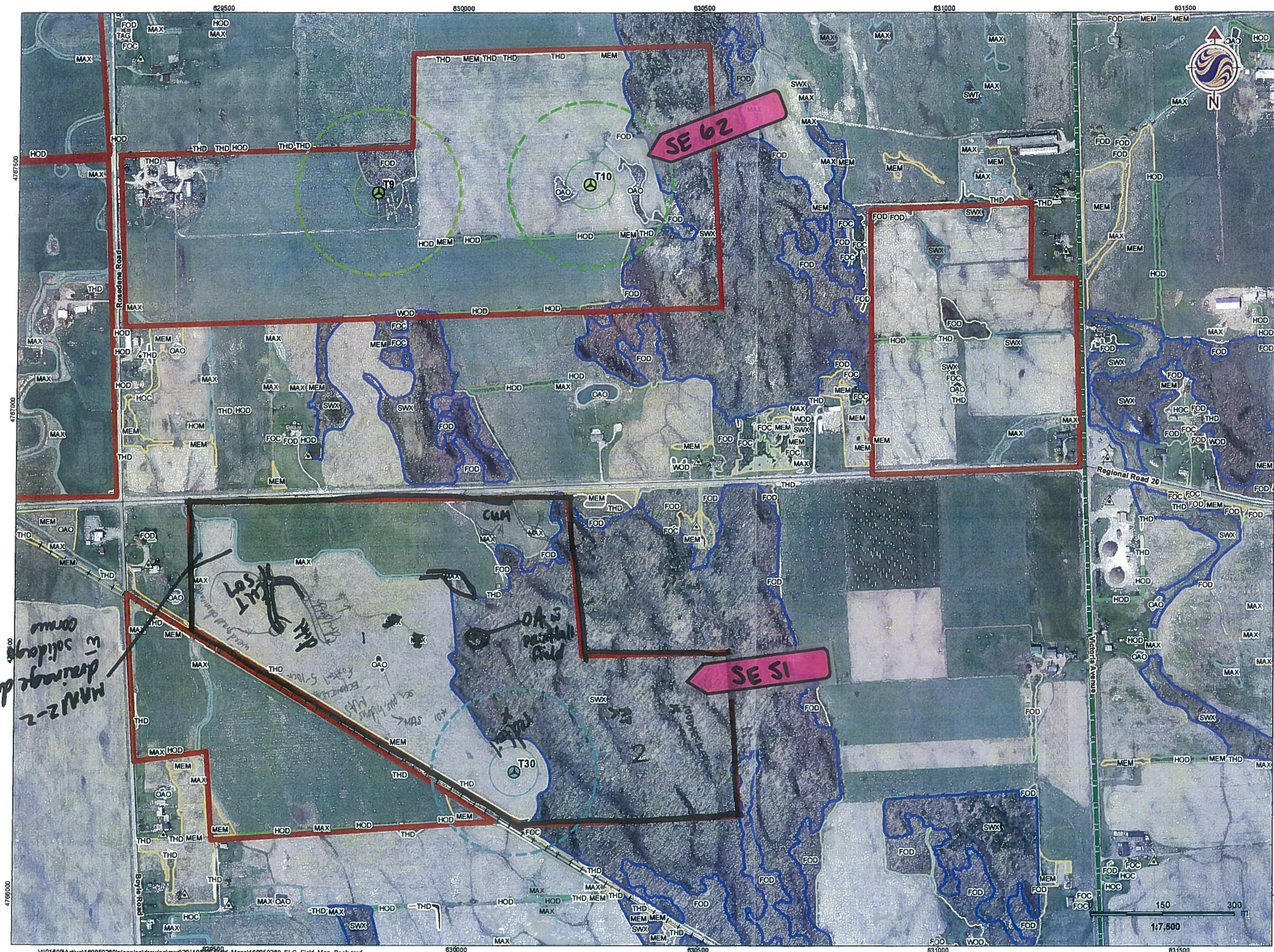
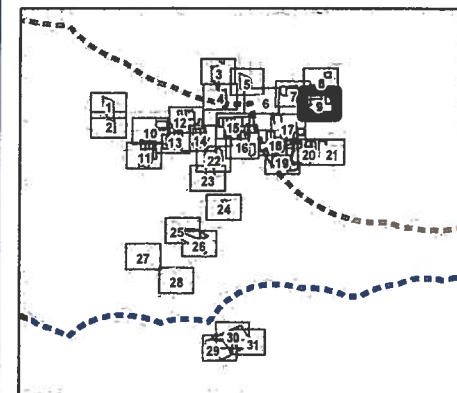


MAX = NAM2-2 PHAARUN, SCILYKE/SOLIDAGO



Legend

- Preliminary Study Area
- Signed Project Sites
- Potential Signed Property
- Road
- Railway
- Municipality Lower Tier
- Provincially Significant Wetland
- Other/Locally Significant Wetland
- To Be Determined
- Open Rock/Shrub Rock Barren
- Shoreline
- Bluff
- Swamp
- Marsh
- Bog
- Wetland
- Meadow
- Thicket
- Savanna
- Woodland
- Forest
- Hedgerow
- Treed Agriculture
- Open Water
- Turbines on Developable Land and 101m Diameter
- 170.5m Buffer of Turbine
- Turbines W/ 120m S/B PSW and 101m Diameter
- 170.5m Buffer of Turbine
- Turbines W/ 120m S/B Woodland and 101m Diameter
- 170.5m Buffer of Turbine
- Turbines W/ 120m S/B Wood/Wetland and 101m Diameter
- 170.5m Buffer of Turbine



Notes

- Coordinate System: NAD 1983 UTM Zone 17N).
- Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.



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September, 2011
160950269

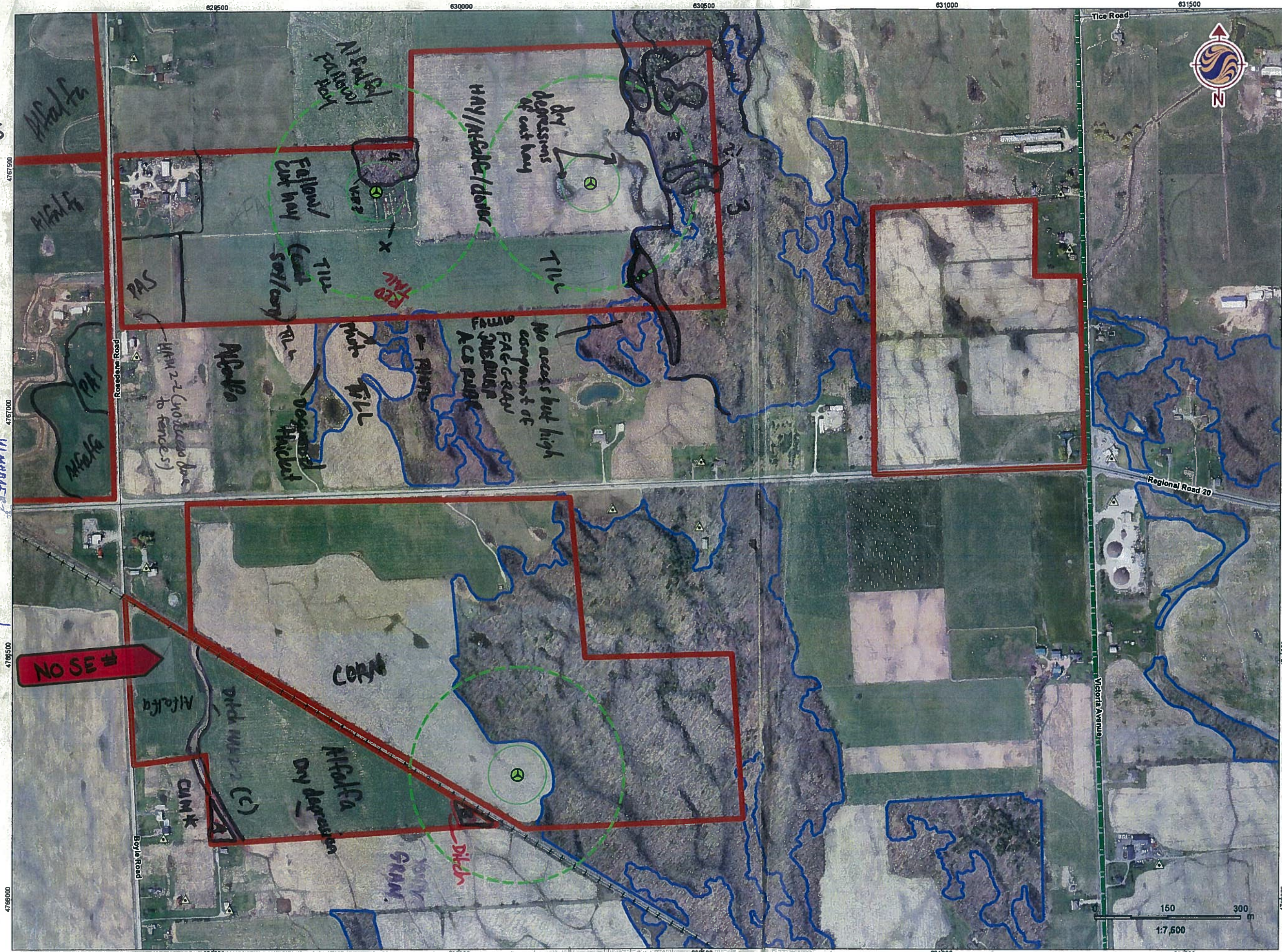
Client/Project
Niagara Region Wind Corporation

Figure No.
E-9

Title

ELC Field Map 9

Drain at northeast edge of 4



Legend

- Preliminary Study Area
- Signed Project Sites
- Potential Signed Property
- Road
- Railway
- Municipality Lower Tier
- Provincially Significant Wetland
- Other/Locally Significant Wetland
- Turbines on Developable Land and 120m Diameter
- 160m Buffer of Turbine

Notes

- Coordinate System: NAD 1983 UTM Zone 17N.
- Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.

August, 2011
160950269

Client/Project
Niagara Region Wind Corporation

Figure No.
F-9

Title
Field Map 9

rows of mounded dirt w/ chenopodium growing + rows of phalaris (cut)

W

Tur Heared?
9-1

X-mounds of dirt (mounds) with Chenopodium and cut Phalaris blw



A hand-drawn map of the 19th-century village of Breda, showing numbered plots and a red building labeled '54'. The map is enclosed in a rectangular border. A dashed line runs diagonally from the top left to the middle right. A solid blue line runs diagonally from the bottom left to the bottom right. The village is composed of numerous numbered plots. A red building with the number '54' is prominent in the upper right. Other numbered plots include 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, and 31. Some plots are grouped together, such as 1 and 2, 10 and 11, 25 and 26, and 29 and 30. The map is oriented with North at the top.

1. Coordinate System: NAD 1983 UTM Zone 17N).
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.



September, 2011
160950269

Client/Project
Niagara Region Wind Corporation

Figure No. E-9

Title

ELC Field Map 9

SE 11; Tile E-10; Poly 1

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: NIAGARA		POLYGON: 10-1	
	SURVEYOR(S): NC		DATE: Nov 8	
	START: 4:00	END: 4:30	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☐ NATURAL	☐ PLANKTON	☐ LAKE
☒ WETLAND	☒ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☐ SWAMP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☐ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1 CANOPY			
2 SUB-CANOPY			
3 UNDERSTOREY			
4 GRD. LAYER	5-7	3	PHAARUN > POLYGONUM 7 SIMULAV

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

STAND COMPOSITION:					BA:
SIZE CLASS ANALYSIS:	<10	10-24	25-50	>50	
STANDING SNAGS:	<10	10-24	25-50	>50	
DEADFALL/LOGS:	<10	10-24	25-50	>50	
ABUNDANCE CODES:	N=NONE	R=RARE	O=OCCASIONAL	A=ABUNDANT	
COMM. AGE:	PIONEER	YOUNG	MID-AGE	MATURE	OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE:	CODE:
disturbed reed-canary grass/shallow marsh	MAM2-2/MAS2/OA
INCLUSION	CODE:
COMPLEX	CODE:

Evidence of Disturbance / Notes:

Tractor marks
+ some cutting
some pooling
210cm H₂O

mixed in more disturbed parts with Yellow species

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:		POLYGON:	
	DATE:			
	SURVEYOR(S):			

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

SPECIES CODE	LAYER				COLL.	SPECIES CODE	LAYER				COLL.	
	1	2	3	4			1	2	3	4		
						PHAARUN					A	
						Polygonum					A	
						RANISLER					O	PHOTO
						ADUTHEO					R	
						Foxtal					R-O	
						Mustard					R-O	
						Trifolium					R-O	
						Daucus carota					O	
						Simulav					A	
						ELEXHAKIS					O	
						Bidens					R-O	
						ECHINOCHLOA					R	
						Cirsium vulgare					R-O	
						epilobium					R	
						TAROFF1					R	
						PLAMATO					R	

Page ___ of ___

Signature:

Michael Christ
(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒

Signature:

Christy
(Project Manager)



Stantec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: NRWC

Date: Nov 8, 2011

Field Personnel: N. Charlton

Weather Conditions:	TEMP (°C): <u>12</u>	WIND: <u>2</u>	CLOUD: <u>35%</u>	PPT: <u>none</u>	PPT (in last 24 hrs): <u>some rain</u>
---------------------	-------------------------	-------------------	----------------------	---------------------	---

ELC Polygon: # 10-1 Assessment Type: ☐ Visual; roadside, no access / ☒ Physical; walk through feature

Extent of Physical Investigation of Feature: ☒ Entire / ☐ Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features:

Contains potential reptile hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

Contains potential bat hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features:

Contains potential bat roosting features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests:

Contains large stick nests?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools:

Contains seeps/springs/vernal pools?

☒-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
	Some pooling throughout, but disturbed		~10cm	10-dist-		No

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

~approximately 20 ducks were in the largest pool section of the polygon

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=seat; SI=other sign; TK=track; VO=vocalization

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>Niagara</u>		POLYGON: <u>10-2</u>	
	SURVEYOR(S): <u>NC</u>	DATE: <u>NOV 15, 2011</u>	UTME:	
	START: <u>11:30</u>	END: <u>12:00</u>	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☒ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE ☐ RIVERINE ☐ BOTTOMLAND ☐ TERRACE ☐ VALLEY SLOPE ☐ TABLELAND ☒ ROLL. UPLAND ☐ CLIFF	☒ NATURAL	☐ PLANKTON ☐ SUBMERGED ☐ FLOATING-LVD. ☐ GRAMINOID ☐ FORB ☐ LICHEN ☐ BRYOPHYTE ☒ DECIDUOUS ☐ CONIFEROUS ☐ MIXED	☐ LAKE ☐ POND ☐ RIVER ☐ STREAM ☐ MARSH ☐ SWMAP ☐ FEN ☐ BOG ☐ BARREN ☐ MEADOW ☐ PRAIRIE ☐ THICKET ☐ SAVANNAH ☐ WOODLAND ☒ FOREST ☐ PLANTATION
☐ WETLAND	☒ MINERAL SOIL		☐ CULTURAL		
☐ AQUATIC	☐ PARENT MIN.				
	☐ ACIDIC BEDRK.				
	☐ BASIC BEDRK.				
SITE			COVER		
☐ OPEN WATER ☐ SHALLOW WATER ☒ SURFICIAL DEP. ☐ BEDROCK	☐ CARB. BEDRK.	☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	☐ OPEN ☐ SHRUB ☒ TREED		

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>= MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	QUEALBA > QUERUBR > ACESASA > PINSTRU
2	SUB-CANOPY	3	3	OSTVIRG > CARGARO = PINSTRU
3	UNDERSTOREY	4	3	PRUSERO = CARGARO = OSTVIRG > PINSTRU
4	GRD. LAYER	5-7	3	CAREX > EURMACR > RUBCANA

HT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m
CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:										BA:									
SIZE CLASS ANALYSIS:										A	<10	O	10-24	O	25-50	O	>50		
STANDING SNAGS:										O	<10	O	10-24	O	25-50	N	>50		
DEADFALL/LOGS:										A	<10	A	10-24	R	25-50	N	>50		
ABUNDANCE CODES:										N=NONE		R=RARE		O=OCCASIONAL		A=ABUNDANT			
COMM. AGE:										PIONEER		YOUNG		MID-AGE		MATURE		OLD GROWTH	

SOIL ANALYSIS:			
TEXTURE:	DEPTH TO MOTTLES/GLEY	g= 20 / 30 G= 1500p	
MOISTURE: 5-6	DEPTH OF ORGANICS:	(cm)	
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:	(cm)	

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE: F-M Oak-Sugar Maple Deciduous Forest		CODE: FOD9-1
INCLUSION		CODE: SWT2-4
COMPLEX		CODE: SWD1-2

Evidence of Disturbance / Notes:

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page ____ of ____

Signature:

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒

Signature:

(Project Manager)

-Logging

**Stantec**

Stantec Consulting Ltd.
1 – 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269Project Name: NRWCDate: Nov 15Field Personnel: N. Charlton

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	6	2	90	none	some rain

ELC Polygon: # 10-2 Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through featureExtent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features: Contains potential reptile hibernacula features?
☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]
 Contains potential bat hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED			
UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features: Contains potential bat roosting features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED							
UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests: Contains large stick nests?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED					
UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED						
UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
	swamps throughout w pools		upto 2ft			

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

--

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HQ=house/den; OB=observed; SC=seat; SI=other sign; TK=track; VO=vocalization

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>Niagara</u>		POLYGON: <u>10-3</u>	
	SURVEYOR(S): <u>NC</u>		DATE: <u>Nov 15</u>	
	START: <u>12:00</u>	END: <u>12:30</u>	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE ☐ RIVERINE ☐ BOTTOMLAND	☒ NATURAL	☐ PLANKTON ☐ SUBMERGED ☐ FLOATING-LVD.	☐ LAKE ☐ POND ☐ RIVER
☒ WETLAND	☒ MINERAL SOIL	☐ TERRACE ☐ VALLEY SLOPE	☐ CULTURAL	☒ GRAMINOID ☐ FORB ☐ LICHEN ☐ BRYOPHYTE ☐ DECIDUOUS ☐ CONIFEROUS	☐ STREAM ☒ MARSH ☐ SWAMP ☐ FEN ☐ BOG
☐ AQUATIC	☐ PARENT MIN. ☐ ACIDIC BEDRK. ☐ BASIC BEDRK.	☐ TABLELAND ☐ ROLL. UPLAND ☐ CLIFF ☐ TALUS ☐ CRÉVICE / CAVE		☐ MIXED	☐ BARREN ☐ MEADOW ☐ PRAIRIE ☐ THICKET ☐ SAVANNAH ☐ WOODLAND ☐ FOREST ☐ PLANTATION
SITE			COVER		
☐ OPEN WATER ☒ SHALLOW WATER ☐ SURFICIAL DEP. ☐ BEDROCK	☐ CARB. BEDRK.	☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	☒ OPEN ☐ SHRUB ☐ TREED		

STAND DESCRIPTION:

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY			
2	SUB-CANOPY			
3	UNDERSTOREY	3	1	CORNW = SPIALBA
4	GRD. LAYER	4-7	4	CAREX >> PHAARUN > TYPLAT1 = SCICYPE

HT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:										BA:	
SIZE CLASS ANALYSIS:											
			<10			10 - 24			25 - 50		>50
STANDING SNAGS:											
			<10			10 - 24			25 - 50		>50
DEADFALL/LOGS:											
			<10			10 - 24			25 - 50		>50
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT											
COMM. AGE:											
		PIONEER		YOUNG		MID-AGE		MATURE			OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE: <i>broad leaved sedge mineral shallow marsh</i>	CODE: <i>MAS2-4</i>
INCLUSION	CODE:
COMPLEX	CODE:

Evidence of Disturbance / Notes: 120cm water over 70% shallow marsh

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT P=DOMINANT

[illegible]

Page ____ of ____

Signature:

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒

Signature:

(Project Manager)



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1 – 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: NRWC

Date: Nov 15

Field Personnel: N. Charlton

Weather Conditions:	TEMP (°C): <u>6</u>	WIND: <u>2</u>	CLOUD: <u>90</u>	PPT: <u>none</u>	PPT (in last 24 hrs): <u>rain</u>
---------------------	------------------------	-------------------	---------------------	---------------------	--------------------------------------

ELC Polygon: # 10-3 Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through feature

Extent of Physical Investigation of Feature: ☐-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features: Contains potential reptile hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]
Contains potential bat hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features: Contains potential bat roosting features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests: Contains large stick nests?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
☒-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
<u>Community-wide</u>	<u>pooled water</u>	<u>50x50m</u>	<u>~20cm</u>	<u>N/A</u>	<u>yes</u>	<u>yes</u>

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=scar; SI=other sign; TK=track; VO=vocalization



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Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: NRWC

Date: Nov 15, 2011

Field Personnel: N. Charlton

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>6</u>	<u>2</u>	<u>90</u>	<u>none</u>	<u>rain</u>

ELC Polygon: #10-4 Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through feature

Extent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features:

Contains potential reptile hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

Contains potential bat hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features:

Contains potential bat roosting features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests:

Contains large stick nests?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools:

Contains seeps/springs/vernal pools?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

