategy) Implement a sedimentation and erosion control plan. See Section 5.3.2 for full sediment and erosion control details. Any issues will be resolved within 48 hrs	-check silt fencing along the periphery of feature significant woodlands to make sure it is fully functional	-daily when construction activities occur within the immediate vicinity of significant woodlands and when inclement weather is anticipated (i.e. within 24 hrs prior to rain events)	Any build up of sediment beyond the silt fence will be cleaned up and removed to the adjacent agricultural field, over 30 m from any natural feature or watercourse, to avoid risk of further spread of sediment.
			Stockpile materials >30m from woodland edge. Where this is not possible stockpiles will be located outside of the feature and at a minimum, at the edge of the woodland as defined by the outer edge of the canopy (i.e. drip line). Stockpiles will be covered when not in use, especially during rain events or high wind events.	-all stockpiles within 30m of significant woodlands (if applicable)	-all covers on stockpiles to be put in place and checked when inclement weather events anticipated (i.e. high winds, rain events)	Any tree limbs or root zones that are accidentally damaged by construction activities will be pruned using proper arboricultural techniques Sediment will be removed if it is found accumulate within the root zones of significant woodlands
			Re-vegetate disturbed areas with fast growing native species as soon as construction activity within the disturbed areas is complete and within the appropriate growing season, erosion control blankets may be used if conditions aren't suitable for re-vegetation.	-check that seed grows in areas of disturbance within one growing season	-once after seeding area	-replant areas where seed does not grow to ensure vegetation establishes within the growing season
			All maintenance activities, vehicle refueling or washing and chemical storage will be located more than 30m from significant woodlands	Not required	Not required	Keep emergency spill kits on site Implement MOE spill action plan if necessary Dispose of waste material by authorized and approved offsite vendors
			Construction activities will occur during daylight hours.	-Not required	-Not required	-Not required
			Construction timing window will be implemented. These include: Breeding bird habitat: Timing Window May 1 – July 31	-Not required	-Not required	-Not required
			Where directional drilling will occur, pits must occur >30m from wetland edge or other significant natural feature, whichever is greater.	-check that pits where the drilling takes place is	-before, during, and after drilling	In sediment and erosion plan, create contingency plan in

Table 5.1: Summary of the negative environmental effects of the project during the construction and decommissioning phases

Unique Feature ID	Potential Negative Environmental Effects	Performance Objective	Mitigation Strategy	Construction Monitoring Plan		Contingency Measure
				Monitoring Locations	Frequency of Monitoring	
				at least 30 m from the wetland edge		case of frac-out
			Implement infiltration (i.e. minimize paved surfaces and design roads to promote infiltration) techniques to the maximum extent possible to avoid changes in soil moisture and compaction	Not required	Not required	Not required
	Loss of species diversity, by reducing or fragmenting available habitat (especially for species with low mobility)	Minimize loss of forest cover	<p>Create and implement a Natural Areas Management Strategy as described in Section 5.2.1.2. The strategy will include:</p> <ul style="list-style-type: none"> A Replanting and Restoration Plan. Replanting of vegetation removed in significant woodlands. Transplanting plant species of conservation concern (if required). All disturbed areas of the construction site will be restored to preconstruction grades as soon as conditions allow. An <u>Invasive Species Management Plan</u> will be created for the Project in consultation with MNR with the goal of managing spread of the invasive species in areas of construction related disturbance. A Vegetation Monitoring Plan will be created for the project to survey pre-construction to assist in the development of the Replanting and Restoration Plan and the Invasive Species Management Plan and to monitor post construction the success of such Plans. 	<p>Pre-construction monitoring within features listed.</p> <p>Not required during construction</p>	<p>Pre-construction Survey (baseline):</p> <ul style="list-style-type: none"> May-August 2013 <p>Not required during construction</p>	<p>Not required during construction</p> <p>Upon submission of annual post-construction monitoring reports to MNR it will be determined in consultation with MNR whether contingency measures are required and the contingency measures to be undertaken</p>
	Introduction or spread of invasive species	No introduction or spread of invasive species	<p>Create and implement a Natural Areas Management Strategy as described in Section 5.2.1.2. The strategy will include:</p> <ul style="list-style-type: none"> A Replanting and Restoration Plan. Replanting of vegetation removed in significant woodlands. Transplanting plant species of conservation concern (if required). All disturbed areas of the construction site will be restored to preconstruction grades as soon as conditions allow. An <u>Invasive Species Management Plan</u> will be created for the Project in consultation with MNR with the goal of managing spread of the invasive species in areas of construction related disturbance. A Vegetation Monitoring Plan will be created for the project to survey pre-construction to assist in the development of the Replanting and Restoration Plan and the Invasive Species Management Plan and to monitor post construction the success of such Plans. 	<p>Pre-construction monitoring within features listed.</p> <p>Not required during construction</p>	<p>Pre-construction Survey (baseline):</p> <ul style="list-style-type: none"> May-August 2013 <p>Not required during construction</p>	<p>Not required during construction</p> <p>Upon submission of annual post-construction monitoring reports to MNR it will be determined in consultation with MNR whether contingency measures are required and the contingency measures to be undertaken</p>
<p>Significant Wetlands</p> <p>Significant Wildlife Habitat</p> <p>Hooded Warbler Habitat (Features 45, 48, 55, 56 and 62)**</p> <p>Wood Thrush Habitat (Features 3, 6, 10, 18, 19, 23, 26, 28, 30, 32, 45, 48, 52, 55, 56, 58 and 62)**</p> <p>Amphibian Breeding Habitat (Features 6, 7, 25, 26, 29, 37, 47,</p>	Degradation of significant wildlife habitat through sedimentation or contamination or changes in surface water flow patterns which impacts vegetation growth	<p>Prevent erosion and sedimentation</p> <p>AND</p> <p>Prevent contamination caused by spills</p> <p>AND</p> <p>Maintain existing surface water flow patterns</p>	<p>Absolutely no encroachment into the wetland is permitted.</p> <p>Clearly delineate work area using a barrier such as a silt fence to avoid accidental encroachment on the feature that would lead to damage of vegetation.</p> <p>Work areas are to correspond to those detailed in Figure 4.1 to 4.10.</p> <p>For those work areas within 1m of a wetland, silt fencing is to be placed at a minimum, at the edge of the wetland as defined by the 50/50 wetland vegetation rule (OWES).</p> <p>Silt barriers will be erected along woodland and wetland boundaries located within 30m of construction areas.</p> <p>Workers will be advised not to trespass beyond the boundary of the marked area</p> <p>Suspend work if high runoff volume is noted or excessive sediment discharge occurs</p> <p>Erect silt fencing to prevent sedimentation within critical root zones</p>	<p>-check silt fencing along the periphery of feature wetlands</p>	<p>-daily when construction activities occur within the immediate vicinity of wetlands, including directional drilling underneath, and when inclement weather is anticipated (i.e. within 24 hrs prior to rain events)</p>	<p>Not required</p>
				-check silt fencing along the periphery of each	-daily when construction activities occur within the immediate vicinity	Any build up of sediment beyond the silt fence will be