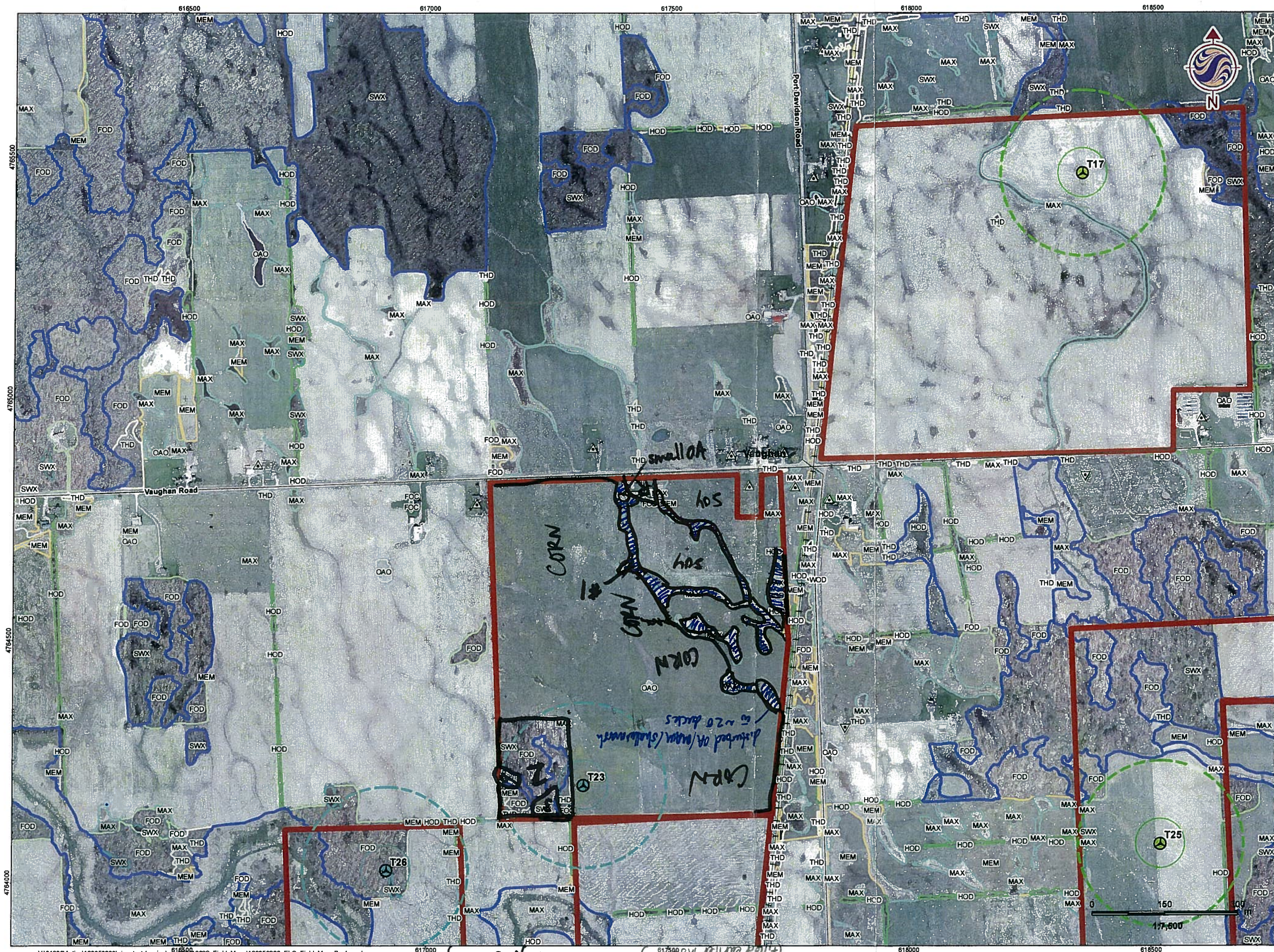
SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
<u>Community-wide</u>	<u>pooled water</u>	<u>20 x 20 m</u>	<u>at least 1 ft.</u>	<u>N/A</u>	<u>yes</u>	<u>yes</u>

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

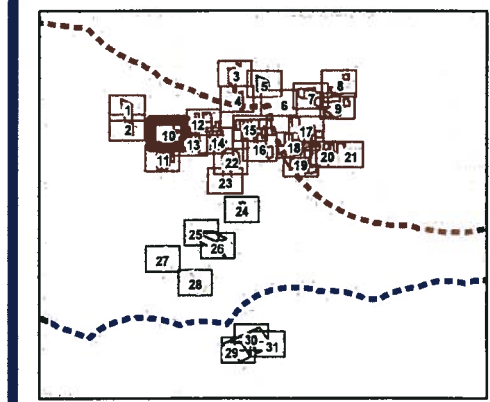
patchy

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=scar; SI=other sign; TK=track; VO=vocalization



Legend

- Preliminary Study Area
- Signed Project Sites
- Potential Signed Property
- Road
- Railway
- Municipality Lower Tier
- Provincially Significant Wetland
- Other/Locally Significant Wetland
- To Be Determined
- Open Rock/Shrub Rock Barren
- Shoreline
- Bluff
- Swamp
- Marsh
- Bog
- Wetland
- Meadow
- Thicket
- Savanna
- Woodland
- Forest
- Hedgerow
- Treed Agriculture
- Open Water
- Turbines on Developable Land and 101m Diameter
- 170.5m Buffer of Turbine
- Turbines W/ 120m S/B PSW and 101m Diameter
- 170.5m Buffer of Turbine
- Turbines W/ 120m S/B Woodland and 101m Diameter
- 170.5m Buffer of Turbine
- Turbines W/ 120m S/B Wood/ Wetland and 101m Diameter
- 170.5m Buffer of Turbine



Notes

- Coordinate System: NAD 1983 UTM Zone 17N).
- Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.



September, 2011
160950269

Client/Project
Niagara Region Wind Corporation

Figure No.
E-10

Title
ELC Field Map 10

disturbed area/shallow water
20 ducks
CORN
LOS
small OA

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <i>Niagara</i>		POLYGON: <i>11-1</i>	
	SURVEYOR(S): <i>NC</i>		DATE: <i>Nov 16</i>	
	START: <i>8:30</i>	END: <i>9:00</i>	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☐ NATURAL	☐ PLANKTON	☐ LAKE
☐ WETLAND	☐ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
		☐ TABLELAND		☐ LICHEN	☐ SWMAP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☐ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION
SITE			COVER		
☐ OPEN WATER	☐ CARB. BEDRK.		☐ OPEN		
☐ SHALLOW WATER			☐ SHRUB		
☐ SURFICIAL DEP.			☐ TREED		
☐ BEDROCK					

STAND DESCRIPTION:

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY			ACESASA = QUERUBR > PINSTRO = FRAX SP
2	SUB-CANOPY			ACESASA = OSTVIRG > QUERUBR = QUEALBA
3	UNDERSTOREY			ACESASA = FAGGRAN = OSTVIRG = CARCARO
4	GRD. LAYER			RURCANA = CARPENN > VIBACER = RUBIDAE

HT CODES: 1= $\geq 25\text{m}$ 2= $10 < \text{HT} \leq 25\text{m}$ 3= $2 < \text{HT} \leq 10\text{m}$ 4= $1 < \text{HT} \leq 2\text{m}$ 5= $0.5 < \text{HT} \leq 1\text{m}$ 6= $0.2 < \text{HT} \leq 0.5\text{m}$ 7= $\text{HT} < 0.2\text{m}$

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:	BA:
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SIZE CLASS ANALYSIS:	A	<10	A	10 - 24	A	25 - 50	R	>50
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STANDING SNAGS:	<10	0	10 - 24	0	25 - 50	N	>50
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DEADFALL/LOGS:	<10	A	10 - 24	D	25 - 50	R	>50
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ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE:	PIONEER	YOUNG	MID-AGE	MATURE	OLD GROWTH
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SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g= 25 cm	G=
MOISTURE: 6	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE: F-M oak Sugar maple deciduous Forest		CODE: FOD9-1
INCLUSION		CODE:
COMPLEX		CODE: SWD3-1/MAS2

Evidence of Disturbance / Notes: - rubble/garbage along edge (old car, sheds)
- some logging, old roads
- recent woodpecker feeding

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page of

Signature:

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒.

Signature:

(Project Manager)

MAS = broad leaved sedge

**Stantec**

Stantec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269Project Name: NRWCDate: Nov 16, 2011Field Personnel: M. Charlton

Weather Conditions:	TEMP (°C): <u>5</u>	WIND: <u>3</u>	CLOUD: <u>100</u>	PPT: <u>none</u>	PPT (in last 24 hrs): <u>rain</u>
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ELC Polygon: # 11-1 Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through featureExtent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features: Contains potential reptile hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]
 Contains potential bat hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features: Contains potential bat roosting features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests: Contains large stick nests?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
☒-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
0616721 / 4762316	SEEP	10 x 3m (H2O)	15 cm	"11-1-seep"	yes-NASOFF1	yes

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

Pileated woodpecker FE on trees - very recent - fresh wood chips

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HU=house/den; OB=observed; SC=seat; SI=other sign; TK=track; VO=vocalization

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <i>Niagara</i>		POLYGON: <i>11-2</i>	
	SURVEYOR(S): <i>NC</i>		DATE: <i>Nov 16</i>	UTME:
	START: <i>9:00</i>	END: <i>9:30</i>	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☒ NATURAL	☐ PLANKTON	☐ LAKE
☒ WETLAND	☒ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☐ SWAMP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☒ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND	☐ OPEN		☒ THICKET
		☐ BEACH / BAR	☒ SHRUB		☐ SAVANNAH
		☐ SAND DUNE	☐ TREED		☐ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	3	2	ALNUS > ACERUS
2	SUB-CANOPY			
3	UNDERSTOREY	4	4	CEPOCII > ILEVERT > ALNUS > SP. ALBA
4	GRD. LAYER	5-7	3	FERNIS > CAREX > GRASS = Duckweed

HT CODES: 1= $\geq 25m$ 2= $10 < HT \leq 25m$ 3= $2 < HT \leq 10m$ 4= $1 < HT \leq 2m$ 5= $0.5 < HT \leq 1m$ 6= $0.2 < HT \leq 0.5m$ 7= $HT \leq 0.2m$

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:										BA:	
SIZE CLASS ANALYSIS:		A	<10	N	10 - 24	N	25 - 50	N	>50		
STANDING SNAGS:		0	<10	0	10 - 24	N	25 - 50	N	>50		
DEADFALL/LOGS:		0	<10	R	10 - 24	N	25 - 50	N	>50		
ABUNDANCE CODES:			N=NONE		R=RARE		O=OCCASIONAL		A=ABUNDANT		
COMM. AGE:		PIONEER		YOUNG		MID-AGE		MATURE		OLD GROWTH	

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE: buffalobush mineral thicket swamp	CODE: SWT2-4
INCLUSION	CODE:
COMPLEX	CODE:

Evidence of Disturbance / Notes:

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page ____ of ____

Signature:

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒

Signature:

(Project Manager)

**Stantec**

Stantec Consulting Ltd.
1 – 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269Project Name: NRWCDate: Nov 16Field Personnel: N. Charlton

Weather Conditions:	TEMP (°C): <u>5</u>	WIND: <u>3</u>	CLOUD: <u>100</u>	PPT: <u>none</u>	PPT (in last 24 hrs): <u>rain</u>
---------------------	------------------------	-------------------	----------------------	---------------------	--------------------------------------

ELC Polygon: #11-2 Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through featureExtent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features: Contains potential reptile hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]
 Contains potential bat hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED			
UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features: Contains potential bat roosting features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED							
UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests: Contains large stick nests?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED					
UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
☒-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED						
UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
	<u>Pool throughout community</u>	<u>200 x 20 m</u>	<u>5-40 cm +</u>	<u>N/A</u>	<u>yes</u>	<u>yes</u>

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

--

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HQ=house/den; OB=observed; SC=seat; SJ=other sign; TK=track; VO=vocalization

ELC	SITE: <u>Niagara</u>		POLYGON: <u>11-A</u>	
	SURVEYOR(S): <u>NC</u>		DATE: <u>Nov 16, 2011</u>	UTME:
COMMUNITY DESCRIPTION & CLASSIFICATION	START: <u>8:00</u>	END: <u>8:15</u>	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☒ NATURAL	☐ PLANKTON	☐ LAKE
☒ WETLAND	☒ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☒ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☒ FORB	☐ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☐ SWMAP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☐ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☒ MEADOW
SITE			COVER		☐ PRAIRIE
☐ OPEN WATER		☐ ALVAR	☒ OPEN		☐ THICKET
☒ SHALLOW WATER		☐ ROCKLAND	☐ SHRUB		☐ SAVANNAH
☒ SURFICIAL DEP.		☐ BEACH / BAR	☐ TREED		☐ WOODLAND
☐ BEDROCK		☐ SAND DUNE			☐ FOREST
		☐ BLUFF			☐ PLANTATION

STAND DESCRIPTION:

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY			
2	SUB-CANOPY			
3	UNDERSTOREY			
4	GRD. LAYER	5-7	4	PHALARIS > Panicum sp > Other grasses = S. usua

HT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m
CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:										BA:	
SIZE CLASS ANALYSIS:			<10		10 – 24		25 – 50		>50		
STANDING SNAGS:			<10		10 – 24		25 – 50		>50		
DEADFALL/LOGS:			<10		10 – 24		25 – 50		>50		
ABUNDANCE CODES:		N=NONE		R=RARE		O=OCCASIONAL		A=ABUNDANT			
COMM. AGE:			PIONEER		YOUNG		MID-AGE		MATURE		OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE: <i>reed-canary grass mineral meadow marsh</i>		CODE: <i>MAM2-2</i>
INCLUSION		CODE:
COMPLEX		CODE:

Evidence of Disturbance / Notes:

— about 5cm of water over 20% of area — runs into hole in ground

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page ____ of ____

Signature:

(Field Personnel)

Quality Control. This form is complete ☒ & legible ☒

Signature:

(Project Manager)



Stantec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: NRWC

Date: Nov 16, 2011

Field Personnel: N. Charlton

Weather Conditions:	TEMP (°C): <u>5</u>	WIND: <u>3</u>	CLOUD: <u>100</u>	PPT: <u>none</u>	PPT (in last 24 hrs): <u>rain</u>
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ELC Polygon: #11-A Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through feature

Extent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features: Contains potential reptile hibernacula features?
☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)
[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]
Contains potential bat hibernacula features?
☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)
[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED			
UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features: Contains potential bat roosting features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED							
UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests: Contains large stick nests?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED					
UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
☒-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED						
UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
	<u>Pooled + running water throughout</u>	<u>10x10</u>	<u>5 cm</u>	<u>N/A</u>	<u>yes</u>	<u>no</u>

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

Observation notes area

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=seat; SF=other sign; TK=track; VO=vocalization

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <i>Niagara</i>		POLYGON: <i>11-B</i>	
	SURVEYOR(S): <i>NC</i>		DATE: <i>Nov 16</i>	UTME:
	START:	END:	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☒ NATURAL	☐ PLANKTON	☐ LAKE
☒ WETLAND	☒ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☒ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☒ FORB	☒ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☐ SWMAP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☐ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
SITE			COVER		☐ PRAIRIE
☐ OPEN WATER		☐ ALVAR	☒ OPEN		☐ THICKET
☒ SHALLOW WATER		☐ ROCKLAND	☐ SHRUB		☐ SAVANNAH
☐ SURFICIAL DEP.		☐ BEACH / BAR	☐ TREED		☐ WOODLAND
☐ BEDROCK		☐ SAND DUNE			☐ FOREST
		☐ BLUFF			☐ PLANTATION

STAND DESCRIPTION:

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	1	QUEMACR
2	SUB-CANOPY			
3	UNDERSTOREY	4	1	SPIALBA
4	GRD. LAYER	5-7	4	TYPANGU > TYPANGU = BIDENS

HT CODES: 1= $\geq 25\text{m}$ 2= $10 < \text{HT} \leq 25\text{m}$ 3= $2 < \text{HT} \leq 10\text{m}$ 4= $1 < \text{HT} \leq 2\text{m}$ 5= $0.5 < \text{HT} \leq 1\text{m}$ 6= $0.2 < \text{HT} \leq 0.5\text{m}$ 7= $\text{HT} < 0.2\text{m}$

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:										BA:									
SIZE CLASS ANALYSIS:										R	<10	R	10 - 24	R	25 - 50	N	>50		
STANDING SNAGS:										N	<10	N	10 - 24	N	25 - 50	N	>50		
DEADFALL/LOGS:										N	<10	N	10 - 24	N	25 - 50	N	>50		
ABUNDANCE CODES:										N=NONE		R=RARE		O=OCCASIONAL		A=ABUNDANT			
COMM. AGE:										PIONEER		YOUNG		MID-AGE		MATURE		OLD GROWTH	

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE: <i> Broad leaved sedge mineral shallow marsh</i>	CODE: <i>MAS2-4</i>
INCLUSION	CODE:
COMPLEX	CODE:

Evidence of Disturbance / Notes:

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD) LAYER

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page of

Signature:

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒

Signature:

(Project Manager

**Stantec**

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1 – 70 Southgate Drive
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Tel: (519) 836-6050
Fax: (519) 836-2493

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269Project Name: NRWCDate: Nov 16, 2011Field Personnel: N. Charlton

Weather Conditions:	TEMP (°C): <u>5</u>	WIND: <u>3</u>	CLOUD: <u>100</u>	PPT: <u>none</u>	PPT (in last 24 hrs): <u>some</u>
---------------------	------------------------	-------------------	----------------------	---------------------	--------------------------------------

ELC Polygon: # _____ Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through featureExtent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features: Contains potential reptile hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]
 Contains potential bat hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED			
UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features: Contains potential bat roosting features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED							
UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests: Contains large stick nests?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED					
UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
☒-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED						
UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
<u>some pooled water</u>	<u>throughout</u>	<u>10 x 10 m</u>	<u>5-20 cm</u>	<u>N/A</u>	<u>yes</u>	<u>yes</u>

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

Empty space for species and habitat observations
--

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HU=house/den; OB=observed; SC=scar; SI=other sign; TK=track; VO=vocalization

NO SE#; Tile E-11; Poly 5

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>NIAGARA</u>	POLYGON: <u>11-5</u>	
	SURVEYOR(S): <u>NC</u>	DATE: <u>Nov 16</u>	UTME:
	START: <u>11:20</u>	END:	UTMZ:
	UTMN:		

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☒ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☐ NATURAL	☐ PLANKTON	☐ LAKE
☐ WETLAND	☒ MINERAL SOIL	☐ RIVERINE	☒ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☒ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☐ SWAMP
		☒ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☐ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☒ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1 CANOPY			
2 SUB-CANOPY			
3 UNDERSTOREY			
4 GRD. LAYER	<u>5-7</u>	<u>4</u>	<u>GRASSES > DIPFULL > SYMNOVA = SOLIDAGO</u>

HT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:				BA:
SIZE CLASS ANALYSIS:	☐	☐	☐	☐
	<10	10 - 24	25 - 50	>50
STANDING SNAGS:	☐	☐	☐	☐
	<10	10 - 24	25 - 50	>50
DEADFALL/LOGS:	☐	☐	☐	☐
	<10	10 - 24	25 - 50	>50
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT				
COMM. AGE:	☐	☐	☐	☐
	PIONEER	YOUNG	MID-AGE	MATURE
				OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE:	CODE:
<u>D-M oldfield meadow</u>	<u>Cumj-1</u>
INCLUSION	CODE:
COMPLEX	CODE: <u>Pasture</u>

Evidence of Disturbance / Notes:

disturbed cumj/pasture
 - driven over with vehicle
 - parts are mown or browsed very short
 - majority PHALARIS (of identifiable areas)

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:	POLYGON:	
	SURVEYOR(S):	DATE:	UTME:
			UTMZ:
			UTMN:

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
 ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

SPECIES CODE	LAYER				COLL.	SPECIES CODE	LAYER				COLL.
	1	2	3	4			1	2	3	4	
						<u>PHALARIS</u>					<u>A</u>
						<u>SOLIDAGO</u>					<u>O</u>
						<u>SYMNOVA</u>					<u>R</u>
						<u>CIRSIIUM</u>					<u>K</u>
						<u>DAUCARD</u>					<u>R</u>
						<u>DIPFULL</u>					<u>O-A</u>
						<u>GRASSES</u>					<u>A</u>
						<u>SYMNOVA</u>					<u>O</u>
						<u>PHALARIS</u>					<u>A</u>
						<u>SOLIDAGO</u>					<u>O</u>
						<u>DAUCARD</u>					<u>O-A</u>

Page ___ of ___

Signature: Wendy

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒

Signature: everett

(Project Manager)

looks like cumj/pasture - more herbs but short grass in some sections



Woodland & Wildlife Habitat Assessment Form

Project Name: NRW

Field Personnel: N. Charlton

rein

Extent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

[i.e. karst topography, abandoned mines or caves]

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

CA=carcass; DP=disjunctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=seat; SI=other sign; TK=track; VO=vocalization

NO SE # ; Tile E-11 ; Poly 6

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: Niagara		POLYGON: 11-6	
	SURVEYOR(S): NC		DATE: Nov 16	UTME:
	START: 11:50	END: 12:00	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☐ NATURAL	☐ PLANKTON	☐ LAKE
☐ WETLAND	☐ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☐ SWAMP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☐ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1 CANOPY			
2 SUB-CANOPY			
3 UNDERSTOREY			
4 GRD. LAYER			TYPANGU > CYPESCU > POLYGONUM

HT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:	BA:
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SIZE CLASS ANALYSIS:	<10	10 - 24	25 - 50	>50
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STANDING SNAGS:	<10	10 - 24	25 - 50	>50
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DEADFALL/LOGS:	<10	10 - 24	25 - 50	>50
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ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE:	PIONEER	YOUNG	MID-AGE	MATURE	OLD GROWTH
------------	---------	-------	---------	--------	------------

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE:	CODE:
cuttail mineral shallow marsh	MAS 2-1
INCLUSION	CODE:
COMPLEX	CODE:

Evidence of Disturbance / Notes:

- frog
disturbed (cut) - narrows in middle to almost pure Cyperus esculentus (3m wide)
w very narrow 1ft deep drainage ditch connecting
- connects vic drainage ditch to other areas

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:	
	POLYGON:	
	DATE:	
	SURVEYOR(S):	

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

SPECIES CODE	LAYER				COLL.	SPECIES CODE	LAYER				COLL.	
	1	2	3	4			1	2	3	4		
						TYPANGU					A	
						CYPESCU					A	Cave
						duckweed					O	
						polygonum					O	
						verbena hastata						
						echinocloa					2	

Page ___ of ___

Signature:

(Field Personnel)

Quality Control: This form is complete & legible ☒

Signature:

(Project Manager)

20 cm H2O ~40% of area (some as all TYPIA in property)



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Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: NRWC

Date: Nov 16

Field Personnel: N. Charlton

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>5</u>	<u>3</u>	<u>100</u>	<u>none</u>	<u>some rain</u>

ELC Polygon: #11-6 Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through feature

Extent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features: Contains/potential reptile hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]
 Contains/potential bat hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features: Contains/potential bat roosting features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests: Contains large stick nests?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
☒-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
<u>entire community</u>	<u>Pool (marsh)</u>	<u>30m x 4m</u>	<u>20 cm</u>	<u>N/A</u>	<u>yes</u>	<u>no</u>

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

some type of frog was observed jumping into water but moved too quickly to ID.

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=seat; SI=other sign; TK=track; VO=vocalization

NOSE # ; Tile E-11; No poly #

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <i>Niagara</i>		POLYGON: <i>11-7</i>	
	SURVEYOR(S): <i>NC</i>		DATE: <i>Nov 16</i>	
	START:	END:	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☐ NATURAL	☐ PLANKTON	☐ LAKE
☐ WETLAND	☐ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
		☐ TABLELAND		☐ LICHEN	☐ SWMAP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☐ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
SITE			COVER		☐ PRAIRIE
☐ OPEN WATER	☐ CARB. BEDRK.	☐ ALVAR	☐ OPEN		☐ THICKET
☐ SHALLOW WATER		☐ ROCKLAND	☐ SHRUB		☐ SAVANNAH
☐ SURFICIAL DEP.		☐ BEACH / BAR	☐ TREED		☐ WOODLAND
☐ BEDROCK		☐ SAND DUNE			☐ FOREST
		☐ BLUFF			☐ PLANTATION

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1 CANOPY			
2 SUB-CANOPY			
3 UNDERSTOREY			
4 GRD. LAYER			<i>TYPANGU >> ABUTHEO > VERHAST > Bidens</i>

HT CODES: 1=>25m 2=10<HT<25m 3=2<HT<10m 4=1<HT<2m 5=0.5<HT<1m 6=0.2<HT<0.5m 7=HT<0.2m

CVR CODES: 0=NONE 1=0%<CVR<10% 2=10<CVR<25% 3=25<CVR<60% 4=CVR>60%

STAND COMPOSITION:				BA:
SIZE CLASS ANALYSIS:	☐	☐	☐	☐
	<10	10 - 24	25 - 50	>50
STANDING SNAGS:	☐	☐	☐	☐
	<10	10 - 24	25 - 50	>50
DEADFALL/LOGS:	☐	☐	☐	☐
	<10	10 - 24	25 - 50	>50
ABUNDANCE CODES:	N=NONE	R=RARE	O=OCCASIONAL	A=ABUNDANT
COMM. AGE:	☐	☐	☐	☐
	PIONEER	YOUNG	MID-AGE	MATURE
				OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE:	CODE: <i>MAS2-1</i>
<i>Cattail Mineral Shallow Marsh</i>	
INCLUSION	CODE:
COMPLEX	CODE:

Evidence of Disturbance / Notes:

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:	
	POLYGON:	
	DATE:	
	SURVEYOR(S):	

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

SPECIES CODE	LAYER				COLL.	SPECIES CODE	LAYER				COLL.
	1	2	3	4			1	2	3	4	
						<i>TYPANGU</i>					
						<i>ABUTHEO</i>					
						<i>VERHAST</i>					
						<i>BIDENS</i>					
						<i>Ranunculus</i>					
						<i>Fox tail</i>					
						<i>Amaranth</i>					

Page ____ of ____

Signature: *Nan Chen*

(Field Personnel)

Quality Control: This form is complete & legible ☒

Signature: *Carol*

(Project Manager)



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Canada N1G 4P5
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Fax: (519) 836-2493

Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: NRWC

Date: Nov 16, 2011

Field Personnel: N. Charlton

Weather Conditions:	TEMP (°C): <u>5</u>	WIND: <u>3</u>	CLOUD: <u>100</u>	PPT: <u>none</u>	PPT (in last 24 hrs): <u>rain</u>
---------------------	------------------------	-------------------	----------------------	---------------------	--------------------------------------

ELC Polygon: # 11-7 Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through feature

Extent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features:

Contains potential reptile hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

Contains potential bat hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features:

Contains potential bat roosting features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests:

Contains large stick nests?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools:

Contains seeps/springs/vernal pools?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

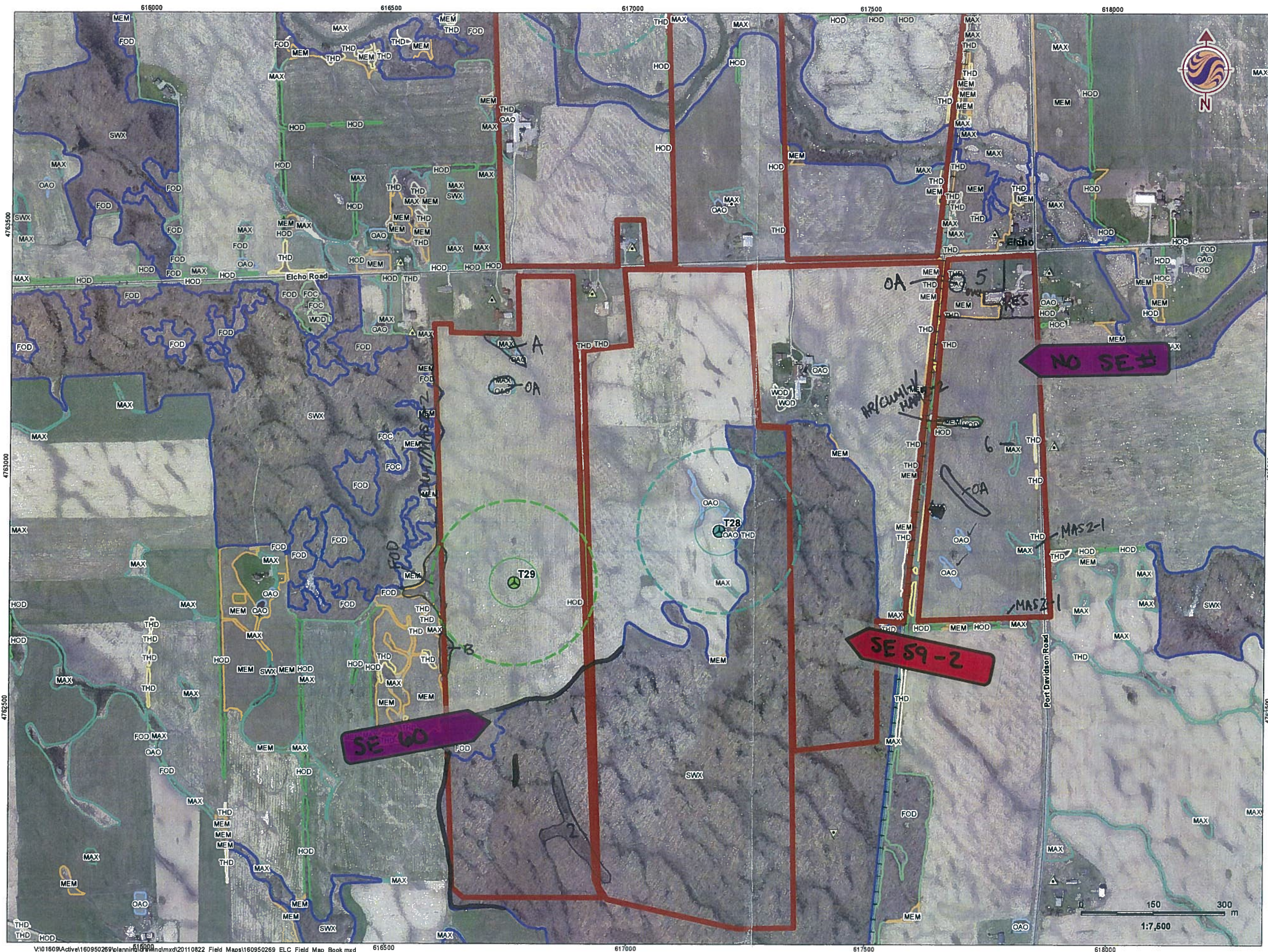
SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

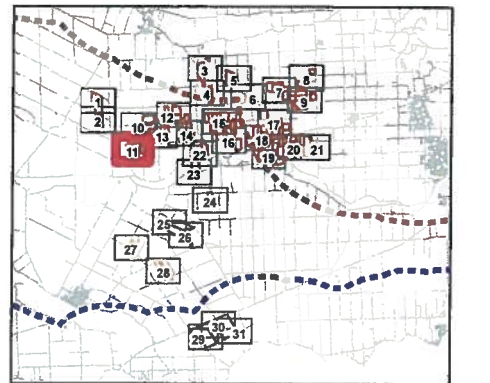
--

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=scar; SI=other sign; TK=track; VO=vocalization



Legend

- Preliminary Study Area
- Signed Project Sites
- Potential Signed Property
- Road
- Railway
- Municipality Lower Tier
- Provincially Significant Wetland
- Other/Locally Significant Wetland
- To Be Determined
- Open Rock/Shrub Rock Barren
- Shoreline
- Bluff
- Swamp
- Marsh
- Bog
- Wetland
- Meadow
- Thicket
- Savanna
- Woodland
- Forest
- Hedgerow
- Tree Agriculture
- Open Water
- Turbines on Developable Land and 101m Diameter
- 170.5m Buffer of Turbine
- Turbines W/ 120m S/B PSW and 101m Diameter
- 170.5m Buffer of Turbine
- Turbines W/ 120m S/B Woodland and 101m Diameter
- 170.5m Buffer of Turbine
- Turbines W/ 120m S/B Wood/ Wetland and 101m Diameter
- 170.5m Buffer of Turbine



Notes

1. Coordinate System: NAD 1983 UTM Zone 17N).
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.



Stantec

September, 2011
160950269

Client/Project
Niagara Region Wind Corporation

Figure No.
E-11

Title
ELC Field Map 11

- ~~Complexed with~~ ^{is one part of} ~~the~~ ^{191 LHA}

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <i>Niagara</i>		POLYGON: <i>12-</i>	
	SURVEYOR(S): <i>NC</i>		DATE: <i>Nov 8</i>	
	START: <i>10:00</i>	END: <i>10:30</i>	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☒ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☐ NATURAL	☐ PLANKTON	☐ LAKE
☐ WETLAND	☒ MINERAL SOIL	☐ RIVERINE	☒ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☐ SWMAP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☐ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☒ MIXED	☐ MEADOW
SITE		☐ ALVAR	COVER		☐ PRAIRIE
☐ OPEN WATER		☐ ROCKLAND	☐ OPEN		☐ THICKET
☐ SHALLOW WATER		☐ BEACH / BAR	☐ SHRUB		☐ SAVANNAH
☒ SURFICIAL DEP.		☐ SAND DUNE	☒ TREED		☐ WOODLAND
☐ BEDROCK		☐ BLUFF			☐ FOREST
					☒ PLANTATION

STAND DESCRIPTION:

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	3	3	PINJ 0 >> Q R LAR X A PRB
2	SUB-CANOPY			
3	UNDERSTOREY			
4	GRD. LAYER	4-7	4	MNOVA

IT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:

SIZE CLASS ANALYSIS:		A	<10	R	10 - 24	N	25 - 50	N	>50
STANDING SNAGS:		R	<10	N	10 - 24	N	25 - 50	N	>50
DEADFALL/LOGS:		N	<10		10 - 24	N	25 - 50	N	>50
ABUNDANCE CODES:		N=NONE		R=RARE		O=OCCASIONAL		A=ABUNDANT	
COMM. AGE:		PIONEER	YOUNG	MID-AGE		MATURE		OLD GROWTH	

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE: white pine <i>dh</i> <i>dec</i> <i>pl</i> <i>tat</i>		CODE: <i>P2</i> *
INCLUSION		CODE: <i>haz</i>
COMPLEX		CODE: <i>MAM</i> <i>Eum1-1</i>

Evidence of Disturbance / Notes:

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE: SE 26; Tile E-12; Poly 1
	SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page ____ of ____ **complex*
Signature: *Ned [Signature]*
(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒

Signature: *[Signature]*
(Project Manager)

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Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: NRWC

Date: Nov 8, 2011

Field Personnel: N. Charlton

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>12</u>	<u>2</u>	<u>35%</u>	<u>none</u>	<u>some rain</u>

ELC Polygon: #12-1 Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through feature

Extent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features:

Contains potential reptile hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

Contains potential bat hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features:

Contains potential bat roosting features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests:

Contains large stick nests?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools:

Contains seeps/springs/vernal pools?

☒-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
within MAM complex there is H ₂ O	< 1 ha	~10 cm	N/A	yes	yes	

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=scar; SI=other sign; TK=track; VO=vocalization

POLYGON DESCRIPTION

STAND DESCRIPTION:

HT CODES: 1=≥25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m
CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

- which leads into the Western Community

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

(Project Manager)

open water %15 up to 2ft

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: Niagara		POLYGON: 12-	
	SURVEYOR(S): NC		DATE: Nov 8	
	START: 10:00	END: 10:30	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☒ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☐ NATURAL	☐ PLANKTON	☐ LAKE
☐ WETLAND	☒ MINERAL SOIL	☐ RIVERINE	☒ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☐ SWMAP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☐ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☒ MIXED	☐ MEADOW
SITE		☐ ALVAR	COVER		☐ PRAIRIE
☐ OPEN WATER		☐ ROCKLAND	☐ SHRUB		☐ THICKET
☐ SHALLOW WATER		☐ BEACH / BAR	☒ TREED		☐ SAVANNAH
☒ SURFICIAL DEP.		☐ SAND DUNE			☐ WOODLAND
☐ BEDROCK		☐ BLUFF			☐ FOREST
					☒ PLANTATION

STAND DESCRIPTION:

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	3	3	PINUS >>> Q R LAR X A PRU
2	SUB-CANOPY			
3	UNDERSTOREY			
4	GRD. LAYER	4-7	4	MNOVA

HT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:

SIZE CLASS ANALYSIS:		A	<10	R	10 - 24	N	25 - 50	N	>50
STANDING SNAGS:		R	<10	N	10 - 24	N	25 - 50	N	>50
DEADFALL/LOGS:		N	<10		10 - 24	N	25 - 50	N	>50
ABUNDANCE CODES:		N=NONE		R=RARE		O=OCCASIONAL		A=ABUNDANT	
COMM. AGE:		PIONEER	YOUNG	MID-AGE		MATURE		OLD GROWTH	

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
COSITE:		CODE:
VEGETATION TYPE: white pine <i>dec</i> <i>pl</i> <i>h</i>		CODE: <i>P12</i> *
INCLUSION	CODE: <i>Hawz</i>	
COMPLEX	CODE: <i>MAM</i> <i>EUMI-1</i>	

Evidence of Disturbance / Notes:

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE: SE 26; Tile E-12; Poly 1
	SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page ____ of ____ **complex*
Signature: *Ned [Signature]*
(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒

Signature: *[Signature]*
(Project Manager)



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1 – 70 Southgate Drive
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Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: NRWC

Date: Nov 8, 2011

Field Personnel: N. Charlton

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>12</u>	<u>2</u>	<u>35%</u>	<u>none</u>	<u>some rain</u>

ELC Polygon: #12-2 Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through feature

Extent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features:

Contains potential reptile hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

Contains potential bat hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features:

Contains potential bat roosting features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests:

Contains large stick nests?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools:

Contains seeps/springs/vernal pools?

☒-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
<u>entire community</u>	<u>pond</u>	<u>10 x 10 m</u>	<u>up to 2ft</u>	<u>N/A</u>	<u>yes</u>	<u>yes</u>

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

CA=carcass; DP=distinctive parts; FE=feeding evidence; EY=eggs/nest; HO=house/den; OB=observed; SC=scar; SI=other sign; TK=track; VO=vocalization

ELC
COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: Niagara
SURVEYOR(S): NC
DATE: Nov 8, 2011
POLYGON: 12-3
START: 10:30 **END:** 10:45
UTME:
UTMZ: **UTMN:**

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☒ NATURAL	☐ PLANKTON	☐ LAKE
☐ WETLAND	☒ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
☒ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☒ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
		☐ TABLELAND		☐ LICHEN	☐ SWAMP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☐ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
SITE	☐ CARB. BEDRK.		COVER		☐ PRAIRIE
☒ OPEN WATER			☒ OPEN		☐ THICKET
☒ SHALLOW WATER			☐ SHRUB		☐ SAVANNAH
☐ SURFICIAL DEP.			☐ TREED		☐ WOODLAND
☐ BEDROCK					☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1 CANOPY			
2 SUB-CANOPY			
3 UNDERSTOREY			
4 GRD. LAYER			<u>Duckweed > CAREX > BIDENS</u>

HT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m
CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:

SIZE CLASS ANALYSIS:	<10	10-24	25-50	>50
STANDING SNAGS:	<u>R</u>	<u>R</u>	<u>N</u>	<u>N</u>
DEADFALL/LOGS:	<u><10</u>	<u>10-24</u>	<u>25-50</u>	<u>>50</u>
ABUNDANCE CODES:	N=NONE	R=RARE	O=OCCASIONAL	A=ABUNDANT
COMM. AGE:	PIONEER	YOUNG	MID-AGE	MATURE
				OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE:	CODE:
<u>Duckweed Floating-leaved shallow aquatic</u>	<u>SAFI-3</u>
INCLUSION	CODE:
COMPLEX	CODE:

Evidence of Disturbance / Notes:

duckweed all over surface, carex in an irregular ring around edge

ELC
COMMUNITY DESCRIPTION & CLASSIFICATION

SITE:
POLYGON: SE26; Tile E-12; Poly 3
DATE:
SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

SPECIES C DE	LAYER				COLL.	SPECIES CODE	LAYER				COLL.
	1	2	3	4			1	2	3	4	
						<u>CAREX</u>					<u>D-A</u>
						<u>Duckweed</u>					<u>A</u>
						<u>Bidens</u>					<u>R</u>
						<u>Solidus</u>					<u>R</u>
						<u>Phalaris</u>					<u>R</u>

Page ____ of ____

Signature:

New Cheryl
 (Field Personnel)

Quality Control: This form is complete & legible ☒

Signature:

Andrew
 (Project Manager)



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Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: NRWC

Date: Nov 8, 2011

Field Personnel: N. Charlton

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>12</u>	<u>2</u>	<u>35%</u>	<u>none</u>	<u>rain</u>

ELC Polygon: # 12-3 Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through feature

Extent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features:

Contains potential reptile hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

Contains potential bat hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features:

Contains potential bat roosting features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests:

Contains large stick nests?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools:

Contains seeps/springs/vernal pools?

☒-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
<u>Whole community</u>	<u>Pool</u>	<u>100x10m</u>	<u>at least 1ft</u>	<u>12-3</u>	<u>yes</u>	<u>yes</u>

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=scar; SI=other sign; TK=track; VO=vocalization



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Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: NRWC

Date: Nov 8, 2011

Field Personnel: N. Charlton

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>12</u>	<u>2</u>	<u>35%</u>	<u>none</u>	<u>rain</u>

ELC Polygon: # 12-4 Assessment Type: ☐ Visual; roadside, no access / ☒ Physical; walk through feature

Extent of Physical Investigation of Feature: ☒ Entire / ☐ Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features:

Contains potential reptile hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

Contains potential bat hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features:

Contains potential bat roosting features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests:

Contains large stick nests?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools:

Contains seeps/springs/vernal pools?

☒-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
	<u>Swamp complex w pools</u>	<u>5 to 10 m</u>	<u>at least 60cm</u>	<u>N/A</u>	<u>Yes</u>	<u>Yes</u>

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

- Spring peeper OB
- common garter snake OB
- red-tailed hawk flying overhead around this polygon where it belongs to an adjacent property (south)
- mink OB

CA=carcass; DP=distinctive parts; FI=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=scar; SI=other sign; TK=track; VO=vocalization

— Reference —

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:		POLYGON: 12-4	
	SURVEYOR(S):		DATE:	UTME:
	START: 10:45	END: 11:00	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE ☐ RIVERINE	☐ NATURAL	☐ PLANKTON ☐ SUBMERGED	☐ LAKE ☐ POND
☐ WETLAND	☐ MINERAL SOIL	☐ BOTTOMLAND ☐ TERRACE	☐ CULTURAL	☐ FLOATING-LVD. ☐ GRAMINOID	☐ RIVER ☐ STREAM
☐ AQUATIC	☐ PARENT MIN.	☐ VALLEY SLOPE ☐ TABLELAND		☐ FORB ☐ LICHEN	☐ MARSH ☐ SWMAP
	☐ ACIDIC BEDRK.	☐ ROLL. UPLAND ☐ CLIFF		☐ BRYOPHYTE ☐ DECIDUOUS	☐ FEN ☐ BOG
	☐ BASIC BEDRK.	☐ TALUS ☐ CREVICE / CAVE		☐ CONIFEROUS ☐ MIXED	☐ BARREN ☐ MEADOW
SITE			COVER		
☐ OPEN WATER	☐ CARB. BEDRK.	☐ ALVAR ☐ ROCKLAND	☐ OPEN ☐ SHRUB ☐ TREED		☐ PRAIRIE ☐ THICKET
☐ SHALLOW WATER		☐ BEACH / BAR ☐ SAND DUNE			☐ SAVANNAH ☐ WOODLAND
☐ SURFICIAL DEP.		☐ BLUFF			☐ FOREST
☐ BEDROCK					☐ PLANTATION

STAND DESCRIPTION:

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY			
2	SUB-CANOPY			
3	UNDERSTOREY			
4	GRD. LAYER			

HT CODES: 1= $\geq 25\text{m}$ 2= $10 < \text{HT} \leq 25\text{m}$ 3= $2 < \text{HT} \leq 10\text{m}$ 4= $1 < \text{HT} \leq 2\text{m}$ 5= $0.5 < \text{HT} \leq 1\text{m}$ 6= $0.2 < \text{HT} \leq 0.5\text{m}$ 7= $\text{HT} < 0.2\text{m}$

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:										BA:	
SIZE CLASS ANALYSIS:		A	<10	DA	10 - 24	D	25 - 50	R	>50		
STANDING SNAGS:		0	<10	0	10 - 24	R	25 - 50	N	>50		
DEADFALL/LOGS:		0	<10	0	10 - 24	R	25 - 50	N	>50		
ABUNDANCE CODES:		N=NONE		R=RARE		O=OCCASIONAL		A=ABUNDANT			
COMM. AGE:		PIONEER		YOUNG		MID-AGE		MATURE		OLD GROWTH	

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE:		CODE:
	INCLUSION	CODE:
	COMPLEX	CODE: SWD1-2

Evidence of Disturbance / Notes:

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page ____ of ____

Signature:

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒.

Signature:

(Project Manager)



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Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: NRWC

Date: Nov 8

Field Personnel: N. Charlton

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>12</u>	<u>2</u>	<u>35%</u>	<u>none</u>	<u>some rain</u>

ELC Polygon: #12-5 Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through feature

Extent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features:

Contains potential reptile hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

Contains potential bat hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features:

Contains potential bat roosting features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests:

Contains large stick nests?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools:

Contains seeps/springs/vernal pools?