Table 5.1: Summary of the negative environmental effects of the project during the construction and decommissioning phases

Unique Feature ID	Potential Negative Environmental Effects	Performance Objective	Mitigation Strategy	Construction Monitoring Plan		Contingency Measure
				Monitoring Locations	Frequency of Monitoring	
56 and 57)** Deer wintering area (Feature 62)			Implement a sedimentation and erosion control plan Any issues will be resolved in a timely fashion	wetland to make sure it is fully functional	of wetlands and when inclement weather is anticipated (i.e. within 24 hrs prior to rain events)	cleaned up and removed to the adjacent agricultural field, over 30 m from any natural feature or watercourse, to avoid risk of further spread of sediment.
			Construction activities will occur during daylight hours.	-Not required	-Not required	-Not required
			Where culverts are proposed within 30 m of a significant natural feature, enhanced sediment and erosion control measure (i.e. straw bales, double rows of sediment fencing, check dams) will be installed as added protection to filter runoff and further minimize potential sedimentation within the downstream features (wetland, woodland).	-check that culverts are functioning and not blocked	-daily when construction activities occur within the immediate vicinity of wetlands, including directional drilling underneath, and when inclement weather is anticipated (i.e. within 24 hrs prior to rain events)	Any build up of sediment beyond the silt fence will be cleaned up and removed to the adjacent agricultural field, over 30 m from any natural feature or watercourse, to avoid risk of further spread of sediment.
			Stockpile materials >30m from wetland edge. Where this is not possible stockpiles will be covered when not in use, especially during rain events or high wind events.	-all stockpiles within 30m of wetlands (if applicable)	-all covers on stockpiles to be put in place and checked when inclement weather events anticipated (i.e. high winds, rain events)	Sediment will be removed if it is found to accumulate
			Re-vegetate disturbed areas with fast growing native species as soon as construction activity within the disturbed areas is complete and within the appropriate growing season, erosion control blankets may be used if conditions aren't suitable for re-vegetation.	-check that seed grows in areas of disturbance within one growing season	-once after seeding area	-replant areas where seed does not grow to ensure vegetation establishes within the growing season
			All maintenance activities, vehicle refueling or washing and chemical storage will be located more than 30m from wetlands	Not required	Not required	Keep emergency spill kits on site Implement MOE spill action plan if necessary Dispose of waste material by authorized and approved offsite vendors
			Where directional drilling will occur, pits must occur >30m from wetland edge or other significant natural feature, whichever is greater.	-check that pits where the drilling takes place is at least 30 m from the wetland edge	-before, during, and after drilling	In sediment and erosion plan, create contingency plan in case of frac-out
			Limit changes in land contours to ensure natural drainage patterns are maintained.	-upon completion of grading and after rain event ensure that surface water drainage patterns consistent with drainage patterns that occurred before grading	-once post-grading activity and after rain event	Adjust grading to achieve natural drainage patterns
Significant Wetlands	Degradation of wetland through changes in water flow	Prevent contamination caused by spills AND Maintain existing surface water flow patterns	Stockpile materials >30m from wetland edge. Where this is not possible stockpiles will be covered when not in use, especially during rain events or high wind events. Suspend work if high runoff volume is noted or excessive sediment discharge occurs	-all stockpiles within 30m of wetlands (if applicable)	-all covers on stockpiles to be put in place and checked when inclement weather events anticipated (i.e. high winds, rain events)	Sediment will be removed if it is found to accumulate
			Construction activities will occur during daylight hours.	-Not required	-Not required	-Not required

Table 5.1: Summary of the negative environmental effects of the project during the construction and decommissioning phases