☒-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
<u>MAW</u>	<u>a pool of shallow H₂O</u>	<u>10x10</u>	<u>at least 1ft</u>	<u>N/A</u>	<u>yes</u>	<u>yes</u>

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=scar; SI=other sign; TK=track; VO=vocalization

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <i>Niagara</i>		POLYGON: <i>12-6</i>	
	SURVEYOR(S): <i>NC</i>	DATE: <i>Nov 8, 2011</i>	UTME:	
	START: <i>12:00</i>	END: <i>12:15</i>	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☒ NATURAL	☐ PLANKTON	☐ LAKE
☒ WETLAND	☒ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☐ SWMAP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☐ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR	☒ OPEN		☐ PRAIRIE
		☐ ROCKLAND	☐ SHRUB		☐ THICKET
		☐ BEACH / BAR	☐ TREED		☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY			
2	SUB-CANOPY			
3	UNDERSTOREY			
4	GRD. LAYER	5-7	4	PHAARUN >> POLYGONUM

HT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.6<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m
CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:										BA:	
SIZE CLASS ANALYSIS:			<10		10 – 24		25 – 50		>50		
STANDING SNAGS:			<10		10 – 24		25 – 50		>50		
DEADFALL/LOGS:			<10		10 – 24		25 – 50		>50		
ABUNDANCE CODES:		N=NONE		R=RARE		O=OCCASIONAL		A=ABUNDANT			
COMM. AGE:		PIONEER		YOUNG		MID-AGE		MATURE		OLD GROWTH	

COMMUNITY CLASSIFICATION:

Evidence of Disturbance / Notes:

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Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269Project Name: NRWCDate: Nov 3, 2011Field Personnel: N. Charlton

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>12</u>	<u>2</u>	<u>35</u>	<u>none</u>	<u>some rain</u>

ELC Polygon: #12-6 Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through featureExtent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features: Contains potential reptile hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]
 Contains potential bat hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED			
UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features: Contains potential bat roosting features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED						
UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities

Stick Nests: Contains large stick nests?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED					
UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
☒-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED						
UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
	<u>pooled #20</u>	<u>patchy</u>	<u>15cm</u>	<u>N/A</u>	<u>yes</u>	<u>yes</u>

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

--

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=seat; SI=other sign; TK=track; VO=vocalization

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Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269Project Name: NRWCDate: Nov 8, 2011Field Personnel: N. Charlton

Weather Conditions:	TEMP (°C): <u>12</u>	WIND: <u>2</u>	CLOUD: <u>35</u>	PPT: <u>none</u>	PPT (in last 24 hrs): <u>some rain</u>
---------------------	-------------------------	-------------------	---------------------	---------------------	---

ELC Polygon: #12-7 Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through featureExtent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features: Contains/potential reptile hibernacula features?
☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]
 Contains/potential bat hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED			
UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features: Contains/potential bat roosting features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED							
UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests: Contains/potential large stick nests?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED					
UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

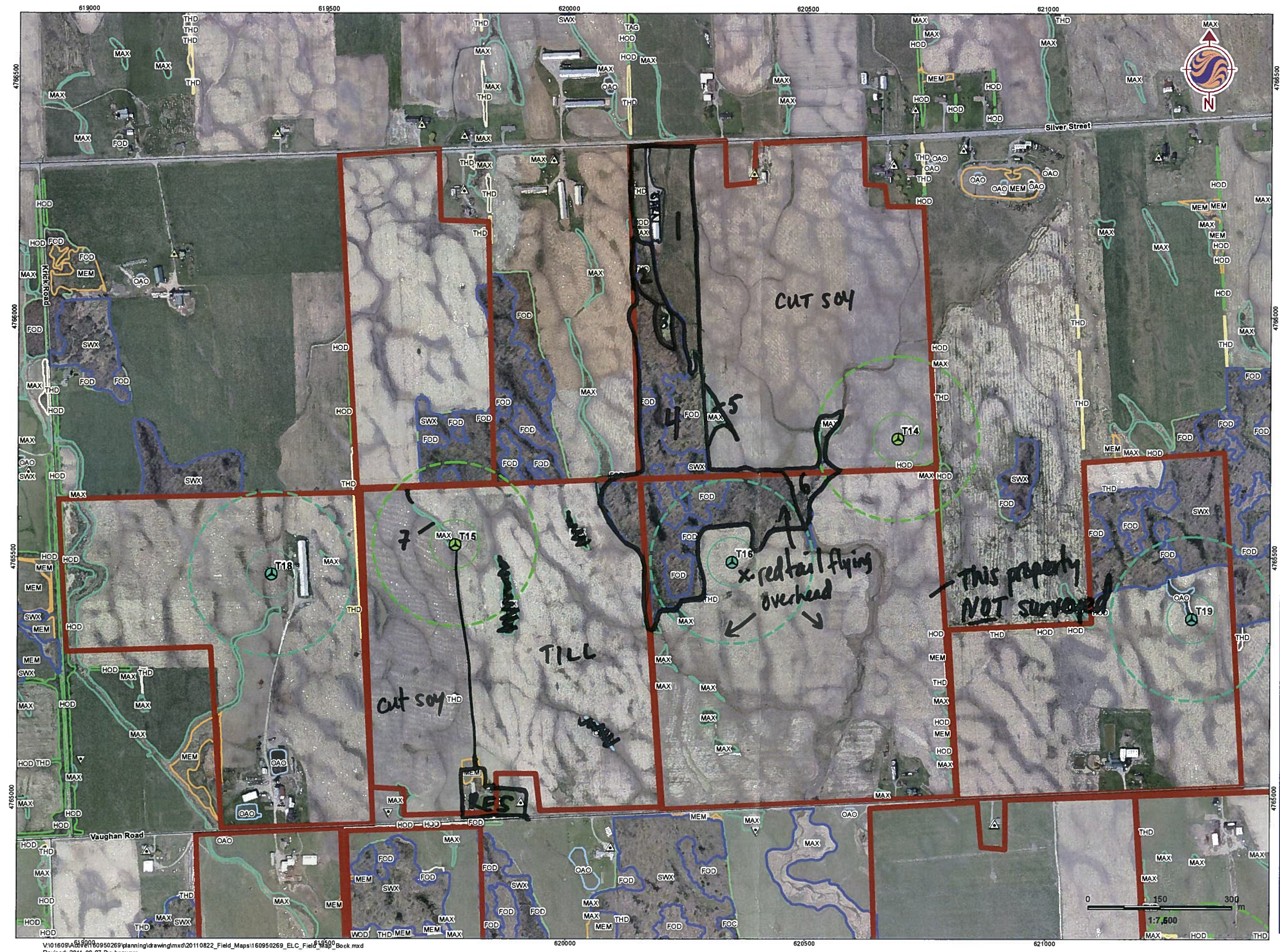
Seeps/Springs/Vernal Pools: Contains/potential seeps/springs/vernal pools?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED						
UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

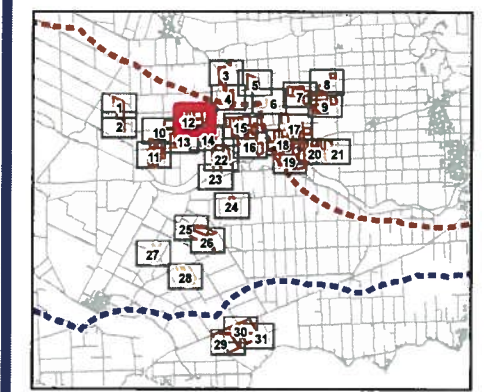
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CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=scar; SI=other sign; TK=track; VO=vocalization



Legend

	Preliminary Study Area		Turbines on Developable Land and 101m Diameter
	Signed Project Sites		170.5m Buffer of Turbine
	Potential Signed Property		Turbines W/ 120m S/B PSW and 101m Diameter
	Road		170.5m Buffer of Turbine
	Railway		Turbines W/ 120m S/B Woodland and 101m Diameter
	Municipality Lower Tier		170.5m Buffer of Turbine
	Provincially Significant Wetland		Turbines W/ 120m S/B Wood/ Wetland and 101m Diameter
	Other/Locally Significant Wetland		170.5m Buffer of Turbine
	To Be Determined		
	Open Rock/Shrub Rock Barren		
	Shoreline		
	Bluff		
	Swamp		
	Marsh		
	Bog		
	Wetland		
	Meadow		
	Thicket		
	Savanna		
	Woodland		
	Forest		
	Hedgerow		
	Tree Agriculture		
	Open Water		



- ### Notes
- Coordinate System: NAD 1983 UTM Zone 17N).
 - Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.

September, 2011
160950269

Client/Project
Niagara Region Wind Corporation

Figure No.
E-12

Title
ELC Field Map 12

**Stantec**

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Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269Project Name: NRWCDate: Nov 15Field Personnel: N. Charlton

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>12</u>	<u>1</u>	<u>20</u>	<u>none</u>	<u>some rain</u>

ELC Polygon: # _____ Assessment Type: ☐-Visual; roadside, no access / ☐-Physical; walk through featureExtent of Physical Investigation of Feature: ☐-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features: Contains potential reptile hibernacula features?
☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]
 Contains potential bat hibernacula features?
☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED			
UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features: Contains potential bat roosting features?
☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED							
UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities
0618545/4764504		ACEFREE	15 cm				

Stick Nests: Contains large stick nests?
☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED					
UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED						
UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

--

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HU=house/den; OB=observed; SC=seat; SI=other sign; TK=track; VO=vocalization

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: Niagara		POLYGON: 13-4A	
	SURVEYOR(S): KC		DATE: Nov 15	UTME:
	START: 3:30	END: 4:00	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☒ NATURAL	☐ PLANKTON	☐ LAKE
☐ WETLAND	☒ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☒ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☒ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☒ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☐ SWMAP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☐ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
SITE			COVER		☐ PRAIRIE
☐ OPEN WATER		☐ ALVAR	☒ OPEN		☐ THICKET
☒ SHALLOW WATER		☐ ROCKLAND	☐ SHRUB		☐ SAVANNAH
☐ SURFICIAL DEP.		☐ BEACH / BAR	☐ TREED		☐ WOODLAND
☐ BEDROCK		☐ SAND DUNE			☐ FOREST
		☐ BLUFF			☐ PLANTATION

STAND DESCRIPTION:

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY			
2	SUB-CANOPY			
3	UNDERSTOREY			SPIALBA > CEPOCCI = QUEBICO > VIBRAF
4	GRD. LAYER			CAREX > PHAARUN = SCICYPE

HT CODES: 1= $>25m$ 2= $10<HT\leq 25m$ 3= $2<HT\leq 10m$ 4= $1<HT\leq 2m$ 5= $0.5<HT\leq 1m$ 6= $0.2<HT\leq 0.5m$ 7= $HT<0.2m$

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:								BA:	
SIZE CLASS ANALYSIS:		A	<10	N	10 - 24	M	25 - 50	N	>50
STANDING SNAGS:		N	<10	N	10 - 24	M	25 - 50	N	>50
DEADFALL/LOGS:		0	<10	N	10 - 24	M	25 - 50	N	>50
ABUNDANCE CODES:		N=NONE		R=RARE		O=OCCASIONAL		A=ABUNDANT	
COMM. AGE:		PIONEER		YOUNG		MID-AGE		MATURE	
								OLD GROWTH	

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE: <i>brad leaved sedge mineral shallow marsh</i>		CODE: <i>MAS2-4</i>
INCLUSION		CODE:
COMPLEX		CODE:

Evidence of Disturbance / Notes:

Some water, 1 ft deep, 60%

MAS w ring of SP1ALBA + Buttonbush (close to SWT)

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:	
	POLYGON:	
	DATE:	
	SURVEYOR(S):	

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page ____ of ____

Signature:

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒

Signature:

(Project Manager)

**Stantec**

Stantec Consulting Ltd.
1 – 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269Project Name: NRWCDate: Nov 15Field Personnel: N. Charlton

Weather Conditions:	TEMP (°C): <u>12</u>	WIND: <u>1</u>	CLOUD: <u>20%</u>	PPT: <u>None</u>	PPT (in last 24 hrs): <u>Some rain</u>
---------------------	-------------------------	-------------------	----------------------	---------------------	---

ELC Polygon: # _____ Assessment Type: ☐-Visual; roadside, no access / ☐-Physical; walk through featureExtent of Physical Investigation of Feature: ☐-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features: Contains potential reptile hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]
 Contains potential bat hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features: Contains potential bat roosting features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests: Contains large stick nests?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

--

C*=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HQ=house/den; OB=observed; SC=seat; SJ=other sign; TK=track; VO=vocalization

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <i>Niagara</i>		POLYGON: <i>13-2A</i>	
	SURVEYOR(S): <i>NC</i>		DATE: <i>Nov 15</i>	
	START: <i>2:30</i>	END: <i>3:00</i>	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE ☐ RIVERINE	☐ NATURAL	☐ PLANKTON ☐ SUBMERGED	☐ LAKE ☐ POND
☐ WETLAND	☐ MINERAL SOIL	☐ BOTTOMLAND ☐ TERRACE	☐ CULTURAL	☐ FLOATING-LVD. ☐ GRAMINOID	☐ RIVER ☐ STREAM
☐ AQUATIC	☐ PARENT MIN.	☐ VALLEY SLOPE ☐ TABLELAND		☐ FORB ☐ LICHEN	☐ MARSH ☐ SWMAP
	☐ ACIDIC BEDRK.	☐ ROLL. UPLAND ☐ CLIFF		☐ BRYOPHYTE ☐ DECIDUOUS	☐ FEN ☐ BOG
	☐ BASIC BEDRK.	☐ TALUS ☐ CREVICE / CAVE	COVER	☐ CONIFEROUS ☐ MIXED	☐ BARREN ☐ MEADOW
SITE			☐ OPEN ☐ SHRUB ☐ TREED		☐ PRAIRIE ☐ THICKET
☐ OPEN WATER	☐ CARB. BEDRK.	☐ ALVAR ☐ ROCKLAND			☐ SAVANNAH ☐ WOODLAND
☐ SHALLOW WATER		☐ BEACH / BAR ☐ SAND DUNE			☐ FOREST
☐ SURFICIAL DEP.		☐ BLUFF			☐ PLANTATION
☐ BEDROCK					

STAND DESCRIPTION:

LAYER			HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	QUERUBR > ACESASA > CAROVAT	
2	SUB-CANOPY	3	3	FAGGRAN > OSTVIRG = ACESASA	
3	UNDERSTOREY	4	3	FAGGRAN > OSTVIRG > CARCARO	
4	GRD. LAYER	5-7	2	FAGGRAN > CAROVAT > FRAMRG = GEUM	

HT CODES: 1= $\geq 25\text{m}$ 2= $10 < \text{HT} \leq 25\text{m}$ 3= $2 < \text{HT} \leq 10\text{m}$ 4= $1 < \text{HT} \leq 2\text{m}$ 5= $0.5 < \text{HT} \leq 1\text{m}$ 6= $0.2 < \text{HT} \leq 0.5\text{m}$ 7= $\text{HT} < 0.2\text{m}$

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:										BA:	
SIZE CLASS ANALYSIS:		A	<10	A	10 - 24	0	25 - 50	R	>50		
STANDING SNAGS:		0	<10	A	10 - 24	0	25 - 50	R	>50		
DEADFALL/LOGS:		A	<10	A	10 - 24	A	25 - 50	N	>50		
ABUNDANCE CODES:			N=NONE		R=RARE		O=OCCASIONAL		A=ABUNDANT		
COMM. AGE:		PIONEER		YOUNG		MID-AGE		MATURE		OLD GROWTH	

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE: E-M Sugar Maple - Hardwood Dec. Forest	CODE: FOD10-5
INCLUSION	CODE:
COMPLEX	CODE:

Evidence of Disturbance / Notes:

Evidence of Disturbance / Notes: soil: clay. water table + moths at 1.5 (30 cm)
- woodpecker on beech ♀ (downy hairy - no red)

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page of

Signature:

Field Personnel

Quality Control: This form is complete ☒ & legible ☒

Signature:

(Project Manager)

**Stantec**

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Tel: (519) 836-6050
Fax: (519) 836-2493

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269Project Name: NRWLDate: Nov 15Field Personnel: N. Charlton

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>12</u>	<u>1</u>	<u>20</u>	<u>none</u>	<u>some rain</u>

ELC Polygon: # _____ Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through featureExtent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features: Contains potential reptile hibernacula features?
☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]
 Contains potential bat hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features: Contains potential bat roosting features?
☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests: Contains large stick nests?
☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

downy woodpecker

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HD=house/den; OB=observed; SC=scar; SI=other sign; TK=track; VO=vocalization

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <i>Niagara</i>		POLYGON: <i>13-3A</i>	
	SURVEYOR(S): <i>NC</i>		DATE: <i>Nov 15</i>	
	START: <i>3:00</i>		END: <i>3:30</i>	
			UTMZ:	
			UTMN:	

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE ☐ RIVERINE	☐ NATURAL	☐ PLANKTON ☐ SUBMERGED	☐ LAKE ☐ POND
☐ WETLAND	☐ MINERAL SOIL	☐ BOTTOMLAND ☐ TERRACE	☐ CULTURAL	☐ FLOATING-LVD. ☐ GRAMINOID	☐ RIVER ☐ STREAM
☐ AQUATIC	☐ PARENT MIN.	☐ VALLEY SLOPE ☐ TABLELAND		☐ FORB ☐ LICHEN	☐ MARSH ☐ SWAMP
	☐ ACIDIC BEDRK. ☐ TALUS	☐ ROLL. UPLAND ☐ CLIFF		☐ BRYOPHYTE ☐ DECIDUOUS	☐ FEN ☐ BOG
SITE	☐ BASIC BEDRK. ☐ CARB. BEDRK.	☐ CREVICE / CAVE ☐ ALVAR	COVER	☐ CONIFEROUS ☐ MIXED	☐ BARREN ☐ MEADOW
☐ OPEN WATER ☐ SHALLOW WATER		☐ ROCKLAND ☐ BEACH / BAR	☐ OPEN ☐ SHRUB ☐ TREED		☐ PRAIRIE ☐ THICKET
☐ SURFICIAL DEP. ☐ BEDROCK		☐ SAND DUNE ☐ BLUFF			☐ SAVANNAH ☐ WOODLAND ☐ FOREST ☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	ACESASA > QUERUBR > CAROVAT
2	SUB-CANOPY	3	3	OSTVIRG > FAGGRAN > ACESASA = CAROVAT
3	UNDERSTOREY	4	3	FAGGRAN > OSTVIRG > ACESASA
4	GRD. LAYER	5-7	3	CARPENN > FAGGRAN

HT CODES: 1= $>25m$ 2= $10 < HT \leq 25m$ 3= $2 < HT \leq 10m$ 4= $1 < HT \leq 2m$ 5= $0.5 < HT \leq 1m$ 6= $0.2 < HT \leq 0.5m$ 7= $HT < 0.2m$

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:	BA:
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SIZE CLASS ANALYSIS:	A	<10	A	10 - 24	0	25 - 50	R	>50
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STANDING SNAGS:	A	<10	A	10 - 24	0	25 - 50	A	>50
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DEADFALL/LOGS:	A	<10	A	10 - 24	0	25 - 50	R	>50
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ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE:	PIONEER	YOUNG	MID-AGE	MATURE	OLD GROWTH
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SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
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MOISTURE:	DEPTH OF ORGANICS:	(cm)
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HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:	(cm)
------------------------	-------------------	------

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
------------------	-------

COMMUNITY SERIES:	CODE:
-------------------	-------

ECOSITE:	CODE:
----------	-------

VEGETATION TYPE: Mt. Hardwood Forest CODE: K001-5

F-M Sugar Maple - Hardwood Dec. Forest	F006-3
--	--------

	INCLUSION	CODE:
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	COMPLEX	CODE:
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Evidence of Disturbance / Notes:

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page ____ of ____

Signature:

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒

Signature:

(Project Manager)

**Stantec**

Stantec Consulting Ltd.
1 – 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269Project Name: NRWCDate: Nov 15Field Personnel: N. Charlton

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>12</u>	<u>1</u>	<u>20</u>	<u>none</u>	<u>some rain</u>

ELC Polygon: # _____ Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through featureExtent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features: Contains potential reptile hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]
 Contains potential bat hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features: Contains potential bat roosting features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests: Contains large stick nests?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

--

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=scar; SI=other sign; TK=track; VO=vocalization

**Stantec****Stantec Consulting Ltd.**

1 – 70 Southgate Drive

Guelph, ON

Canada N1G 4P5

Tel: (519) 836-6050

Fax: (519) 836-2493

**Woodland & Wildlife
Habitat Assessment Form**

Project Number:

160950269

Project Name:

NRWL

Date:

Nov 8

Field Personnel:

N. Charlton

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>6</u>	<u>2</u>	<u>90</u>	<u>none</u>	<u>some rain</u>

ELC Polygon: # _____ Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through featureExtent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)**Reptile / Bat Hibernacula Features:**

Contains potential reptile hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

Contains potential bat hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features:

Contains potential bat roosting features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests:

Contains large stick nests?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)**STICK NEST(S) IDENTIFIED**

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools:

Contains seeps/springs/vernal pools?

☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)**SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED**

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

--

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=scat; SI=other sign; TK=track; VO=vocalization

POLYGON DESCRIPTION

STAND DESCRIPTION:

HT CODES: 1=≥25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m
CVR CODES: 0=NONE 1=0%<CVR≤10%. 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

SOIL ANALYSIS:

COMMUNITY CLASSIFICATION:

Evidence of Disturbance / Notes:

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

Page ____ of ____

Signature:

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☐

Signature:

(Project Manager)



Stantec Consulting Ltd.
1 – 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Woodland & Wildlife Habitat Assessment Form

Project Name: AIRWC

Field Personnel: N. Chan/Hs

Weather Conditions:	TEMP (°C): 6	WIND: 2	CLOUD: 90	PPT: none	PPT (in last 24 hrs): some rain
---------------------	-----------------	------------	--------------	--------------	------------------------------------

ELC Polygon: # **Assessment Type:** ☐-Visual; roadside, no access / ☒-Physical; walk through feature

Extent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (*indicate on map*)

Reptile / Bat Hibernacula Features: Contains potential reptile hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (**if yes, describe in table below*)
 [i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]
 Contains potential bat hibernacula features?
☐-Y* / ☐-N / ☐-Unknown, no access (**if yes, describe in table below*)
 [i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features: Contains potential bat roosting features?
☐-Y* / ☒-N / ☐-Unknown, no access (**if yes, describe in table below*)
 [i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities
-----	---------	-----------	-----	-----------	-------------------	-----------------	-----------------------------

Stick Nests: Contains large stick nests?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

CA = carcass; DP = distinctive parts; FE = feeding evidence; FY = egg/nest; HO = house/den; OB = observed; SC = scat; SI = other sign; TK = track; VO = vocalization

POLYGON DESCRIPTION

STAND DESCRIPTION:

HT CODES: 1>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m
CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

SIZE CLASS ANALYSIS:	R	<10	R	10 - 24	N	25 - 50	N	>50
STANDING SNAGS:	R	<10	O	10 - 24	N	25 - 50	N	>50
DEADFALL LOGS:	O	<10	O	10 - 24	N	25 - 50	N	>50

SOIL ANALYSIS:

COMMUNITY CLASSIFICATION:

Evidence of Disturbance / Notes:

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <i>Nogona</i>	
	POLYGON: <i>13-1</i>	
	DATE: <i>oct 26, 2011</i>	<i>NO SE#; T: 12 F-13; Poly</i>
	SURVEYOR(S): <i>C. Pappert</i>	

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

Page ____ of ____

Signature:

Quality Control: This form is complete ☒ & legible ☒.

Signature:

(Project Manager

**Stantec**

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Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269Project Name: NiagaraDate: Oct 26, 2011Field Personnel: C. Daytte

Weather Conditions:

TEMP (°C):

9

WIND:

2

CLOUD:

100

PPT:

rain

PPT (in last 24 hrs):

rainELC Polygon: # 13- Assessment Type: ☐ Visual; roadside, no access / ☒ Physical; walk through featureExtent of Physical Investigation of Feature: ☒ Entire / ☐ Partial, walk through polygon (indicate on map)**Reptile / Bat Hibernacula Features:**

Contains potential reptile hibernacula features?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

Contains potential bat hibernacula features?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features:

Contains potential bat roosting features?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests:

Contains large stick nests?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)**STICK NEST(S) IDENTIFIED**

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools:

Contains seeps/springs/vernal pools?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)**SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED**

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HC=house/den; OB=observed; SC=seat; SI=other sign; TK=track; VO=vocalization

POLYGON DESCRIPTION

STAND DESCRIPTION:

HT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT≤0.2m
CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

COMM. AGE:	PIONEER	YOUNG	MID-AGE	☒ MATURE	OLD GROWTH
------------	---------	-------	---------	--	------------

COMMUNITY CLASSIFICATION:

4	COMPLEX	Reed canopy meadow	CODE: MAM2-2
---	---------	--------------------	--------------

Evidence of Disturbance / Notes:

photo 54 Site has numerous pockets of ~~rock~~ ^{rock} ← photo 55
Based on this, complexed the site
very rolling w/ tree areas much higher than pockets.

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

Page ____ of ____

Signature:

(Field Personnel

Quality Control: This form is complete ☒ & legible ☒.

Signature:

Project Manager



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Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: Niagara

Date: Oct 26, 2011

Field Personnel: C. Payette

Weather Conditions:	TEMP (°C): <u>9</u>	WIND: <u>2</u>	CLOUD: <u>100</u>	PPT: <u>Rain</u>	PPT (in last 24 hrs): <u>Rain</u>
---------------------	------------------------	-------------------	----------------------	---------------------	--------------------------------------

ELC Polygon: # 13-2 Assessment Type: ☐ Visual; roadside, no access / ☒ Physical; walk through feature

Extent of Physical Investigation of Feature: ☐ Entire / ☒ Partial, walk through polygon (indicate on map)
↳ only on property

Reptile / Bat Hibernacula Features: Contains potential reptile hibernacula features?
☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)
[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]
Contains potential bat hibernacula features?
☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)
[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED			
UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features: Contains potential bat roosting features?
☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)
[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED							
UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests: Contains large stick nests?
☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED						
UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature	

Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED						
UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

Deer (PE, SI (scratch pits))

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HC=house/den; OB=observed; SC=scar; SI=other sign; TK=track; VO=vocalization

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Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Woodland & Wildlife Habitat Assessment Form

Project Number: _____

Project Name: NiagaraDate: Oct 26, 2011Field Personnel: C. Payette

Weather Conditions:

TEMP (°C): 9WIND: 2CLOUD: 100PPT: RainPPT (in last 24 hrs): Rain

ELC Polygon: # _____

Assessment Type: ☐ Visual; roadside, no access / ☒ Physical; walk through featureExtent of Physical Investigation of Feature: ☒ Entire / ☐ Partial, walk through polygon (indicate on map)**Reptile / Bat Hibernacula Features:**

Contains potential reptile hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

Contains potential bat hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features:

Contains potential bat roosting features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests:

Contains large stick nests?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)**STICK NEST(S) IDENTIFIED**

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools:

Contains seeps/springs/vernal pools?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)**SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED**

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

--

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HU=house/den; OB=observed; SC=scar; SI=other sign; TK=track; VO=vocalization

POLYGON DESCRIPTION

STAND DESCRIPTION:

HT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m
CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
----------	-----------------------	----	----

COMMUNITY CLASSIFICATION:

COMPLEX		CODE:
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Evidence of Disturbance / Notes:

Page ____ of ____

Signature:

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒

Signature:

4 Project Manager

**Stantec**

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Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269Project Name: NiagaraDate: Oct 26, 2011Field Personnel: C. Payette

Weather Conditions:

TEMP (°C):

7

WIND:

2

CLOUD:

100

PPT:

rain

PPT (in last 24 hrs):

rainELC Polygon: # 13-4 Assessment Type: ☐ Visual; roadside, no access / ☒ Physical; walk through featureExtent of Physical Investigation of Feature: ☒ Entire / ☐ Partial, walk through polygon (indicate on map)**Reptile / Bat Hibernacula Features:**

Contains potential reptile hibernacula features?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

Contains potential bat hibernacula features?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features:

Contains potential bat roosting features?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests:

Contains large stick nests?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)**STICK NEST(S) IDENTIFIED**

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools:

Contains seeps/springs/vernal pools?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)**SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED**

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)Deer (OB)

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=scar; SI=other sign; TK=track; VO=vocalization



Woodland & Wildlife Habitat Assessment Form

160950269

Niacina

Oct 26, 2011

C. Page He

7

22

100

7-10

2000

Extent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Contains potential reptile hibernacula features?

☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed buried crevices or inactive animal burrows)]

Contains potential bat hibernacula features?

☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Contains potential bat roosting features?

☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Contains large stick nests?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Contains seeps/springs/vernal pools?

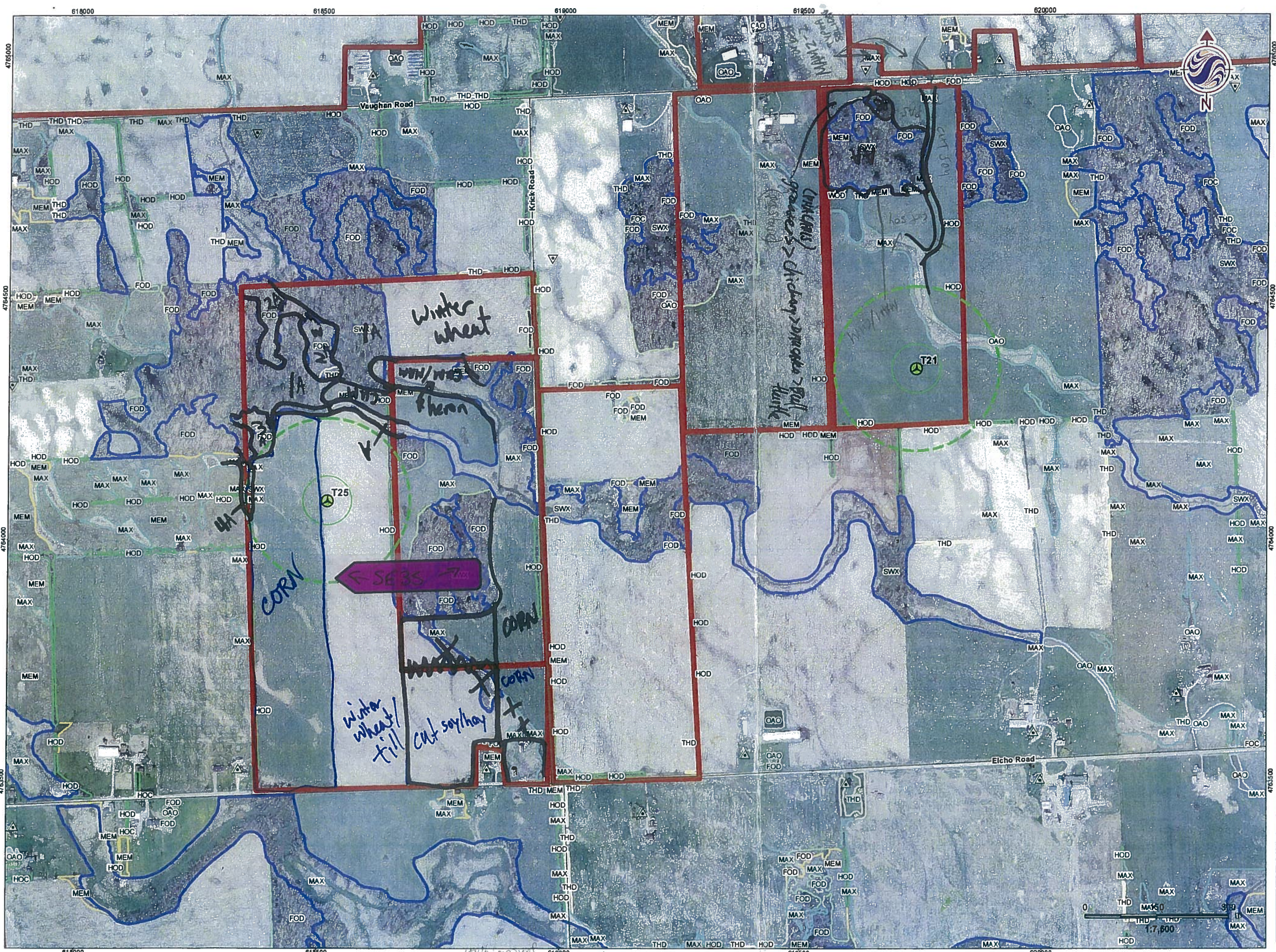
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=seal; SI=other sign; TK=track; VO=vocalization

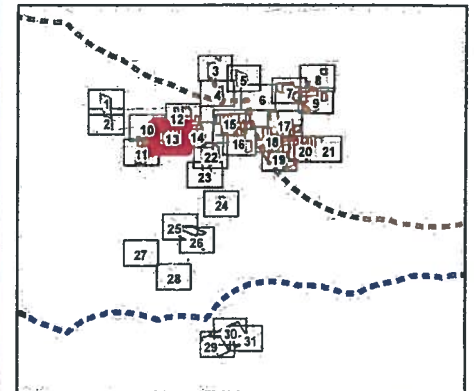
CUM: Solidago, junco, DIPFALL, PHARUN, 1/230 EUTERNA, RUMEX



Legend

- Preliminary Study Area
- Signed Project Sites
- Potential Signed Property
- Road
- Railway
- Municipality Lower Tier
- Provincially Significant Wetland
- Other/Locally Significant Wetland
- To Be Determined
- Open Rock/Shrub Rock Barren
- Shoreline
- Bluff
- Swamp
- Marsh
- Bog
- Wetland
- Meadow
- Thicket
- Savanna
- Woodland
- Forest
- Hedgerow
- Treed Agriculture
- Open Water
- Turbines on Developable Land and 101m Diameter
- 170.5m Buffer of Turbine
- Turbines W/ 120m S/B PSW and 101m Diameter
- 170.5m Buffer of Turbine
- Turbines W/ 120m S/B Woodland and 101m Diameter
- 170.5m Buffer of Turbine
- Turbines W/ 120m S/B Wood/Wetland and 101m Diameter
- 170.5m Buffer of Turbine

CUM
Solidago spp
DIPFALL
SYMLANC
SYMLANO
PHARUN
VICCRAC
ASCLEPIAS SYRIACA



Notes

1. Coordinate System: NAD 1983 UTM Zone 17N).
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.



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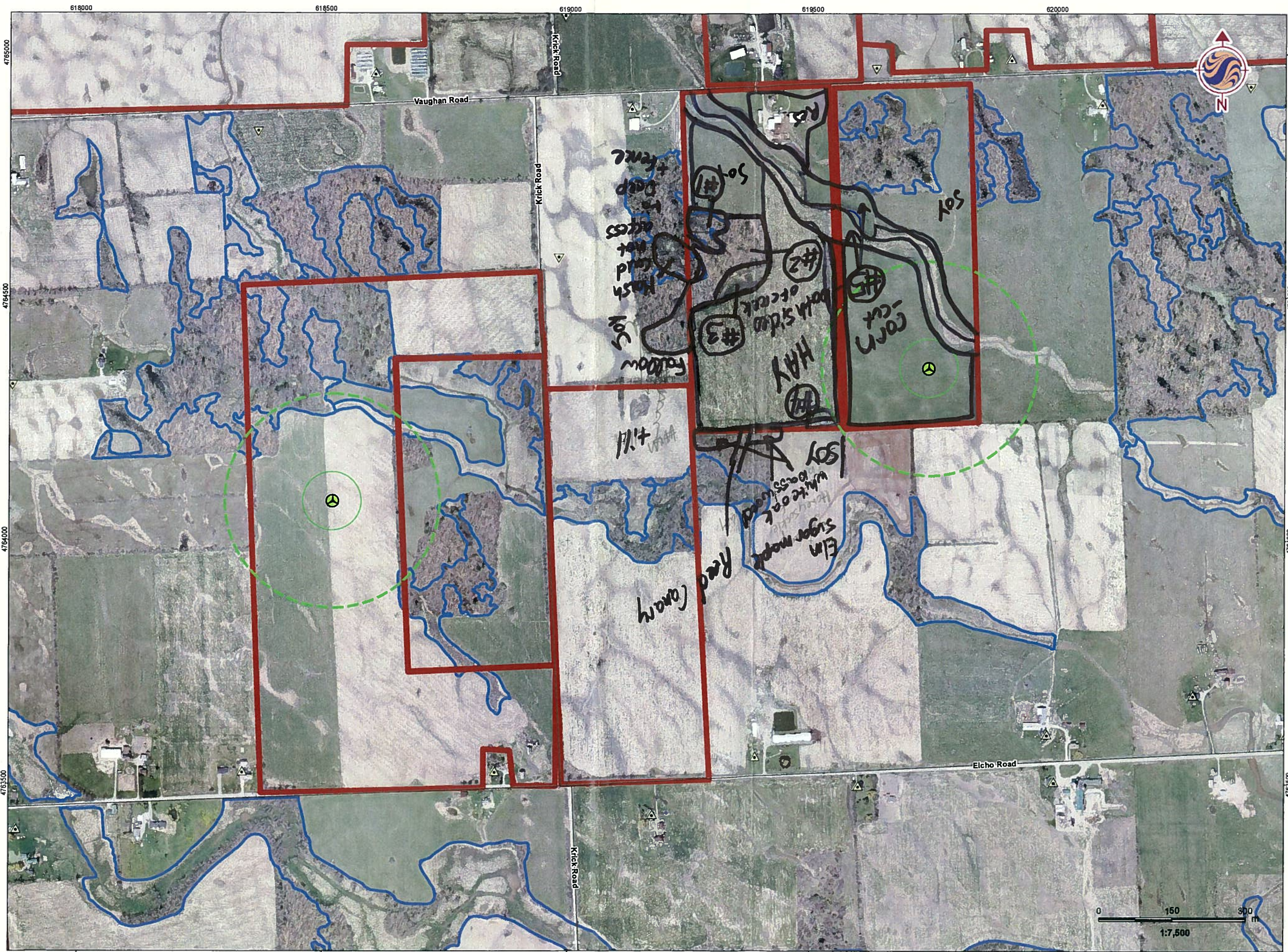
September, 2011
160950269

Client/Project
Niagara Region Wind Corporation

Figure No.
E-13

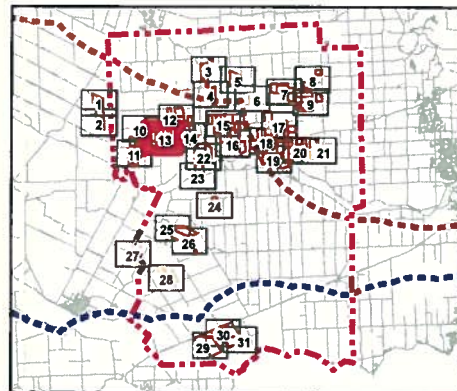
Title

ELC Field Map 13



Legend

- Preliminary Study Area
- Signed Project Sites
- Potential Signed Property
- Road
- Railway
- Municipality Lower Tier
- Provincially Significant Wetland
- Other/Locally Significant Wetland
- Turbines on Developable Land and 120m Diameter
- 160m Buffer of Turbine



Notes

1. Coordinate System: NAD 1983 UTM Zone 17N.
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.



Stantec

August, 2011
160950269

Client/Project

Niagara Region Wind Corporation

Figure No.

F-13

Title

Field Map 13

ELC	SITE: <i>14 Niagara</i>		POLYGON: <i>14-1a</i>	
	SURVEYOR(S): <i>C. Payette</i>		DATE: <i>Oct 26, 2011</i>	
COMMUNITY DESCRIPTION & CLASSIFICATION	START: <i>10:00</i>	END:	UTMZ:	UTMN:

STAND DESCRIPTION:

HT CODES: 1= $>25m$ 2= $10<HT\leq 25m$ 3= $2<HT\leq 10m$ 4= $1<HT\leq 2m$ 5= $0.5<HT\leq 1m$ 6= $0.2<HT\leq 0.5m$ 7= $HT<0.2m$

STAND COMPOSITION:					BA:				
SIZE CLASS ANALYSIS:		R	<10	R	10 - 24	N	25 - 50	N	>50
STANDING SNAGS:		N	<10	N	10 - 24	N	25 - 50	N	>50
DEADFALL/LOGS:		R	<10	R	10 - 24	N	25 - 50	N	>50
ABUNDANCE CODES:		N=NONE		R=RARE		O=OCCASIONAL		A=ABUNDANT	
COMM. AGE:		PIONEER	YOUNG	☒	MID-AGE	MATURE	OLD GROWTH		

COMMUNITY CLASSIFICATION:		
COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE:	willow mixed alder thicket swamp	CODE: SWA-2
INCLUSION		CODE:
COMPLEX		CODE:

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>Niagara</u>
	POLYGON: <u>14-10</u>
	DATE: <u>oct 26, 2011</u>
	SURVEYOR(S): <u>C. Parzelle</u>

Signature:

Quality Control: This form is complete ☒ & legible ☒.



Woodland & Wildlife Habitat Assessment Form

Project Name: Niagara

Field Personnel: C. Payette

PPT (in last 24 hrs):

100

Rein

Bain

Extent of Physical Investigation of Feature: ☐-Entire / ☐-Partial, walk through polygon (indicate on map)

Contains potential reptile hibernacula features?

☐-Y* / ☐-N / ☒-Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

Contains potential bat hibernacula features?

☐-Y* / ☐-N / ☒-Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

Contains potential bat roosting features?

☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

(i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree)

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

Contains large stick nests?

☐-Y* / ☐-N / ☒-Unknown, no access (*if yes, describe in table below)**STICK NEST(S) IDENTIFIED**

Contains seeps/springs/vernal pools?

☐-Y* / ☐-N / ☒-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=scat; SI=other sign; TK=track; VO=vocalization

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>Niagara</u>		POLYGON: <u>14-2d</u>	
	SURVEYOR(S): <u>C. Payette</u>	DATE: <u>oct 26, 2011</u>	UTME:	
	START:	END:	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☐ NATURAL	☐ PLANKTON	☐ LAKE
☐ WETLAND	☒ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☐ SWAMP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☒ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
SITE		☐ ALVAR	COVER		☐ PRAIRIE
☐ OPEN WATER		☐ ROCKLAND	☐ OPEN		☐ THICKET
☐ SHALLOW WATER		☐ BEACH / BAR	☐ SHRUB		☐ SAVANNAH
☒ SURFICIAL DEP.		☐ SAND DUNE	☒ TREED		☐ WOODLAND
☐ BEDROCK		☐ BLUFF			☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	Sugar maple > white oak > red oak > Shagbark hickory
2	SUB-CANOPY			
3	UNDERSTOREY	3-5		Sugar maple
4	GRD. LAYER			white oak and sp

HT CODES: 1= $\geq 25\text{m}$ 2= $10 < \text{HT} \leq 25\text{m}$ 3= $2 < \text{HT} \leq 10\text{m}$ 4= $1 < \text{HT} \leq 2\text{m}$ 5= $0.5 < \text{HT} \leq 1\text{m}$ 6= $0.2 < \text{HT} \leq 0.5\text{m}$ 7= $\text{HT} < 0.2\text{m}$

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:										BA:	
SIZE CLASS ANALYSIS:			<10		10 - 24	R	25 - 50	N	>50		
STANDING SNAGS:		R	<10	R	10 - 24	N	25 - 50	N	>50		
DEADFALL/LOGS:		O	<10	O	10 - 24	N	25 - 50	N	>50		
ABUNDANCE CODES:		N=NONE R=RARE O=OCCASIONAL A=ABUNDANT									
COMM. AGE:		PIONEER	YOUNG	MID-AGE	MATURE		OLD GROWTH				

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASSIFICATION:		CODE:
COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE: F-M Sugar maple-hardwood dec. forest		CODE: FOD6-5
INCLUSION		CODE:
COMPLEX		CODE:

Evidence of Disturbance / Notes:

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: Niagara
	POLYGON: 14-2
	DATE: 05-26-20
	SURVEYOR(S): C. Payne

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page ____ of ____

Signature:

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒

Signature:

(Project Manager)

**Stantec**

Stantec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Woodland & Wildlife Habitat Assessment Form

Project Number: 16950269Project Name: NiagaraDate: Oct 26, 2011Field Personnel: C. Dwyer

Weather Conditions:	TEMP (°C): <u>6</u>	WIND: <u>2</u>	CLOUD: <u>100</u>	PPT: <u>Rain</u>	PPT (in last 24 hrs): <u>Rain</u>
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ELC Polygon: # 14-2a Assessment Type: ☒ Visual; roadside, no access / ☐ Physical; walk through featureExtent of Physical Investigation of Feature: ☐ Entire / ☐ Partial, walk through polygon (indicate on map)**Reptile / Bat Hibernacula Features:**

Contains potential reptile hibernacula features?

☐ Y* / ☐ N / ☒ Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

Contains potential bat hibernacula features?

☐ Y* / ☐ N / ☒ Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features:

Contains potential bat roosting features?