Unique Feature ID	Potential Negative Environmental Effects	Performance Objective	Mitigation Strategy	Construction Monitoring Plan		Contingency Measure
				Monitoring Locations	Frequency of Monitoring	
			Where culverts are proposed within 30 m of a significant natural feature, enhanced sediment and erosion control measure (i.e. straw bales, double rows of sediment fencing, check dams) will be installed as added protection to filter runoff and further minimize potential sedimentation within the downstream features (wetland, woodland).	-check that culverts are functioning and not blocked	-daily when construction activities occur within the immediate vicinity of wetlands, including directional drilling underneath, and when inclement weather is anticipated (i.e. within 24 hrs prior to rain events)	Any build-up of sediment beyond at the culvert will be cleaned up and removed to avoid risk of further spread of sediment into the feature.
			All maintenance activities, vehicle refueling or washing and chemical storage will be located more than 30m from wetlands	Not required	Not required	Keep emergency spill kits on site Implement MOE spill action plan if necessary Dispose of waste material by authorized and approved offsite vendors
			Re-vegetate disturbed areas with fast growing native species as soon as construction activity within the disturbed areas is complete and within the appropriate growing season, erosion control blankets may be used if conditions aren't suitable for re-vegetation.	-check that seed grows in areas of disturbance within one growing season	-once after seeding area	-replant areas where seed does not grow to ensure vegetation establishes within the growing season
Significant Wildlife Habitat	Habitat avoidance/disturbance caused by noise and dust	Prevent habitat avoidance/disturbance of caused by noise and dust generation, especially during sensitive breeding season	Construction timing window will be implemented. These include: Deer yarding: No construction between Dec 1st through April 15th when the snow depth is greater than 20cm or there is evidence of yarding. In years where environmental conditions are not favorable for yarding, MNR will be contacted to determine if construction activities may proceed between Dec 1st and April 15th. Amphibian breeding: Timing Window for work within 120m of habitat: Daylight hours between April 1 and June 30 (for significant frog breeding habitats) or between March 15 and April 30 (for significant salamander breeding habitat). Hooded Warbler and Wood Thrush: Timing Window for work within 120m of habitat: May 1 – July 31	-Not required	-Not required	-Not required
Hooded Warbler Habitat (Features 45, 48, 55, 56 and 62)**						
Wood Thrush Habitat (Features 3, 6, 10, 18, 19, 23, 26, 28, 30, 32, 45, 48, 52, 55, 56, 58 and 62)**						
Amphibian Breeding Habitat (Features 6, 7, 25, 26, 29, 37, 47, 56 and 57)**			Construction activities will occur during daylight hours.	-Not required	-Not required	-Not required
Deer wintering yard (Feature 62)			Implement standard construction site best management practices to prevent fugitive dust generation and off site transport across the project location	-visual monitoring of visible dust plumes during construction throughout construction site	-ongoing	-Not required
Significant Plant Habitat	Species removal	Prevent species loss	Construction timing window: If a species is found in these habitats, the individual plants would be transplanted to suitable nearby habitats at species-appropriate times by qualified botanists. Prior to this transplantation, the MNR will be consulted for approval. Create and implement a Natural Areas Management Strategy as described in Section 5.2.1.2. The strategy will include: <ul style="list-style-type: none"> A Replanting and Restoration Plan. Replanting of vegetation removed in significant woodlands. Transplanting plant species of conservation concern (if required). All disturbed areas of the construction site will be restored to preconstruction grades as soon as conditions allow. 	Pre-construction monitoring within features listed. Not required during construction	Pre-construction Survey (baseline): <ul style="list-style-type: none"> May-August 2013 Not required during construction	Not required during construction Upon submission of annual post-construction monitoring reports to MNR it will be determined in consultation with MNR whether contingency measures are required and the contingency measures to be undertaken
Plant Species of Conservation Concern habitat (Features 3, 4, 6, 7, 10, 18, 19, 20, 23 and 24)						

Table 5.1: Summary of the negative environmental effects of the project during the construction and decommissioning phases						
Unique Feature ID	Potential Negative Environmental Effects	Performance Objective	Mitigation Strategy	Construction Monitoring Plan		Contingency Measure
				Monitoring Locations	Frequency of Monitoring	
			<ul style="list-style-type: none"> An <u>Invasive Species Management Plan</u> will be created for the Project in consultation with MNR with the goal of managing spread of the invasive species in areas of construction related disturbance. A Vegetation Monitoring Plan will be created for the project to survey pre-construction to assist in the development of the Replanting and Restoration Plan and the Invasive Species Management Plan and to monitor post construction the success of such Plans. 			

**Pre-construction survey required to verify significance of this feature. If significant the following mitigation measures, monitoring plan and contingency measures will be implemented

Table 5.2: Summary of Potential Effects and Mitigation Measures for Generalized Wildlife Habitat during the Construction and Decommissioning Phases

Project Component	Project Activity	Potential Negative Effects	Mitigation Measures	Objectives, Monitoring, and Contingency Plans
Wind Turbine Erection	Clearing, grubbing, grading, and topsoil removal	<ul style="list-style-type: none"> Increased erosion and sedimentation into woodlands, wetlands, and other natural features, Soil compaction 	<ul style="list-style-type: none"> Develop and implement an erosion and sediment control plan, Utilize erosion blankets, silt fencing, straw bales, etc for construction activities within 30 m of a wetland, woodland, or water body, Maintain erosion control measures for the duration of construction or decommissioning activities, Suspend work if high runoff volume is noted or excessive sediment discharge occurs, Any stockpiled material will be stored more than 30 m from a wetland, woodland, or water body, No vehicle traffic on exposed soils, and no heavy machinery traffic on sensitive slopes 	<ul style="list-style-type: none"> Minimize direct impacts on vegetation communities and protect rare/sensitive habitats, Maintain vegetated buffers, particularly within riparian zones, Minimize the impacts of sedimentation on nearby natural features Monitor silt fencing daily when work is taking place at the location and before and after storm events
	Noise/human activity	<ul style="list-style-type: none"> Disturbance and/or mortality to local wildlife 	<ul style="list-style-type: none"> Clearly post construction speed limits 	<ul style="list-style-type: none"> Limit potential wildlife road mortalities
	Accidental damage to vegetation	<ul style="list-style-type: none"> Damage or removal of vegetation adjacent to the project location 	<ul style="list-style-type: none"> Where construction activity occurs within 30 m of a naturally vegetated feature (ie a significant woodland or wetland), the construction area should be clearly delineated with protective fencing, such as silt fencing, Damaged trees should be pruned through implementation of proper arboricultural techniques 	<ul style="list-style-type: none"> Minimize impacts to natural vegetation Monitor silt fencing daily when work is taking place at the location and before and after storm events
	Chemical spills or accidental fluid release (ie oil, gasoline, grease, etc)	<ul style="list-style-type: none"> Soil or water contamination 	<ul style="list-style-type: none"> Implement best management practices, Develop a spill response plan and train staff on appropriate procedures, Keep emergency spill kits on site, Vehicle washing, refueling stations, and chemical storage will all be located more than 30 m from natural features or water bodies, Dispose of waste material by authorized and approved offsite vendors 	<ul style="list-style-type: none"> Minimize impacts to natural features and wildlife habitats, Avoid contamination of water or wetland features
	Dewatering activities (if necessary)	<ul style="list-style-type: none"> Reduced stream flow rate, Increased water temperature 	<ul style="list-style-type: none"> Control rate and timing of water pumping, Pump from deep wells to infiltration galleries adjacent to water bodies or wetlands or use off-site water, Do not take water during periods of extreme low 	<ul style="list-style-type: none"> Maintain ground and surface water conditions with those near pre-construction conditions

Table 5.2: Summary of Potential Effects and Mitigation Measures for Generalized Wildlife Habitat during the Construction and Decommissioning Phases				
Project Component	Project Activity	Potential Negative Effects	Mitigation Measures	Objectives, Monitoring, and Contingency Plans
			flow	
	Installation of impervious surfaces	<ul style="list-style-type: none"> • Increase surface run-off, • Changes in surface water drainage 	<ul style="list-style-type: none"> • Maintain vegetative buffers around water bodies, • Control quantity and quality of stormwater discharge using best management practices, • Minimize grading activities to maintain existing drainage patterns as much as possible 	<ul style="list-style-type: none"> • Limit disturbances to surface water drainage patterns
Temporary Access Roads, Crane Paths, and Turnaround Areas	Clearing, grubbing, grading, and topsoil removal	<ul style="list-style-type: none"> • Increased erosion and sedimentation into woodlands, wetlands, and other natural features, • Soil compaction 	<ul style="list-style-type: none"> • Develop and implement an erosion and sediment control plan, • Utilize erosion blankets, silt fencing, straw bales, etc for construction activities within 30 m of a significant wetland, woodland, or water body, • Maintain erosion control measures for the duration of construction or decommissioning activities, • Any stockpiled material will be stored more than 30 m from a wetland, woodland, or water body, • No vehicle traffic on exposed soils, or heavy machinery traffic on sensitive slopes, • Re-vegetate temporary roads to pre-construction conditions as soon as possible after construction activities are complete 	<ul style="list-style-type: none"> • Minimize direct impacts on vegetation communities and protect rare/sensitive habitats, • Maintain vegetated buffers, particularly within riparian zones, • Minimize the impacts of sedimentation on nearby natural features • Monitor silt fencing daily when work is taking place at the location and before and after storm events
	Noise/human activity	<ul style="list-style-type: none"> • Disturbance and/or mortality to local wildlife 	<ul style="list-style-type: none"> • Avoid construction or decommissioning activities during sensitive time periods (ie breeding bird season), wherever possible, • Conduct nest searches if vegetation removal will occur during the breeding bird season (May 1- July 31) • Construction and decommissioning activities within 30 m of woodlands or wetlands should occur during daylight hours, wherever possible, • Clearly post construction speed limits 	<ul style="list-style-type: none"> • Limit potential wildlife road mortalities
	Accidental damage to vegetation	<ul style="list-style-type: none"> • Damage or removal of vegetation adjacent to the project location 	<ul style="list-style-type: none"> • Where construction activity occurs within 30 m of a naturally vegetated feature (ie significant woodland or wetland), the construction area should be clearly delineated with protective fencing, such as silt fencing, 	<ul style="list-style-type: none"> • Minimize impacts to natural vegetation • Monitor silt fencing daily when work is taking place at the location and

Table 5.2: Summary of Potential Effects and Mitigation Measures for Generalized Wildlife Habitat during the Construction and Decommissioning Phases				
Project Component	Project Activity	Potential Negative Effects	Mitigation Measures	Objectives, Monitoring, and Contingency Plans
			<ul style="list-style-type: none"> Damaged trees should be pruned through implementation of proper arboricultural techniques 	before and after storm events
	Chemical spills or accidental fluid release (ie oil, gasoline, diesel fuel, grease, etc)	<ul style="list-style-type: none"> Soil or water contamination 	<ul style="list-style-type: none"> Implement best management practices, Develop a spill response plan and train staff on appropriate procedures, Keep emergency spill kits on site, Vehicle washing, refueling stations, and chemical storage will all be located more than 30 m from natural features or water bodies, Dispose of waste material by authorized and approved offsite vendors 	<ul style="list-style-type: none"> Minimize impacts to natural features and wildlife habitats, Avoid contamination of water or wetland features
	Installation of impervious surfaces	<ul style="list-style-type: none"> Increase surface run-off, Changes in surface water drainage 	<ul style="list-style-type: none"> Maintain vegetative buffers around water bodies, Control quantity and quality of stormwater discharge using best management practices, Minimize grading activities to maintain existing drainage patterns as much as possible 	<ul style="list-style-type: none"> Limit disturbances to surface water drainage patterns
Permanent Access Roads	Clearing, grubbing, grading, and topsoil removal	<ul style="list-style-type: none"> Increased erosion and sedimentation into woodlands, wetlands, and other natural features, Soil compaction 	<ul style="list-style-type: none"> Develop and implement an erosion and sediment control plan, Utilize erosion blankets, silt fencing, straw bales, etc for construction activities within 30 m of a wetland, woodland, or water body, Maintain erosion control measures for the duration of construction or decommissioning activities, Any stockpiled material will be stored more than 30 m from a wetland, woodland, or water body, No vehicle traffic on exposed soils, and no heavy machinery traffic on sensitive slopes 	<ul style="list-style-type: none"> Minimize direct impacts on vegetation communities and protect rare/sensitive habitats, Maintain vegetated buffers, particularly within riparian zones, Minimize the impacts of sedimentation on nearby natural features Monitor silt fencing daily when work is taking place at the location and before and after storm events
	Noise/human activity	<ul style="list-style-type: none"> Disturbance and/or mortality to local wildlife 	<ul style="list-style-type: none"> Avoid construction or decommissioning activities during sensitive time periods (ie breeding bird season), wherever possible, Conduct nest searches if vegetation removal will occur during the breeding bird season (May 1-July 31) 	<ul style="list-style-type: none"> Limit potential wildlife road mortalities