☐ Y* / ☐ N / ☒ Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests:

Contains large stick nests?

☐ Y* / ☐ N / ☒ Unknown, no access (*if yes, describe in table below)**STICK NEST(S) IDENTIFIED**

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools:

Contains seeps/springs/vernal pools?

☐ Y* / ☐ N / ☒ Unknown, no access (*if yes, describe in table below)**SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED**

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

--

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=seat; SI=other sign; TK=track; VO=vocalization

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <i>Niagara</i>		POLYGON: <i>14-3a</i>	
	SURVEYOR(S): <i>C. Wright</i>	DATE: <i>Oct 26, 2011</i>	UTME:	
START:	END:	UTMZ:		UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☐ NATURAL	☐ PLANKTON	☐ LAKE
☒ WETLAND	☒ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☒ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☒ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☐ SWAMP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☐ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR	☐ COVER		☐ PRAIRIE
☐ OPEN WATER		☐ ROCKLAND	☐ OPEN		☐ THICKET
☐ SHALLOW WATER		☐ BEACH / BAR	☐ SHRUB		☐ SAVANNAH
☐ SURFICIAL DEP.		☐ SAND DUNE	☐ TREED		☐ WOODLAND
☐ BEDROCK		☐ BLUFF			☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY			
2	SUB-CANOPY			
3	UNDERSTOREY	4	4	<i>Spirea</i>
4	GRD. LAYER	5-7	4	<i>Red canary</i> > <i>golden rods</i> > <i>Aster</i> sp.

HT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m
CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤50% 4=CVR>60%

STAND COMPOSITION:								BA:	
SIZE CLASS ANALYSIS:			<10		10 - 24		25 - 50		>50
STANDING SNAGS:			<10		10 - 24		25 - 50		>50
DEADFALL/LOGS:			<10		10 - 24		25 - 50		>50
ABUNDANCE CODES:		N=NONE		R=RARE		O=OCCASIONAL		A=ABUNDANT	
COMM. AGE:		PIONEER		☒ YOUNG		MID-AGE		MATURE	
								OLD GROWTH	

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE: Reed Canoe grass minor shrub		CODE: MAM2-2
INCLUSION		CODE:
COMPLEX		CODE:

Evidence of Disturbance / Notes:

ance / Notes: Area is small but is fed from wetland on adjacent property. photo #

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>4 Niagara</u>
	POLYGON: <u>14-3</u>
	DATE: <u>Oct 26, 2011</u>
	SURVEYOR(S): <u>C. Buxton</u>

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page 1 of 1

Signature:

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒

Signature:

(Project Manager

**Stantec**

Stantec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269Project Name: NiagaraDate: 0426, 2011Field Personnel: C. Payette

Weather Conditions:

TEMP (°C):

6

WIND:

2

CLOUD:

100

PPT:

Rain

PPT (in last 24 hrs):

RainELC Polygon: #14-3a Assessment Type: ☐ Visual; roadside, no access / ☒ Physical; walk through featureExtent of Physical Investigation of Feature: ☒ Entire / ☐ Partial, walk through polygon (indicate on map)**Reptile / Bat Hibernacula Features:**

Contains potential reptile hibernacula features?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

Contains potential bat hibernacula features?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features:

Contains potential bat roosting features?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests:

Contains large stick nests?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)**STICK NEST(S) IDENTIFIED**

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools:

Contains seeps/springs/vernal pools?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)**SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED**

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=seat; SI=other sign; TK=track; VO=vocalization

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: Niagassa		POLYGON: 14-4a	
	SURVEYOR(S): C. Payne	DATE: Oct 26, 2011	UTME:	
	START:	END:	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☐ NATURAL	☐ PLANKTON	☐ LAKE
☐ WETLAND	☒ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☐ SWMAP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☒ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
SITE		☐ ALVAR	COVER		☐ PRAIRIE
☐ OPEN WATER		☐ ROCKLAND	☐ OPEN		☐ THICKET
☐ SHALLOW WATER		☐ BEACH / BAR	☐ SHRUB		☐ SAVANNAH
☒ SURFICIAL DEP.		☐ SAND DUNE	☒ TREED		☐ WOODLAND
☐ BEDROCK		☐ BLUFF			☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

STAND STRUCTURE ASK:			SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)	
LAYER	HT	CVR		
1 CANOPY	28	7	white oak > red oak > shag bark hickory	
2 SUB-CANOPY	15	1	Sugar maple > Ironwood	
3 UNDERSTOREY	4-5	3	Sugar maple > red oak > white oak > black	
4 GRD. LAYER	1-7	2	softwood sp.	

HT CODES: 1= $>25m$ 2= $10<HT\leq 25m$ 3= $2<HT\leq 10m$ 4= $1<HT\leq 2m$ 5= $0.5<HT\leq 1m$ 6= $0.2<HT\leq 0.5m$ 7= $HT<0.2m$

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:

SIZE CLASS ANALYSIS:		B	<10	A	10 - 24	R	25 - 50	N	>50
STANDING SNAGS:		B	<10	R	10 - 24	N	25 - 50	N	>50
DEADFALL LOGS:		B	<10	B	10 - 24	N	25 - 50	N	>50
ABUNDANCE CODES:		N=NONE R=RARE O=OCCASIONAL A=ABUNDANT							
COMM. AGE:		PIONEER		YOUNG		MID-AGE		MATURE	
								OLD GROWTH	

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE: F-M oak-Sugar maple Dec. forest		CODE: FOD9-1
INCLUSION		CODE:
COMPLEX		CODE:

Evidence of Disturbance / Notes:

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <i>Niagara</i>
	POLYGON: <i>J 14-4</i>
	DATE: <i>oct 26, 2011</i>
	SURVEYOR(S): <i>C. Parthe</i>

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page of _____

Signature:

Quality Control: This form is complete ☒ & legible ☒.

Signature:

(Project Manager

**Stantec**

Stantec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269Project Name: NagataDate: Oct 26, 2011Field Personnel: C. Payette

Weather Conditions:

TEMP (°C):

6

WIND:

2

CLOUD:

100

PPT:

Rain

PPT (in last 24 hrs):

RainELC Polygon: # 14-4a Assessment Type: ☐ Visual; roadside, no access / ☒ Physical; walk through featureExtent of Physical Investigation of Feature: ☒ Entire / ☐ Partial, walk through polygon (indicate on map)**Reptile / Bat Hibernacula Features:**

Contains potential reptile hibernacula features?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

Contains potential bat hibernacula features?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features:

Contains potential bat roosting features?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests:

Contains large stick nests?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)**STICK NEST(S) IDENTIFIED**

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools:

Contains seeps/springs/vernal pools?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)**SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED**

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HC=house/den; OB=observed; SC=scar; SI=other sign; TK=track; VO=vocalization

**Stantec**

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Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Woodland & Wildlife Habitat Assessment Form

Project Number:

160950269

Project Name:

NRWC

Date:

Nov 16

Field Personnel:

N. Charlton

Weather Conditions:

TEMP (°C):

5

WIND:

3

CLOUD:

100

PPT:

none

PPT (in last 24 hrs):

some rain

ELC Polygon: #14-2 Assessment Type: ☐ Visual; roadside, no access / ☒ Physical; walk through feature

Extent of Physical Investigation of Feature: ☒ Entire / ☐ Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features:

Contains potential reptile hibernacula features?

☐ -Y* / ☒ -N / ☐ -Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/cavity points, exposed rock crevices or inactive animal burrows)]

Contains potential bat hibernacula features?

☐ -Y* / ☒ -N / ☐ -Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features:

Contains potential bat roosting features?

☐ -Y* / ☒ -N / ☐ -Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests:

Contains large stick nests?

☐ -Y* / ☒ -N / ☐ -Unknown, no access (*if yes, describe in table below)**STICK NEST(S) IDENTIFIED**

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools:

Contains seeps/springs/vernal pools?

☐ -Y* / ☒ -N / ☐ -Unknown, no access (*if yes, describe in table below)**SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED**

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

--

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=seat; SI=other sign; TK=track; VO=vocalization

**Stantec**

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Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269Project Name: NRWCDate: Nov 16Field Personnel: N. Charlton

Weather Conditions:	TEMP (°C): <u>5</u>	WIND: <u>3</u>	CLOUD: <u>100</u>	PPT: <u>none</u>	PPT (in last 24 hrs): <u>some rain</u>
---------------------	------------------------	-------------------	----------------------	---------------------	---

ELC Polygon: # 14-3 Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through featureExtent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features: Contains potential reptile hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]
 Contains potential bat hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features: Contains potential bat roosting features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests: Contains large stick nests?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

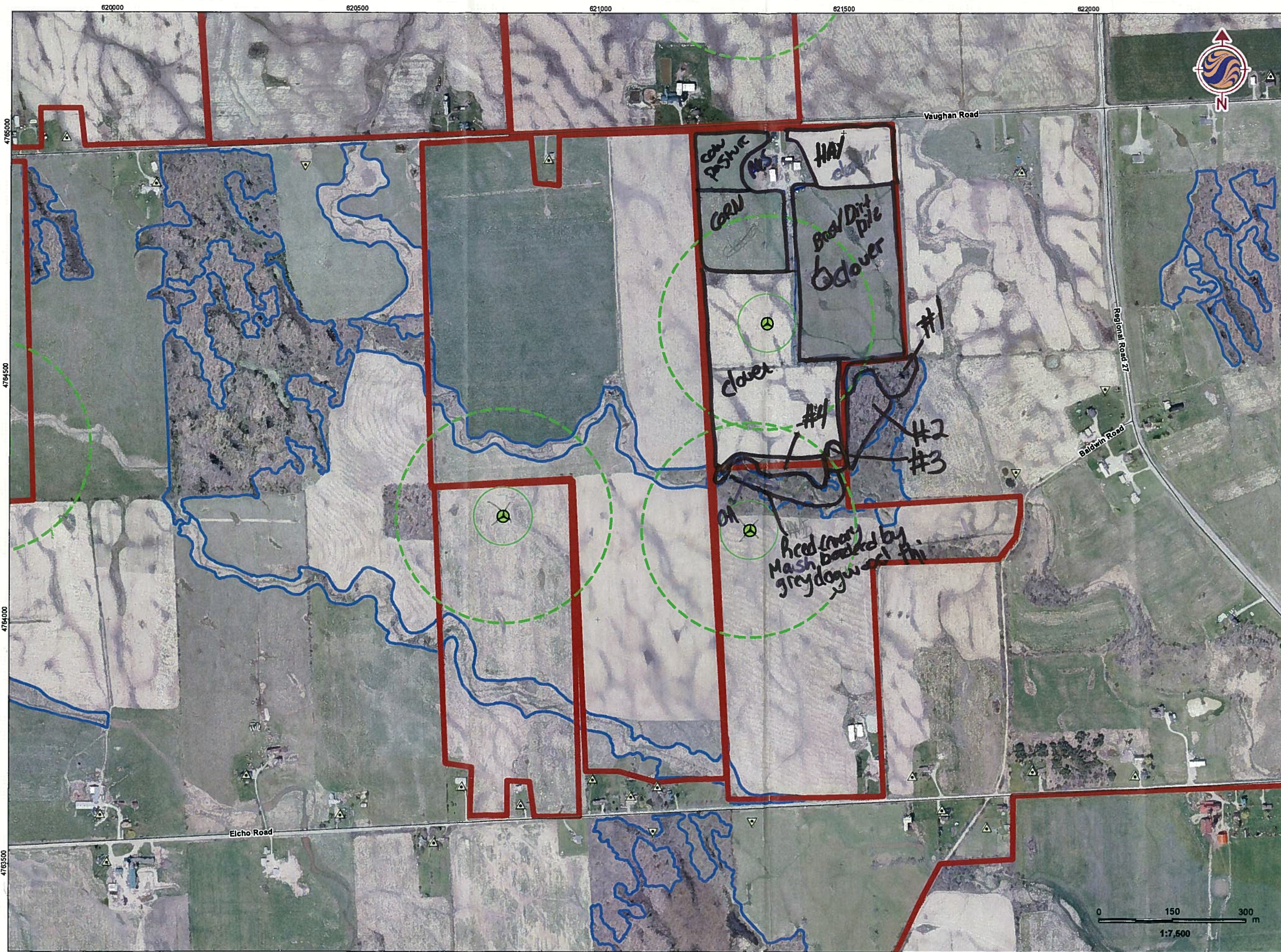
SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
<u>some pooled water throughout</u>		<u>patchy</u>	<u>1 ft.</u>	<u>N/A</u>	<u>PHALARIS</u>	<u>No</u>

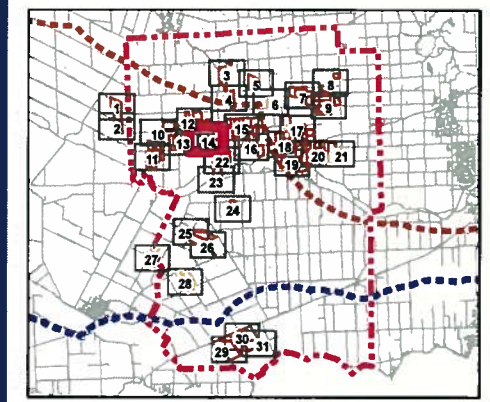
SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

--

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=scar; SI=other sign; TK=track; VO=vocalization



- ### Legend
- Preliminary Study Area
 - Signed Project Sites
 - Potential Signed Property
 - Road
 - Railway
 - Municipality Lower Tier
 - Provincially Significant Wetland
 - Other/Locally Significant Wetland
 - Turbines on Developable Land and 120m Diameter
 - 160m Buffer of Turbine



- ### Notes
- Coordinate System: NAD 1983 UTM Zone 17N).
 - Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.



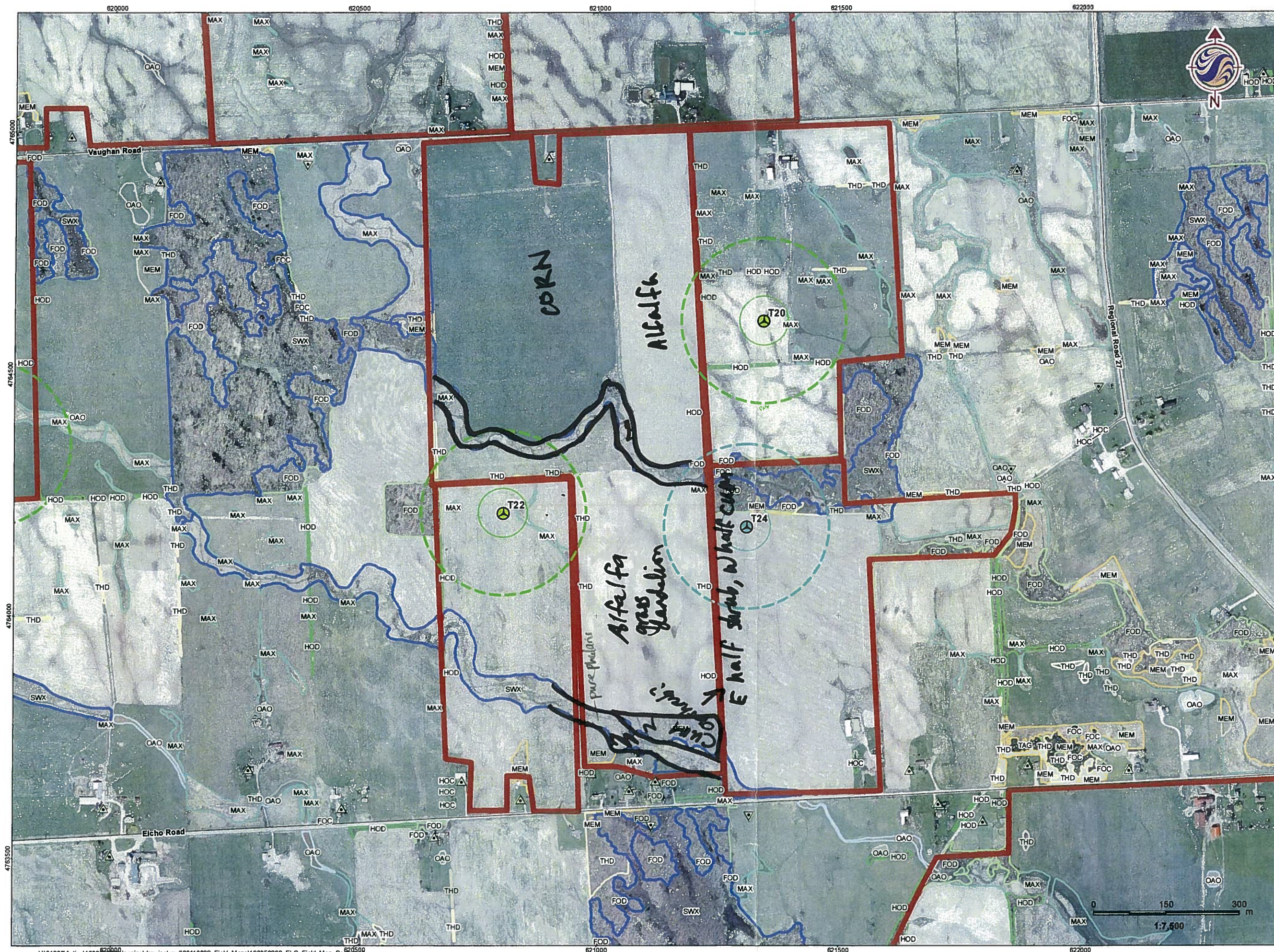
Stantec

August, 2011
160950269

Client/Project
Niagara Region Wind Corporation

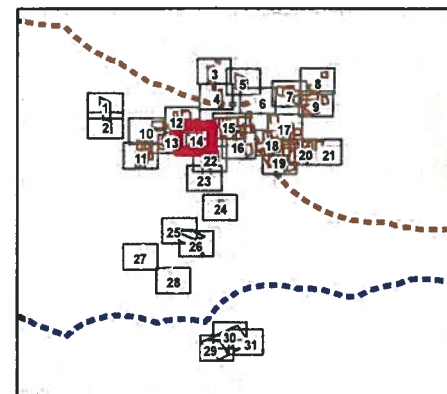
Figure No.
F-14

Title
Field Map 14



Legend

- Preliminary Study Area
- Signed Project Sites
- Potential Signed Property
- Road
- Railway
- Municipality Lower Tier
- Provincially Significant Wetland
- Other/Locally Significant Wetland
- To Be Determined
- Open Rock/Shrub Rock Barren
- Shoreline
- Bluff
- Swamp
- Marsh
- Bog
- Wetland
- Meadow
- Thicket
- Savanna
- Woodland
- Forest
- Hedgerow
- Treed Agriculture
- Open Water
- Turbines on Developable Land and 101m Diameter
- 170.5m Buffer of Turbine
- Turbines W/ 120m S/B PSW and 101m Diameter
- 170.5m Buffer of Turbine
- Turbines W/ 120m S/B Woodland and 101m Diameter
- 170.5m Buffer of Turbine
- Turbines W/ 120m S/B Wood/ Wetland and 101m Diameter
- 170.5m Buffer of Turbine



Notes

- Coordinate System: NAD 1983 UTM Zone 17N)
- Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.



Stantec

September, 2011
160950269

Client/Project
Niagara Region Wind Corporation

Figure No.
E-14

Title
ELC Field Map 14

POLYGON DESCRIPTION

STAND DESCRIPTION:

HT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m
CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

SOIL ANALYSIS:

COMMUNITY CLASSIFICATION:

Evidence of Disturbance / Notes:

- mostly inundated, depth ~ 15 cm

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

Page ____ of ____

Signature: M. A. Allen
(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒

Signature: *[Signature]*
(Project Manager)



Stantec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Woodland & Wildlife Habitat Assessment Form

Stantec

Project Number:

160950269

Project Name:

NRWC

Date:

Oct 24, 2011

Field Personnel:

JL, CP, NC

Weather Conditions:

TEMP (°C):

12

WIND:

3

CLOUD:

30

PPT:

none

PPT (in last 24 hrs):

rain

ELC Polygon: #15-1 Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through feature

Extent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features:

Contains potential reptile hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

Contains potential bat hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features:

Contains potential bat roosting features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests:

Contains large stick nests?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools:

Contains seeps/springs/vernal pools?

☒-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
throughout	pool		15 cm		yes	yes

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=household; OB=observed; SC=scan; SI=other sign; TK=track; VO=verminization

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☐ NATURAL	☐ PLANKTON	☐ LAKE
☒ WETLAND	☐ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☐ SWMAP
SITE		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
☐ OPEN WATER		☐ CLIFF	COVER	☐ DECIDUOUS	☐ BOG
☐ SHALLOW WATER		☐ TALUS	☐ OPEN	☐ CONIFEROUS	☐ BARREN
☐ SURFICIAL DEP.		☐ CREVICE / CAVE	☐ SHRUB	☐ MIXED	☐ MEADOW
☐ BEDROCK		☐ ALVAR	☐ TREED		☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	3	FRAPENN > ULMAMER
2	SUB-CANOPY	3	2	FRAPENAI > CRATAEGUS
3	UNDERSTOREY	4	3	CORNUS >> CRATAEGUS > SPIALBA
4	GRD. LAYER	5-7	4	PHAARUN > SYMLANG > JOLDULC

HT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m
CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:										BA:	
SIZE CLASS ANALYSIS:		A	<10	OA	10 - 24	Rd	25 - 50	N	>50		
STANDING SNAGS:		R	<10	R	10 - 24	R	25 - 50	N	>50		
DEADFALL/LOGS:		R	<10	RS	10 - 24	R	25 - 50	N	>50		
ABUNDANCE CODES:		N=NONE		R=RARE		O=OCCASIONAL		A=ABUNDANT			
COMM. AGE:		PIONEER	YOUNG	MID-AGE	MATURE				OLD GROWTH		

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE: <i>Green ash mineral deciduous swamp</i>		CODE: <i>SWD2-2</i>
INCLUSION	<i>Green ash</i>	CODE: <i>FOD7-2</i>
COMPLEX		CODE:

Evidence of Disturbance / Notes:

PLC#3 - 70cm water in creek outside of drainage ditch

SE 16, Tile & F-15, Poly 2.