Table 5.2: Summary of Potential Effects and Mitigation Measures for Generalized Wildlife Habitat during the Construction and Decommissioning Phases				
Project Component	Project Activity	Potential Negative Effects	Mitigation Measures	Objectives, Monitoring, and Contingency Plans
			<ul style="list-style-type: none"> • Construction and decommissioning activities within 30 m of woodlands or wetlands should occur during daylight hours, wherever possible, • Clearly post construction speed limits 	
	Accidental damage to vegetation	<ul style="list-style-type: none"> • Damage or removal of vegetation adjacent to the project location 	<ul style="list-style-type: none"> • Where construction activity occurs within 30 m of a naturally vegetated feature (ie significant woodland or wetland), the construction area should be clearly delineated with protective fencing, such as silt fencing, • Damaged trees should be pruned through implementation of proper arboricultural techniques 	<ul style="list-style-type: none"> • Minimize impacts to natural vegetation • Monitor silt fencing daily when work is taking place at the location and before and after storm events
	Chemical spills or accidental fluid release (ie oil, gasoline, grease, etc)	<ul style="list-style-type: none"> • Soil or water contamination 	<ul style="list-style-type: none"> • Implement best management practices, • Develop a spill response plan and train staff on appropriate procedures, • Keep emergency spill kits on site, • Vehicle washing, refueling stations, and chemical storage will all be located more than 30 m from natural features or water bodies, • Dispose of waste material by authorized and approved offsite vendors 	<ul style="list-style-type: none"> • Minimize impacts to natural features and wildlife habitats, • Avoid contamination of water or wetland features
	Installation of impervious surfaces	<ul style="list-style-type: none"> • Increase surface run-off, • Changes in surface water drainage 	<ul style="list-style-type: none"> • Maintain vegetative buffers around water bodies, • Control quantity and quality of stormwater discharge using best management practices, • Minimize grading activities to maintain existing drainage patterns as much as possible 	<ul style="list-style-type: none"> • Limit disturbances to surface water drainage patterns
Underground and Overhead Transmission Lines and Cabling	Clearing, grubbing, grading, and topsoil removal	<ul style="list-style-type: none"> • Increased erosion and sedimentation into woodlands, wetlands, and other natural features 	<ul style="list-style-type: none"> • Develop and implement an erosion and sediment control plan, • Locate all entry and exit pits at least 30 m from natural features (ie woodlands, wetlands) or water bodies, • Collect drill cuttings as they are generated and placed in a soil bin or bag for off-site disposal, • Any stockpiled material will be stored more than 30 m from a wetland, woodland, or water body • Horizontal directional drill entry/exit pits should be located at least 30 m from any significant natural feature 	<ul style="list-style-type: none"> • Minimize direct impacts on vegetation communities and protect rare/sensitive habitats, • Maintain vegetated buffers, particularly within riparian zones, • Minimize the impacts of sedimentation on nearby natural features • Minimize the presence of exposed soil to reduce

Table 5.2: Summary of Potential Effects and Mitigation Measures for Generalized Wildlife Habitat during the Construction and Decommissioning Phases				
Project Component	Project Activity	Potential Negative Effects	Mitigation Measures	Objectives, Monitoring, and Contingency Plans
			<ul style="list-style-type: none"> Restore and re-vegetate entry/exit pits to pre-construction conditions as soon as possible after construction 	the potential for erosion
	Noise/human activity	<ul style="list-style-type: none"> Disturbance and/or mortality to local wildlife 	<ul style="list-style-type: none"> Avoid construction or decommissioning activities during sensitive time periods (ie breeding bird season), wherever possible, Construction and decommissioning activities within 30 m of woodlands or wetlands should occur during daylight hours, wherever possible, Restore and re-vegetate entry and exit pits to pre-construction conditions as soon as possible after construction 	<ul style="list-style-type: none"> Limit potential wildlife road mortalities
	Accidental damage to vegetation	<ul style="list-style-type: none"> Damage or removal of vegetation adjacent to the project location 	<ul style="list-style-type: none"> Where construction activity occurs within 30 m of a naturally vegetated feature (ie significant woodland or wetland), the construction area should be clearly delineated with protective fencing, such as silt fencing, Damaged trees should be pruned through implementation of proper arboricultural techniques 	<ul style="list-style-type: none"> Minimize impacts to natural vegetation Monitor silt fencing daily when work is taking place at the location and before and after storm events
	Chemical spills or accidental fluid release (ie oil, gasoline, grease, etc)	<ul style="list-style-type: none"> Soil or water contamination 	<ul style="list-style-type: none"> Implement best management practices, Develop a spill response plan and train staff on appropriate procedures, Keep emergency spill kits on site, Vehicle washing, refueling stations, and chemical storage will all be located more than 30 m from natural features or water bodies, Ensure drill depth is at an appropriate level below the watercourse to prevent 'frac-out', Drill entry and exit pits should be at least 30 m from natural features (ie significant woodland or wetland) or water bodies, Dispose of waste material by authorized and approved offsite vendors Collect horizontal directional drill cuttings as they are generated and placed in a soil bin or bag for off-site disposal 	<ul style="list-style-type: none"> Minimize impacts to natural features and wildlife habitats, Avoid contamination of water or wetland features
Operation of Substation	Clearing, grubbing, grading, and topsoil	<ul style="list-style-type: none"> Increased erosion and sedimentation into 	<ul style="list-style-type: none"> Develop and implement an erosion and sediment control plan, 	<ul style="list-style-type: none"> Minimize direct impacts on vegetation

Table 5.2: Summary of Potential Effects and Mitigation Measures for Generalized Wildlife Habitat during the Construction and Decommissioning Phases

Project Component	Project Activity	Potential Negative Effects	Mitigation Measures	Objectives, Monitoring, and Contingency Plans
	removal	woodlands, wetlands, and other natural features, • Soil compaction	<ul style="list-style-type: none"> • Utilize erosion blankets, silt fencing, straw bales, etc for construction activities within 30 m of a wetland, woodland, or water body, • Maintain erosion control measures for the duration of construction or decommissioning activities, • Suspend work if high runoff volume is noted or excessive sediment discharge occurs, • Any stockpiled material will be stored more than 30 m from a wetland, woodland, or water body, • No vehicle traffic on exposed soils, and no heavy machinery traffic on sensitive slopes 	communities and protect rare/sensitive habitats, <ul style="list-style-type: none"> • Maintain vegetated buffers, particularly within riparian zones, • Minimize the impacts of sedimentation on nearby natural features • Monitor silt fencing daily when work is taking place at the location and before and after storm events
	Noise/human activity	<ul style="list-style-type: none"> • Disturbance and/or mortality to local wildlife 	<ul style="list-style-type: none"> • Avoid construction or decommissioning activities during sensitive time periods (ie breeding bird season), wherever possible, • Construction and decommissioning activities within 30 m of woodlands or wetlands should occur during daylight hours, wherever possible, • Clearly post construction speed limits 	<ul style="list-style-type: none"> • Limit potential wildlife road mortalities
	Accidental damage to vegetation	<ul style="list-style-type: none"> • Damage or removal of vegetation adjacent to the project location 	<ul style="list-style-type: none"> • Where construction activity occurs within 30 m of a naturally vegetated feature (ie significant woodland or wetland), the construction area should be clearly delineated with protective fencing, such as silt fencing, • Damaged trees should be pruned through implementation of proper arboricultural techniques 	<ul style="list-style-type: none"> • Minimize impacts to natural vegetation • Monitor silt fencing daily when work is taking place at the location and before and after storm events
	Chemical spills or accidental fluid release (ie oil, gasoline, grease, etc)	<ul style="list-style-type: none"> • Soil or water contamination 	<ul style="list-style-type: none"> • Implement best management practices, • Develop a spill response plan and train staff on appropriate procedures, • Keep emergency spill kits on site, • Vehicle washing, refueling stations, and chemical storage will all be located more than 30 m from natural features or water bodies, • Dispose of waste material by authorized and approved offsite vendors 	<ul style="list-style-type: none"> • Minimize impacts to natural features and wildlife habitats, • Avoid contamination of water or wetland features

Table 5.3. Summary of the Environmental Effects Monitoring Plan for significant/provincially significant natural features in and within 120 m