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:	
	POLYGON:	
	DATE:	
	SURVEYOR(S):	

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page ____ of ____

Signature:

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒

Signature:

(Project Manager)



Stantec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Woodland & Wildlife Habitat Assessment Form

Stantec

Project Number: _____

Project Name: _____

Date: _____

Field Personnel: _____

Weather Conditions:	TEMP (°C): 12	WIND: 3	CLOUD: 30-100	PPT: Some rain	PPT (in last 24 hrs): Rain
---------------------	------------------	------------	------------------	-------------------	-------------------------------

ELC Polygon: #15-2 Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through feature

Extent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features:

Contains potential reptile hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

Contains potential bat hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features:

Contains potential bat roosting features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests:

Contains large stick nests?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools:

Contains seeps/springs/vernal pools?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

-HOLA, KILL, AMRO, AMCR, BLJA
-Deer feeding (FE)

CA=carcass; DP=distinctive parts; FB=feeding evidence; FY=egg/nest; HD=house/den; OB=observed; SC=scar; SL=other sign; TK=track; VO=vocalization

Stantec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Windfarm Wildlife Habitat Assessment Form

Station:

Project Number:

16950269

Project Name:

NRWC

Date:

Oct 24, 2011

Field Personnel:

JL, CP, NC

Weather Conditions:

TEMP (°C):

12

WIND:

3

CLOUD:

30

PPT:

Some

PPT (in last 24 hrs):

rain

ELC Polygon: #15-3

Visual Assessment: ☐ Roadside, no access

Physical Assessment: ☒ Walk through feature

Extent of Physical Investigation of Feature: ☒ Entire / ☐ Partial, walk through polygon (indicate on map)

Reptile Hibernacula Features: Contains/potential reptile hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

(i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with crack/entry points, exposed rock crevices or inactive animal burrows))

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Hibernacula Features: Contains/potential bat hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

(i.e. tall trees with open surrounding canopy (DBH >25cm, side-facing cavities >10m high in trees))

POTENTIAL BAT HIBERNACULA / ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Spp. Observed Using Feature

Presence of Stick Nests: Contains/large stick nests?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Photo No.	Height/ Placement	Nest Size	Spp. Observed Using Feature

Presence of Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

SPECIES OBSERVATIONS (list species and type of observation & indicate on map)

Abbreviations: DB=disturbance potential; FFE=feeding evidence; PV=egg/young; HO=household; OB=observed; SC=scatter of other signs; FFE=feeding evidence; PV=egg/young; HO=household; OB=observed; SC=scatter of other signs; FFE=feeding evidence; PV=egg/young; HO=household; OB=observed; SC=scatter of other signs

3. of

Signature:

(Field Personnel)

Quality Control: This form is complete ☐ & legible ☐.

Signature:

(Project Manager)

REV: 2011-06-00

ELC SITE: Niagara POLYGON: 15/16 - MAM2-2
 COMMUNITY DESCRIPTION & CLASSIFICATION SURVEYOR(S): NC DATE: Oct 24, 2011 UTMZ: UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☐ NATURAL	☐ PLANKTON	☐ LAKE
☒ WETLAND	☐ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☐ SWAMP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☐ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
SITE			COVER		☐ PRAIRIE
☐ OPEN WATER			☐ OPEN		☐ THICKET
☐ SHALLOW WATER			☐ SHRUB		☐ SAVANNAH
☐ SURFICIAL DEP.			☐ TREED		☐ WOODLAND
☐ BEDROCK					☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1 CANOPY			
2 SUB-CANOPY			
3 UNDERSTOREY			
4 GRD. LAYER			<u>PHAARUN >> SOLCANA > SYMPH SEP</u>

HT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION: BA:

SIZE CLASS ANALYSIS:	<10	10 - 24	25 - 50	>50
STANDING SNAGS:				
DEADFALL/LOGS:				

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE: PIONEER YOUNG MID-AGE MATURE OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE:	CODE:
<u>reed canopy grass mineral meadow marsh</u>	<u>NAM2-2</u>
INCLUSION	CODE:
COMPLEX	CODE:

Evidence of Disturbance / Notes:

- associated with drainage ditch / creek (surrounded by AG land use)
 - these species apply to all NAM2-2 community on site

SE 16/SE 11; Tile F-K; Poly MAM2-2

ELC SITE: POLYGON: DATE: SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
 ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

SPECIES CODE	LAYER				COLL.	SPECIES CODE	LAYER				COLL.
	1	2	3	4			1	2	3	4	
						<u>PHAARUN</u>					<u>A</u>
						<u>SOLCANA</u>					<u>R-0</u>
						<u>SYMCANC</u>					<u>R-0</u>
						<u>SYMNOVA</u>					<u>2-0</u>
						<u>DIPFALL</u>					<u>R-0</u>
						<u>DANCARO</u>					<u>2</u>

Page ___ of ___

Signature: Nailin

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒.

Signature: acm

(Project Manager)



Stantec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 160450269

Project Name: NRWC

Date: Oct 24, 2011

Field Personnel: N. Charlton

Weather Conditions:	TEMP (°C): <u>12</u>	WIND: <u>3</u>	CLOUD: <u>30</u>	PPT: <u>none</u>	PPT (in last 24 hrs): <u>rain</u>
---------------------	-------------------------	-------------------	---------------------	---------------------	--------------------------------------

ELC Polygon: # _____ Assessment Type: ☐-Visual; no access / ☒-Walk through feature

Extent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features:

Contains potential reptile hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

Contains potential bat hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features:

Contains potential bat roosting features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests:

Contains large stick nests?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools:

Contains seeps/springs/vernal pools?

☒-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
	surface water throughout		15 cm		yes	rarely

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=seal; SI=other sign; TK=track; VO=vocalization

ELC SITE: Nagaru POLYGON: 15-A
 COMMUNITY DESCRIPTION & CLASSIFICATION: NC SURVEYOR(S): NC DATE: Oct 25, 2011 UTME:
 START: 12:00 END: 12:20 UTMZ: UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
1 TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☐ NATURAL	☐ PLANKTON	☐ LAKE
2 WETLAND	☒ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
3 AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☐ SWAMP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☐ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1 CANOPY			
2 SUB-CANOPY	3		
3 UNDERSTOREY	4	4	PHALARIS >> SOLALTI > SYMNOVA
4 GRD. LAYER	4	4	

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

STAND COMPOSITION: BA:

SIZE CLASS ANALYSIS:	<10	10-24	25-50	>50
STANDING SNAGS:	<10	10-24	25-50	>50
DEADFALL/LOGS:	<10	10-24	25-50	>50

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE: PIONEER YOUNG MID-AGE MATURE OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE: <u>Reed-canary Grass mineral meadow marsh</u>	CODE: <u>MAM 2-2</u>
INCLUSION	CODE:
COMPLEX	CODE:

Evidence of Disturbance / Notes:

- may be "riparian" in spring - patches of water dispersed throughout, some running water, all about 5-15 cm deep, approx. 15% of area
 (PICS 2+3) - joins to wet depression / riparian area on adjoining property

ELC SITE: POLYGON:
 COMMUNITY DESCRIPTION & CLASSIFICATION: SE6; TIE F-15; Poly A SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
 ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

SPECIES CODE	LAYER				COLL.	SPECIES CODE	LAYER				COLL.
	1	2	3	4			1	2	3	4	
SAMBUCUS		R				PHALARIS					D
COROLIA		R				SOLALTI					D
SPIALBA		R				SYMNOVA					R-O
						VERHAST					R
						DIPFULL					R
						TYPLATI					R
						SCIRPUS SP					R
						JUNCUS SP					R

Page ___ of ___

Signature: Ned Chera

(Field Personnel)

Quality Control: This form is complete & legible.

Signature: Quincy

(Project Manager)



Stantec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Windfarm Wildlife Habitat Assessment Form

Stantec

Project Number: 160950269

Project Name: NRWC

Date: Oct 25, 2011

Field Personnel: N. Charlton

Weather Conditions:

TEMP (°C):

10

WIND:

2

CLOUD:

100

PPT:

light rain

PPT (in last 24 hrs):

some rain

ELC Polygon: # 15-A Visual Assessment: ☐ Roadside, no access

Physical Assessment: ☒ Walk through feature

Extent of Physical Investigation of Feature: ☒ Entire / ☐ Partial, walk through polygon (Indicate on map)

Reptile Hibernacula Features: Contains potential reptile hibernacula features?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

(i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows))

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Hibernacula Features: Contains potential bat hibernacula features?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

(i.e. tall trees with open surrounding canopy (DBH > 25cm, side-facing cavities ~10m high in tree))

POTENTIAL BAT HIBERNACULA / ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Spp. Observed Using Feature

Presence of Stick Nests: Contains large stick nests?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Photo No.	Height/ Placement	Nest Size	Spp. Observed Using Feature

Presence of Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?

☒ Y* / ☐ N / ☐ Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
<u>fire polygon</u>	<u>pooled water</u>	<u>patchy</u>	<u>up to 15 cm</u>		<u>Phalaris</u>	<u>no</u>

SPECIES OBSERVATIONS (list species and type of observation & indicate on map)

Abbreviations: DB=disturbance points; FE=feeding evidence; FV=egg/snest; HQ=home/roost; OB=observed; SC=scat; SJ=sight/alter; H=habitat; V=vegetation

1. of 1

Signature: _____

(Field Personnel)

Quality Control: This form is complete ☐ & legible ☐.

Signature: _____

(Project Manager)

REV: 2011-06-00

ELC SITE: Niagara POLYGON: 15-B
 COMMUNITY DESCRIPTION & CLASSIFICATION SURVEYOR(S): NC DATE: Oct 25, 2011 UTME:
 START: 1:00 END: 1:30 UTMZ: UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE ☐ RIVERINE ☐ BOTTOMLAND ☐ TERRACE ☐ VALLEY SLOPE ☐ TABLELAND ☐ ROLL. UPLAND ☐ CLIFF ☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	☐ NATURAL ☐ CULTURAL	☐ PLANKTON ☐ SUBMERGED ☐ FLOATING-LVD. ☐ GRAMINOID ☐ FORB ☐ LICHEN ☐ BRYOPHYTE ☐ DECIDUOUS ☐ CONIFEROUS ☐ MIXED	☐ LAKE ☐ POND ☐ RIVER ☐ STREAM ☐ MARSH ☐ SWAMP ☐ FEN ☐ BOG ☐ BARREN ☐ MEADOW ☐ PRAIRIE ☐ THICKET ☐ SAVANNAH ☐ WOODLAND ☐ FOREST ☐ PLANTATION
☐ WETLAND	☐ MINERAL SOIL				
☐ AQUATIC	☐ PARENT MIN. ☐ ACIDIC BEDRK. ☐ BASIC BEDRK. ☐ CARB. BEDRK.				
SITE		COVER			
☐ OPEN WATER ☐ SHALLOW WATER ☐ SURFICIAL DEP. ☐ BEDROCK		☐ OPEN ☐ SHRUB ☐ TREED			

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1 CANOPY	3	3	SPIALBA > CORNUS
2 SUB-CANOPY			
3 UNDERSTOREY	4		
4 GRD. LAYER	4-7		SCICYPE > PHAARUN = TYPLATI > CAREXSPP

HT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m
 CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION: BA:

SIZE CLASS ANALYSIS:	<10	10-24	25-50	>50
STANDING SNAGS:	<10	10-24	25-50	>50
DEADFALL/LOGS:	<10	10-24	25-50	>50

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE: PIONEER YOUNG MID-AGE MATURE OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE: <u>Meadowsweet mineral thicket swamp</u>	CODE: <u>SWT2-6</u>
INCLUSION	CODE:
COMPLEX	CODE:

Evidence of Disturbance / Notes:

pics 4+5

- concentric zones from shrub to cattail to emergent forbs and graminoids

ELC SITE: POLYGON: DATE: SE6; Tile F-15; Poly B SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
 ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

SPECIES CODE	LAYER				COLL.	SPECIES CODE	LAYER				COLL.
	1	2	3	4			1	2	3	4	
COROBLI	R					PHAARUN			O		
SPIALBA	A					Scirpus			A		
SAMBUCUS	O					TYPLATI			O		
RUBUS IDAEUS	O					Bullrush			O		
						Carex				O	
						Xanthium				R	
						Bidens				O	
						Sium suave				O	

Page ____ of ____

Signature: [Signature]

(Field Personnel)

Quality Control: This form is complete ☒ and legible ☒.

Signature: [Signature]

(Project Manager)



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1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Windfarm Wildlife Habitat Assessment Form

Stantec

Project Number:

160950269

Project Name:

NRWC

Date:

Oct 25, 2011

Field Personnel:

N. Charlton

Weather Conditions:

TEMP (°C):

10

WIND:

2

CLOUD:

100

PPT:

light air

PPT (in last 24 hrs):

some rain

ELC Polygon: #15-B

Visual Assessment: ☐ Roadside, no access

Physical Assessment: ☒ Walk through feature

Extent of Physical Investigation of Feature: ☒ Entire / ☐ Partial, walk through polygon (indicate on map)

Reptile Hibernacula Features: Contains potential reptile hibernacula features?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

(i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows))

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Hibernacula Features: Contains potential bat hibernacula features?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

(i.e. tall trees with open surrounding canopy (DBH > 25cm, side-facing cavities ~10m high in tree))

POTENTIAL BAT HIBERNACULA / ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Spp. Observed Using Feature

Presence of Stick Nests: Contains large stick nests?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Photo No.	Height/ Placement	Nest Size	Spp. Observed Using Feature

Presence of Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
fire polygon	pooled water	20x10	at least 1ft		Grasses + forbs	Spiraea

SPECIES OBSERVATIONS (list species and type of observation & indicate on map)

A=accident; DB=distinctive pattern; FE=feeding environment; FV=egg/egg mass; HO=household; OB=observed; SC=scent; SF=silver lining; TK=track; Y=yellow; Z=zone

1. of 1

Signature:

(Field Personnel)

Quality Control: This form is complete ☐ & legible ☐.

Signature:

(Project Manager)

REV: 2011.06.00

ELC SITE: NIAGARA
 COMMUNITY DESCRIPTION & CLASSIFICATION: SURVEYOR(S): NC DATE: Oct 25, 2011
 START: 1:30 END: 2:00 POLYGON: 15-C UTMZ: UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
TERRESTRIAL	ORGANIC	LACUSTRINE	NATURAL	PLANKTON	LAKE
WETLAND	MINERAL SOIL	RIVERINE	CULTURAL	SUBMERGED	POND
AQUATIC	PARENT MIN.	BOTTOMLAND		FLOATING-LVD.	RIVER
	ACIDIC BEDRK.	TERRACE		GRAMINOID	STREAM
	BASIC BEDRK.	VALLEY SLOPE		FORB	MARSH
	CARB. BEDRK.	TABLELAND		LIKEN	SWMAP
		ROLL UPLAND		BRYOPHYTE	FEN
		CLIFF		DECIDUOUS	BOG
		TALUS		CONIFEROUS	BARREN
		CREVICE / CAVE	COVER	MIXED	MEADOW
		ALVAR	OPEN		PRAIRIE
		ROCKLAND	SHRUB		THICKET
		BEACH / BAR	TREED		SAVANNAH
		SAND DUNE			WOODLAND
		BLUFF			FOREST
					PLANTATION

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1 CANOPY	3-4	4	CEPOCCI >> ILEVERT > VACCORY
2 SUB-CANOPY			
3 UNDERSTOREY	4-7	2	ONOSENS > CAREX = IMPCAPE = LYCUNIF
4 GRD. LAYER			

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

STAND COMPOSITION: BA:

SIZE CLASS ANALYSIS:	<10	10-24	25-50	>50
STANDING SNAGS:	<10	10-24	25-50	>50
DEADFALL/LOGS:	<10	10-24	25-50	>50

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE: PIONEER YOUNG MID-AGE MATURE OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENECUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE:	CODE:
INCLUSION	CODE:
COMPLEX	CODE:

Evidence of Disturbance / Notes:

main large swamp joined to 3 other pockets with sparser buttonbush cover + with more ILEVERT and tree species and collected shrub.

these pockets were included as part of SWT2-4 because of their short distance from and connectivity to main body, as well as small size

ELC SITE: SE6; Tie F-15; Poly C
 COMMUNITY DESCRIPTION & CLASSIFICATION: SURVEYOR(S):
 POLYGON: DATE: SE6; Tie F-15; Poly C

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
 ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

SPECIES CODE	LAYER				COLL.	SPECIES CODE	LAYER				COLL.
	1	2	3	4			1	2	3	4	
CEPOCCI	D					CAREX SPP					
ILEVERT	R					ONOSENS					
COROB	R					RIDEANS					
VACCORY	O					IMPCAPE					
QUERCUS RUBR	R					SOLDULC					
SPIALBA	R					LYCUNIF					
SAMBUCUS (w)	R					RUBHISP					
						BOECYLI					

This community was added to polygon 15-D as a complex instead.

This card now describes that complex

Page 1 of 1

Signature:

Wesley Lee
 (Field Personnel)

Quality Control: This form is complete. D. Legible

Signature:

Wesley Lee
 (Project Manager)

→ these pockets connected by strips of jewelweed, RUBHISP, ONOSENS
 W:\resources\Intern\Info and Teams\FIELD FORMS\Vegetation\ELC\elc-field-form-excerpt_w_wildfire-wildlife-habitat-form_v2.docx / (DERIVED FROM LEE ET AL. 12)



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Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Windfarm Wildlife Habitat Assessment Form

Stantec

Project Number: _____

Project Name: _____

Date: _____

Field Personnel: _____

Weather Conditions:

TEMP (°C): _____

WIND: _____

CLOUD: _____

PPT: _____

PPT (in last 24 hrs): _____

ELC Polygon: # _____

Visual Assessment: ☐ Roadside, no access

Physical Assessment: ☐ Walk through feature

Extent of Physical Investigation of Feature: ☐ Entire / ☐ Partial, walk through polygon (indicate on map)

Reptile Hibernacula Features: Contains potential reptile hibernacula features?

☐ Y* / ☐ N / ☐ Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Hibernacula Features: Contains potential bat hibernacula features?

☐ Y* / ☐ N / ☐ Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surrounding canopy (DBH >25cm, side-facing cavities >10m high in tree)]

POTENTIAL BAT HIBERNACULA / ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Spp. Observed Using Feature

Presence of Stick Nests: Contains large stick nests?

☐ Y* / ☐ N / ☐ Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Photo No.	Height/ Placement	Nest Size	Spp. Observed Using Feature

Presence of Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?

☐ Y* / ☐ N / ☐ Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

SPECIES OBSERVATIONS (list species and type of observation & indicate on map)

Abbreviations: D=disturbance; P=potential; F=feeding evidence; E=eggs/nest; H=house/roost; O=observed; S=seasonal abundance; U=unknown; Y=very common

Page 1 of 1

Signature: _____

(Field Personnel)

Quality Control: This form is complete ☐ & legible ☐

Signature: _____

(Project Manager)

RFV-2011-06-00

ELC SITE:
POLYGON:
COMMUNITY DESCRIPTION & CLASSIFICATION DATE: SE6; Tile F-15; Rly D
SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page ____ of ____

Signature: [Signature]
(Field Personnel)

Quality Control: This form is complete ☒ by Legality ☒

Signature: _____
(Project Manager)

TEXTURE:	DEPTH TO MOTTLES/GLEY	g= 25 cm	G=
MOISTURE: b	DEPTH OF ORGANICS:		(cm)
HETEROGENEOUS / VARIABLE	DEPTH TO BEDROCK: 7120		(cm)

COMMUNITY CLASSIFICATION:		CODE:
COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE:		CODE:
F-M Sugar maple - hard wood deciduous forest		FOD625
INCLUSION	Barnyard grass mineral shallow marsh	CODE: NAS2-10*
COMPLEX		CODE: SWT2-4

Evidence of Disturbance / Notes:

Evidence of Disturbance / Notes:

- History of logging. Soil sample - loam over clay (sandy)
- Soils are poorly drained -

Stantec Consulting Ltd.
1 - 70 Southgate Drive
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Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Windfarm Wildlife Habitat Assessment Form

Stantec

Project Number:

160950269

Project Name:

NRWe

Date:

Oct 25, 2011

Field Personnel:

N. Charlton

Weather Conditions:

TEMP (°C):

10

WIND:

2

CLOUD:

700000

PPT:

light rain

PPT (in last 24 hrs):

some rain

ELC Polygon: #15-1 Visual Assessment: ☐-Roadside, no access

Physical Assessment: ☒-Walk through feature

Extent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile Hibernacula Features: Contains potential reptile hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

(i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows))

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Hibernacula Features: Contains potential bat hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

(i.e. tall trees with open surrounding canopy (DBH >25cm, side-facing cavities ~10m high in tree))

POTENTIAL BAT HIBERNACULA / ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Spp. Observed Using Feature

Presence of Stick Nests: Contains large stick nests?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Photo No.	Height/ Placement	Nest Size	Spp. Observed Using Feature

Presence of Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?

☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

SPECIES OBSERVATIONS (list species and type of observation & indicate on map)

Partridge berry	17 0624741	in FOD
	4764917	
Smash down arrowwood	pic taken	17 0624784
		4764994

Acronyms: DB=distinctive point; FE=feeding evidence; PV=vegetation; HO=habitat; OB=observed; SC=satellite; AL=alteration; CL=clearing; CH=chance; AL=alteration

7. of

Signature:

(Field Personnel)

Quality Control: This form is complete ☐ & legible ☐.