Unique Feature ID	Potential Negative Environmental Effects	Performance Objective	Mitigation Strategy	Environmental Effects Monitoring Plan					Contingency Measure
				Methodology	Monitoring Locations	Frequency and Duration of Sample Collection	Technical and Statistical Value of Data	Reporting Requirements	
<p>Significant Woodlands</p> <p>(directly impacted: Features 3, 6, 7, 10, 18, 19, 20 and 23)</p>	<p>loss of species diversity, by reducing or fragmenting available habitat (especially for species with low mobility)</p> <p>introduction or spread of invasive species</p>	<p>Minimize loss of forest cover</p> <p>No introduction or spread of invasive species</p>	<p>Create and implement a Natural Areas Management Strategy as described in Section 5.2.1.2. The strategy will include:</p> <ul style="list-style-type: none"> A Replanting and Restoration Plan. Replanting of vegetation removed in significant woodlands. Transplanting plant species of conservation concern (if required). All disturbed areas of the construction site will be restored to preconstruction grades as soon as conditions allow. An Invasive Species Management Plan will be created for the Project in consultation with MNR with the goal of managing spread of the invasive species in areas of construction related disturbance. A Vegetation Monitoring Plan will be created for the project to survey pre-construction to assist in the development of the Replanting and Restoration Plan and the Invasive Species Management Plan and to monitor post construction the success of such Plans. 	<p>To be determined in the development of the Natural Areas management Strategy in consultation with MNR, prior to pre-construction monitoring.</p>	<p>Pre-construction monitoring within features listed.</p> <p>Post-construction monitoring locations will be determined in the development of the Natural Areas Management Strategy</p>	<p>Pre-construction Survey (baseline – two surveys):</p> <ul style="list-style-type: none"> May-August 2013 <p>Post-construction Survey (two surveys):</p> <ul style="list-style-type: none"> May-August 2014 May-August 2015 <p>Post-construction Survey (one survey):</p> <ul style="list-style-type: none"> May-August 2016 May-August 2017 May-August 2018 May-August 2019 May-August 2020 May-August 2021 May-August 2022 May-August 2023 <p>or until an agreement is reached between the proponent and MNR that management efforts have been deemed sufficient.</p>	<p>Determine if there is a loss of species abundance through displacement or avoidance effect caused by infrastructure located in habitat and roads located in proximity to habitat.</p> <p>Ability to calculate percentage of species successfully seeded, measure ground coverage, measure survival rates (woody species) and assess restored vegetation community type.</p>	<p>Included information: species abundance, coverage, survival rates (woody species), and restored vegetation community type.</p> <p>Annual Reports submitted to MNR. Estimated Report Submission Dates:</p> <ol style="list-style-type: none"> Fall 2013 (preconstruction data) Fall 2014 (yr 1 post-construction) Fall 2015 (yr 2 post-construction) Fall 2016 (yr 3 post-construction) Fall 2017 (yr 4 post-construction) Fall 2018 (yr 5 post-construction) Fall 2019 (yr 6 post-construction) Fall 2020 (yr 7 post-construction) Fall 2021 (yr 8 post-construction) Fall 2022 (yr 9 post-construction) Fall 2023 (yr 10 post-construction) 	<p>Upon submission of annual post-construction monitoring reports to MNR it will be determined in consultation with MNR whether contingency measures are required and the contingency measures to be undertaken</p>
<p>Amphibian Breeding Habitat (Woodland) (Features 6, 7, 25, 26, 29, 37, 47, 56 and 57)</p> <p>(Pre-construction survey required to verify significance of this feature. If significant the following mitigation measures, monitoring</p>	<p>Loss of species diversity and abundance though habitat damage, displacement or avoidance</p>	<p>Continued use of the habitat by breeding amphibians</p>	<p>Timing Window for work within 120m of habitat: Daylight hours between April 1 and June 30 (for significant frog breeding habitats) or between March 15 and April 30 (for significant salamander breeding habitat).</p> <p>See Table 5.1, Appendix B for complete mitigation measures</p>	<p>Salamander egg searches in March and April are required, as well as anuran call surveys in April, May, and June. Pre-construction monitoring protocol will be MNR approved and detailed in the EIS.</p> <p>Call surveys will also be conducted following Bird Studies Canada's <i>Marsh Monitoring Protocol</i> (BSC 2003).</p>	<p>Within features listed. Post-construction monitoring locations will be the same as pre-construction monitoring locations.</p>	<p>Pre-construction Survey (baseline):</p> <ul style="list-style-type: none"> Spring 2013 <p>Post-construction Survey:</p> <ul style="list-style-type: none"> Spring 2015 (for all significant features) Spring 2016 (for features 6 and 7, if 	<p>Determine if there is a loss of species abundance through displacement or avoidance effect caused by infrastructure located in habitat and roads located in proximity to habitat.</p>	<p>Annual Reports submitted to MNR. Estimated Report Submission Dates:</p> <ol style="list-style-type: none"> Summer 2013 (preconstruction data) Summer 2015 (yr 1 post-construction) Summer 2016 (yr 2 post-construction) Summer 2017 (yr 3 post- 	<p>Upon submission of annual post-construction monitoring reports to MNR it will be determined in consultation with MNR whether contingency measures are required and the contingency measures to be undertaken. Because no operational impacts to this habitat are anticipated, if no impacts are observed after one year of post-construction monitoring, monitoring will not continue</p>

Table 5.3. Summary of the Environmental Effects Monitoring Plan for significant/provincially significant natural features in and within 120 m									
Unique Feature ID	Potential Negative Environmental Effects	Performance Objective	Mitigation Strategy	Environmental Effects Monitoring Plan					Contingency Measure
				Methodology	Monitoring Locations	Frequency and Duration of Sample Collection	Technical and Statistical Value of Data	Reporting Requirements	
plan and contingency measures will be implemented)				See Section 5.4.3.1 of the report for full details. Post-construction monitoring will follow the same methods.		significant) • Spring 2017 (for features 6 and 7, if significant)		construction)	after one year.
Hooded Warbler Habitat (Features 45, 48, 55, 56 and 62) (Pre-construction survey required to verify significance of this feature. If significant the following mitigation measures, monitoring plan and contingency measures will be implemented)	Loss of species diversity and abundance through habitat damage, displacement or avoidance Note: Post-construction mortality of birds and detailed monitoring plan is addressed in the Environmental Effects Monitoring Plan as part of the Design and Operations Report. This plan follows the <i>Bird and Bird Habitats: Guidelines for Wind Power Projects 2011</i> .	Continued use of the habitat by Hooded Warbler	Wind turbine sited outside of the habitat. Timing Window May 1 – July 31. See Table 5.1, Appendix B for complete mitigation measures	Standardized point counts will be conducted 250 m apart within the features listed. Following the <i>Birds and Bird Habitats: Guidelines for Wind Power Projects</i> (OMNR, 2011c), these 10 min point counts will be conducted in the early morning (between sunrise and 4 hrs after), using binoculars to observe waterfowl. This survey will be conducted twice between May and July. See Section 5.4.3.1 of the report for full details. Post-construction monitoring will follow the same methods.	Within features listed. Post-construction monitoring locations will be the same as pre-construction monitoring locations.	Pre-construction Survey (baseline): • June 2013 Post-construction Survey: • June 2015 • June 2016 • June 2017	Determine if there is a loss of species abundance through displacement or avoidance effect caused by turbines located in proximity to habitat.	Annual Reports submitted to MNR. Estimated Report Submission Dates: 1. Fall 2013 (preconstruction data) 2. Fall 2015 (yr 1 post-construction) 3. Fall 2016 (yr 2 post-construction) 4. Fall 2017 (yr 3 post-construction)	Upon submission of annual post-construction monitoring reports to MNR it will be determined in consultation with MNR whether contingency measures are required and the contingency measures to be undertaken.
Wood Thrush Habitat (Features 3, 6, 10, 18, 19, 23, 26, 28, 30, 32, 45, 48, 52, 55, 56, 58 and 62) (Pre-construction survey required to verify significance of this feature. If significant the following mitigation measures, monitoring plan and contingency measures will be implemented)	Loss of species diversity and abundance through habitat damage, displacement or avoidance Note: Post-construction mortality of birds and detailed monitoring plan is addressed in the Environmental Effects Monitoring Plan as part of the Design and Operations Report. This plan follows the <i>Bird and Bird Habitats: Guidelines for Wind Power Projects 2011</i> .	Continued use of the habitat by Wood Thrush	Wind turbine sited outside of the habitat Timing Window May 1 – July 31. See Table 5.1, Appendix B for complete mitigation measures	Standardized point counts will be conducted 250 m apart within the features listed. Following the <i>Birds and Bird Habitats: Guidelines for Wind Power Projects</i> (OMNR, 2011c), these 10 min point counts will be conducted in the early morning (between sunrise and 4 hrs after), using binoculars to observe waterfowl. This survey will be conducted twice between May and July. See Section 5.4.3.1 of the report for full details. Post-construction monitoring will follow the same methods.	Within features listed. Post-construction monitoring locations will be the same as pre-construction monitoring locations.	Pre-construction Survey (baseline): • June 2013 Post-construction Survey: • June 2015 • June 2016 • June 2017	Determine if there is a loss of species abundance through displacement or avoidance effect caused by turbines located in proximity to habitat. Determine if there is a loss of species abundance through displacement or avoidance effect caused by infrastructure within habitat (Features 3, 6, 10, 18, 19, 23).	Annual Reports submitted to MNR. Estimated Report Submission Dates: 1. Fall 2013 (preconstruction data) 2. Fall 2015 (yr 1 post-construction) 3. Fall 2016 (yr 2 post-construction) 4. Fall 2017 (yr 3 post-construction)	Upon submission of annual post-construction monitoring reports to MNR it will be determined in consultation with MNR whether contingency measures are required and the contingency measures to be undertaken.
Deer Wintering Area (associated with Features 55, 56, and 62)	Loss of species diversity and abundance through habitat damage, displacement or avoidance	Continued use by deer	No construction between Dec 1st through April 15th when the snow depth is greater than 20cm or there is evidence of yarding. In years where environmental conditions are not favorable for yarding, MNR will be contacted to determine if construction activities may	MNR conducts deer wintering area surveys. No surveys proposed.	Not required.	Not required.	Not required.	Not required.	Not required.

Table 5.3. Summary of the Environmental Effects Monitoring Plan for significant/provincially significant natural features in and within 120 m

Unique Feature ID	Potential Negative Environmental Effects	Performance Objective	Mitigation Strategy	Environmental Effects Monitoring Plan					Contingency Measure
				Methodology	Monitoring Locations	Frequency and Duration of Sample Collection	Technical and Statistical Value of Data	Reporting Requirements	
			proceed between Dec 1st and April 15th.						
<p>Plant Species of Conservation Concern (Features 3, 6, 7, 10, 18, 19, 20, 23 and 24)</p> <p>(Pre-construction survey required to verify significance of this feature. If significant the following mitigation measures, monitoring plan and contingency measures will be implemented)</p>	Loss of species diversity and abundance through habitat damage, displacement or avoidance	No loss of individual plants that are species of conservation concern	<p>If any plant species of conservation concern are found in these habitats, transplantation will occur in consultation with the MNR in the appropriate season,</p> <p>Create and implement a Natural Areas Management Strategy as described in Section 5.2.1.2. The strategy will include:</p> <ul style="list-style-type: none"> A Replanting and Restoration Plan. Replanting of vegetation removed in significant woodlands. Transplanting plant species of conservation concern (if required). All disturbed areas of the construction site will be restored to preconstruction grades as soon as conditions allow. An Invasive Species Management Plan will be created for the Project in consultation with MNR with the goal of managing spread of the invasive species in areas of construction related disturbance. A Vegetation Monitoring Plan will be created for the project to survey pre-construction to assist in the development of the Replanting and Restoration Plan and the Invasive Species Management Plan and to monitor post construction the success of such Plans. 	<p>Spring and summer botanical surveys will be conducted in these features, which will consist of thorough area searches in spring (May/June) and summer (July/August). There are no required weather conditions within which to conduct these surveys, as long as the plant species are visible.</p> <p>See Section 5.4.3.1 of the report for full details.</p>	<p>Pre-construction monitoring within features listed.</p> <p>Post-construction monitoring locations will be determined in the development of the Natural Areas Management Strategy</p>	<p>Pre-construction Survey (baseline):</p> <ul style="list-style-type: none"> May-August 2013 <p>Post-construction Survey:</p> <ul style="list-style-type: none"> May-August 2014 May-August 2015 May-August 2016 May-August 2017 May-August 2018 <p>or until an agreement is reached between the proponent and MNR that management efforts have been deemed sufficient.</p>	Determine the success of transplantation through changes in size and health (if a perennial species) and species abundance and reproductive health within 20 m of transplantation.	<p>Included information: height, size, health (if perennial species) and species abundance and reproductive health within 20 m of transplantation.</p> <p>Annual Reports submitted to MNR. Estimated Report Submission Dates:</p> <ol style="list-style-type: none"> Fall 2013 (preconstruction data) Fall 2014 (yr 1 post-construction) Fall 2015 (yr 2 post-construction) Fall 2016 (yr 3 post-construction) Fall 2017 (yr 4 post-construction) Fall 2018 (yr 5 post-construction) 	Upon submission of annual post-construction monitoring reports to MNR it will be determined in consultation with MNR whether contingency measures are required and the contingency measures to be undertaken.