Signature:

(Project Manager)

REV: 2011.06.00

ELC SITE: **NIAGARA** POLYGON: **15-E**
 COMMUNITY DESCRIPTION & CLASSIFICATION SURVEYOR(S): **NC** DATE: **Oct 25, 2011** UTME:
 START: **9:00** END: **11:00** UTMZ: UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☐ NATURAL	☐ PLANKTON	☐ LAKE
☐ WETLAND	☐ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☐ SWAMP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☐ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1 CANOPY	2-3	3	PINSTRO
2 SUB-CANOPY			
3 UNDERSTOREY	4	2	SPIALBA
4 GRD. LAYER	5-7	4	GRASSES > SOLALTI > EUTGRAM > DAUCARO > SYM SPP

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

STAND COMPOSITION: BA:

SIZE CLASS ANALYSIS:	<10	10-24	25-50	>50
STANDING SNAGS:	<10	10-24	25-50	>50
DEADFALL/LOGS:	<10	10-24	25-50	>50

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE: PIONEER YOUNG MID-AGE MATURE OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE:	CODE:
	CUP3-2/GUM 1-H/SWT26
INCLUSION	CODE:
COMPLEX	CODE:

Evidence of Disturbance / Notes:

- broad mix of species - many others could have been listed in stand description (part of CUM 1-1)
 - in general, area is very moist OWES? - moist end of the CUM scale. Trees are planted in rows, CUM is kept mowed between them

ELC SITE: POLYGON: DATE: **SE6; Tile F-15; Poly E** SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
 ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

SPECIES CODE	LAYER				COLL.	SPECIES CODE	LAYER				COLL.
	1	2	3	4			1	2	3	4	
PINSTRO	A					GRASS (CUT)					A
bulrush (small)						bulrush (small)					A
SYMPHYO SP.						SYMPHYO SP.					A
ILMWS				R		SOLALTI					A
SPIALBA				O		EUTGRAM					O
						DAUCARO					A
						PRUVULG					O
						TRI REPE					O
						TAROFFE					A
						ACHILLE					O
						SYNOVA					A
						DIPFULL					R-D
						SCIRUS (fine marsh)					R

Page 1 of 1

Signature: *N. Chen*
 (Field Personnel)

Quality Control: This form is complete & legible

Signature: *C. Chen*
 (Project Manager)

Windfarm Wildlife Habitat Assessment Form

Project Number:

Date:

Project Name:

Field Personnel:

Weather Conditions:

TEMP (°C):

WIND:

CLOUD:

PPT:

PPT (in last 24 hrs):

ELC Polygon: #15E

Visual Assessment: ☐-Roadside, no access

Physical Assessment: ☒ - Walk through feature

Extent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (Indicate on map)

Reptile Hibernacula Features: Contains potential reptile hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 (i.e. format that is understood)

IDENTIFIED

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED	PROB. ABUNDANCE

SWAMPY FEATURE(S) IDENTIFIED			
UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Hibernacula Features: Contains potential bat hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

I.e. tall trees with open surrounding canopy (DBH >25cm, side-facing cavities ~10m high in tree)

POTENTIAL BAT HIBERNACULA / ROOSTING FEATURE(S) IDENTIFIED

ROOSTING FEATURE(S) IDENTIFIED					
UTM	Tree ID	Tree Spp.	DBH	Photo No.	Spp. Observed Using Feature

Presence of Stick Nests: Contains large stick nests?

Presence of Stick Nests: Contains large stick nests?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

ENTIFIED

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Photo No.	Height/ Placement	Nest Size	Spp. Observed Using Feature

Presence of Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?

☒-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

DEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
	Some pooling throughout (very wet)		up to 1 ft.		Graminoids + Forbs	occasionally

SPECIES OBSERVATIONS (list species and type of observation & indicate on map)

A=adult; *PB*=definitive partial fr. shedding evidence; *FX*=eggs/nest; *HQ*=household; *OB*=observed; *S**=seen; *S*/=other sign; *C*=confirmed; *C*/*O*=confirmed, observed.

7. of

Signature:

(Field Personnel)

Quality Control: This form is complete ☐ & legible ☐.

Signature:

(Project Manager)

REV. 2011-06-00

ELC SITE: NIAGARA POLYGON: 15-F
 COMMUNITY DESCRIPTION & CLASSIFICATION SURVEYOR(S): NC DATE: Oct 25, 2011 UTMZ: UTMN:
 START: 2:00 END: 3:00

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☒ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☒ NATURAL	☐ PLANKTON	☐ LAKE
☐ WETLAND	☒ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☐ SWAMP
		☐ ROLL UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☒ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☒ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1 CANOPY	2	4	ACESASA > QUERUBR > FAGGRAN
2 SUB-CANOPY	3	3	ACESASA > OSTVIRG > QUERUBR
3 UNDERSTOREY	4	2	ACESASA > PRUSERO
4 GRD. LAYER	6-7	3	ACESASA >> SYMMACR > RUBIDAE

HT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m
 CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION: BA:

SIZE CLASS ANALYSIS:	A	<10	A	10 - 24	A	25 - 50	R	>50
STANDING SNAGS:	0	<10	0	10 - 24	R	25 - 50	N	>50
DEADFALL/LOGS:	A	<10	0	10 - 24	R	25 - 50	N	>50

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE: PIONEER YOUNG MID-AGE MATURE OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE:	CODE:
<u>F-M Sugar Maple-hardwood deciduous forest</u>	<u>POD6-5</u>
INCLUSION	CODE:
COMPLEX	CODE:

Evidence of Disturbance / Notes:

Same notes as 15-D. No soil sample

ELC SITE: POLYGON: DATE: SE6; Tile F-5; Poly F SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
 ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

SPECIES CODE	LAYER				COLL.	SPECIES CODE	LAYER				COLL.
	1	2	3	4			1	2	3	4	
ACESASA	A		O	A		RUBIDAE				O	
ACERUBR	R					RUBCAN				O	
QUERUBR	O			O		SYMMACR				O	
FAGGRAN	O	O				SOLRUGO				O	
TILAMER	R										
OSTVIRG		O									
CAROVAT	O										
PRUSERO	R		O								

Page ____ of ____

Signature: NadChen

(Field Personnel)

Quality Control: This form is complete. Yes ☒ No ☐

Signature: WJH

(Project Manager)



Stantec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Windfarm Wildlife Habitat Assessment Form

Stantec

Project Number: 160950269

Date: Oct 25, 2011

Project Name: NRWC

Field Personnel: N. Charlton

Weather Conditions:	TEMP (°C): <u>10</u>	WIND: <u>2</u>	CLOUD: <u>100</u>	PPT: <u>light rain</u>	PPT (in last 24 hrs): <u>some rain</u>
---------------------	-------------------------	-------------------	----------------------	---------------------------	---

ELC Polygon: #15-F Visual Assessment: ☐-Roadside, no access

Physical Assessment: ☒-Walk through feature

Extent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile Hibernacula Features: Contains potential reptile hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Hibernacula Features: Contains potential bat hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surrounding canopy (DBH >25cm, side-facing cavities ~10m high in tree)]

POTENTIAL BAT HIBERNACULA / ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Spp. Observed Using Feature

Presence of Stick Nests: Contains large stick nests?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Photo No.	Height/ Placement	Nest Size	Spp. Observed Using Feature

Presence of Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

SPECIES OBSERVATIONS (list species and type of observation & indicate on map)

Abbreviations: DBH=diameter, tree trunk; F=feeding evidence; FV=egg/mud; HQ=high quality; OB=observed; S=seep; sub=under water; U=unknown; V=vernal pool

3. of 3

Signature: _____

(Field Personnel)

Quality Control: This form is complete ☐ & legible ☐.

Signature: _____

(Project Manager)

REV: 2011.06.00



Stantec Consulting Ltd.
1 – 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: NRWC

Date: Oct 25, 2011

Field Personnel: N. Charlton

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>10</u>	<u>2</u>	<u>100</u>	<u>light rain in pm</u>	<u>some rain</u>

ELC Polygon: #15-6 Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through feature

Extent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features: Contains potential reptile hibernacula features?
☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]
 Contains potential bat hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED			
UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features: Contains potential bat roosting features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED							
UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests: Contains large stick nests?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED					
UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
☒-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED						
UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
<u>entire polygon</u>	<u>pooled water</u>	<u>~100m x 3m</u>	<u>up to 1 ft</u>		<u>yes</u>	<u>yes - Spiraea</u>

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)	

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HC=house/den; OB=observed; SC=scar; SI=other sign; TK=track; VO=vocalization

**Stantec**

Stantec Consulting Ltd.
1 – 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269Project Name: NRWCDate: Oct 25Field Personnel: N. Charlton

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>10</u>	<u>2</u>	<u>100</u>	<u>light rain</u>	<u>some rain</u>

ELC Polygon: #15-H Assessment Type: ☐-Visual; roadside, no access / ☐-Physical; walk through featureExtent of Physical Investigation of Feature: ☐-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features: Contains potential reptile hibernacula features?
☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]
 Contains potential bat hibernacula features?
☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED			
UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features: Contains potential bat roosting features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED							
UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests: Contains large stick nests?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED					
UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

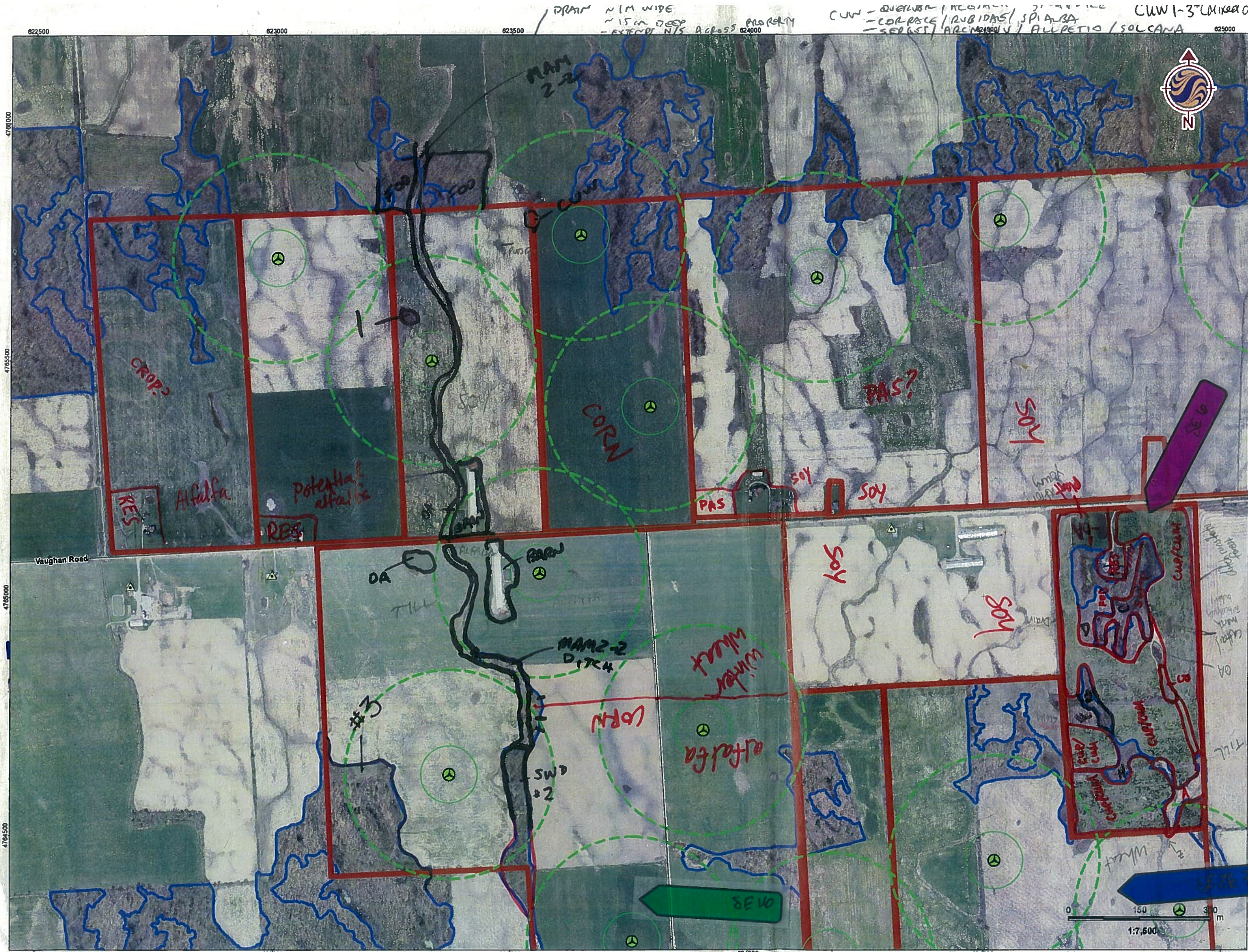
Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
☒-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED						
UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
<u>Throughout</u>	<u>pooled water</u>	<u>100x5</u>	<u>at least 1ft</u>		<u>yes</u>	<u>yes</u>

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

--

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=scar; SI=other sign; TK=track; VO=vocalization



Legend

- Preliminary Study Area
- Signed Project Sites
- Potential Signed Property
- Road
- Railway
- Municipality Lower Tier
- Provincially Significant Wetland
- Other/Locally Significant Wetland
- Turbines on Developable Land and 120m Diameter
- 160m Buffer of Turbine

Waffles + grey at ~10" in FOD

Notes

- Coordinate System: NAD 1983 UTM Zone 17N).
- Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.

August, 2011
160950269

Client/Project
Niagara Region Wind Corporation

Figure No.
F-15

Title
Field Map 15

Handwritten notes at bottom:

- Y=downwind by center
- X=catenary, slope, wind, pressure
- Z-load to maintain



Stanec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Windfarm Wildlife Habitat Assessment Form

Stanec

Project Number:

160450269

Project Name:

NRWG

Date:

Oct 24, 2011

Field Personnel:

J LING, CP

Weather Conditions:

TEMP (°C):

11

WIND:

3

CLOUD:

30

PPT:

none

PPT (in last 24 hrs):

rain

ELC Polygon: #

Visual Assessment: ☒ Roadside, no access

Physical Assessment: ☒ Walk through feature

Extent of Physical Investigation of Feature: ☒ Entire / ☐ Partial, walk through polygon (indicate on map)

Reptile Hibernacula Features: Contains potential reptile hibernacula features?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Hibernacula Features: Contains potential bat hibernacula features?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

i.e. tall trees with open surrounding canopy (DBH > 25cm, side-facing cavities > 10m high in tree)

POTENTIAL BAT HIBERNACULA / ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Spp. Observed Using Feature

Presence of Stick Nests: Contains large stick nests?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Photo No.	Height/ Placement	Nest Size	Spp. Observed Using Feature

Presence of Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

SPECIES OBSERVATIONS (list species and type of observation & indicate on map)

Abbreviations: DB=distinctive point; F=feeding evidence; FY=egg/young; HQ=habitation; OB=observed; SC=seasonal; S=site; SPP=species; T=territory; V=vernal pool; Y=young

2. of

Signature:

(Field Personnel)

Quality Control: This form is complete ☐ & legible ☐.

Signature:

(Project Manager)

REV: 2011-06-00

ELC SITE: Niagara POLYGON: 16-2

COMMUNITY DESCRIPTION & CLASSIFICATION SURVEYOR(S): JL, CP, NC DATE: Oct 24, 2011

START: 3:30 END: 4:00 UTMZ: UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
TERRESTRIAL	ORGANIC	LACUSTRINE	NATURAL	PLANKTON	LAKE
WETLAND	MINERAL SOIL	RIVERINE	CULTURAL	SUBMERGED	POND
AQUATIC	PARENT MIN.	BOTTOMLAND		FLOATING-LVD.	RIVER
	ACIDIC BEDRK.	TERRACE		GRAMINOID	STREAM
	BASIC BEDRK.	VALLEY SLOPE		FORB	MARSH
	CARB. BEDRK.	TABLELAND		lichen	SWAMP
		ROLL. UPLAND		BRYOPHYTE	FEN
		CLIFF		DECIDUOUS	BOG
		TALUS	COVER	CONIFEROUS	BARREN
		CREVICE / CAVE	OPEN	MIXED	MEADOW
		ALVAR	SHRUB		PRAIRIE
		ROCKLAND	TREED		THICKET
		BEACH / BAR			SAVANNAH
		SAND DUNE			WOODLAND
		BLUFF			FOREST
					PLANTATION

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1 CANOPY	2	4	ACESASA > QUERUBR > CAROVAT
2 SUB-CANOPY	3	3	OSTVIRG > TILAMER = ULMAMER = PRUSERO
3 UNDERSTOREY	4	2	CARCORD = PRUSERO
4 GRD. LAYER	5-7	3	RUBUS SPP > SYMLANC > ALLPETI

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

STAND COMPOSITION: BA:

SIZE CLASS ANALYSIS:	A	<10	B-A	10-24	O	25-50	R	>50
STANDING SNAGS:	2	<10	R-0	10-24	R	25-50	N	>50
DEADFALL/LOGS:	0	<10	0	10-24	R	25-50	N	>50

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE: PIONEER YOUNG MID-AGE MATURE OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENECUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE:	CODE:
<u>E-M Oak-sugar maple deciduous forest</u>	<u>FOD9-1</u>
INCLUSION	CODE:
<u>SWT Buttonbush</u>	<u>SWT2-4</u>
COMPLEX	CODE:

Evidence of Disturbance / Notes:

ELC SITE: POLYGON: DATE: SE 16, T1P F-16; Poly 2 SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

SPECIES CODE	LAYER				COLL.	SPECIES CODE	LAYER				COLL.
	1	2	3	4			1	2	3	4	
QUERUBR						SYMLANC					
ACESASA	A					ALLPETI					
OSTVIRG		0				HESMATR					
CAROVAT	R-0					RUBIDAE					
PRUSERO		R	R			RUBCANIA					
TILAMER	R	R				EUODOV					
ULMAMER		R				ELYVIRG					
*ACEFREE	R					*SOLDULC					
*ILLEVERT	AR					*LEEORYZ					
*CEPCCI		A				*CAREX SPP					
CARCORD			R			*GLYGRAN					
FRAX SP.	R										

Page 1 of 1

Signature:

[Signature]
(Field Personnel)

Quality Control: This form is complete

Signature:

[Signature]
(Project Manager)

*asterisk means species belongs to inclusion



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1 - 70 Southgate Drive
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Canada N1G 4P5
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Fax: (519) 836-2493

Windfarm Wildlife Habitat Assessment Form

Stantec

Project Number:

160450269

Project Name:

Niagara

Date:

Oct 24, 2011

Field Personnel:

CP, NC, JL

Weather Conditions:

TEMP (°C):

11

WIND:

3

CLOUD:

30

PPT:

None

PPT (in last 24 hrs):

Some rain

ELC Polygon: #

Visual Assessment: ☐ Roadside, no access

Physical Assessment: ☒ Walk through feature

Extent of Physical Investigation of Feature: ☒ Entire / ☐ Partial, walk through polygon (Indicate on map)

Reptile Hibernacula Features: Contains potential reptile hibernacula features?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

(i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows))

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Hibernacula Features: Contains potential bat hibernacula features?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

(i.e. tall trees with open surrounding canopy (DBH > 25cm, side-facing cavities > 10m high in tree))

POTENTIAL BAT HIBERNACULA / ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Spp. Observed Using Feature

Presence of Stick Nests: Contains large stick nests?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Photo No.	Height/ Placement	Nest Size	Spp. Observed Using Feature

Presence of Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
17624108 4764404	Vernal pool 1	5m x 15m	0	6	Yes - Carex	Yes

SPECIES OBSERVATIONS (list species and type of observation & indicate on map)

Assessment: 100% complete partial. Field evidence: FV = egg/nest; HO = hibernacula; OB = observed; SC = seen at other time; 100% = 100% of population.

3. of

Signature:

(Field Personnel)

Quality Control: This form is complete ☐ & legible ☐.

Signature:

(Project Manager)

REV: 2011.06.00

ELC SITE: NIAGARA POLYGON: 16-3

COMMUNITY DESCRIPTION & CLASSIFICATION SURVEYOR(S): JTL: NLC, CP DATE: OCT 24-11

START: 4:00 END: 4:30 UTMZ: UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
TERRESTRIAL	ORGANIC	LACUSTRINE	NATURAL	PLANKTON	LAKE
WETLAND	MINERAL SOIL	RIVERINE	CULTURAL	SUBMERGED	POND
AQUATIC	PARENT MIN.	BOTTOMLAND		FLOATING-LVD.	RIVER
	ACIDIC BEDRK.	TERRACE		GRAMINOID	STREAM
	BASIC BEDRK.	VALLEY SLOPE		FORB	MARSH
	CARB. BEDRK.	TABLELAND		LIKEN	SWAMP
		ROLL. UPLAND		BRYOPHYTE	FEN
		CLIFF		BOG	MEADOW
		TALUS	COVER	BARREN	PRAIRIE
		CREVICE / CAVE	OPEN	MIXED	THICKET
		ALVAR	SHRUB		SAVANNAH
		ROCKLAND	TREED		WOODLAND
		BEACH / BAR			FOREST
		SAND DUNE			PLANTATION
		BLUFF			

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1 CANOPY	3	1	
2 SUB-CANOPY			
3 UNDERSTOREY			
4 GRD. LAYER	4-7	4	RIVERINE >> TYP. ANGL > AR. MIN.

HT CODES: 1=>25m 2=10<HT<25m 3=2<HT<10m 4=1<HT<2m 5=0.5<HT<1m 6=0.2<HT<0.5m 7=HT<0.2m

CVR CODES: 0=NONE 1=0%<CVR<10% 2=10<CVR<25% 3=25<CVR<60% 4=CVR>60%

STAND COMPOSITION: BA:

SIZE CLASS ANALYSIS: <10 10-24 25-50 >50

STANDING SNAGS: <10 10-24 25-50 >50

DEADFALL/LOGS: <10 10-24 25-50 >50

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE: PIONEER YOUNG MID-AGE MATURE OLD GROWTH

SOIL ANALYSIS:

TEXTURE: DEPTH TO MOTTLES/GLEY g= G=

MOISTURE: DEPTH OF ORGANICS: (cm)

HOMOGENECUS / VARIABLE DEPTH TO BEDROCK: (cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS: CODE:

COMMUNITY SERIES: CODE:

ECOSITE: CODE:

VEGETATION TYPE: CODE: MAM22

INCLUSION CODE:

COMPLEX CODE:

Evidence of Disturbance / Notes:

- SURFACE H₂O IN INTERIOR (~1/4 OF COMMUNITY)

ELC SITE: POLYGON: SE 16, Tile F-16; Poly 3

COMMUNITY DESCRIPTION & CLASSIFICATION SURVEYOR(S): DATE: OCT 24-11

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

SPECIES CODE	LAYER				COLL.	SPECIES CODE	LAYER				COLL.
	1	2	3	4			1	2	3	4	
SALE SP.						RIVERINE					A
						TYP. ANGL					R-D
						AR. MIN.					O
						POLYGONUM SP.					R
						VEL. HAST					R
						GRASEL					R-D

Page ___ of ___

Signature: _____

(Field Personnel)

Quality Control: This form is complete & legible.

Signature: _____

(Project Manager)



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Windfarm Wildlife Habitat Assessment Form

Stantec

Project Number:

160950269

Project Name:

NRWC

Date:

OCT. 24-11

Field Personnel:

NC, CP, TL

Weather Conditions:

TEMP (°C):

11

WIND:

3

CLOUD:

30

PPT:

none

PPT (in last 24 hrs):

rain

ELC Polygon: #

Visual Assessment: ☐ Roadside, no access

Physical Assessment: ☒ Walk through feature

Extent of Physical Investigation of Feature: ☒ Entire / ☐ Partial, walk through polygon (indicate on map)

Reptile Hibernacula Features: Contains potential reptile hibernacula features?

☒ Y* / ☐ N / ☐ Unknown, no access (*if yes, describe in table below)

(i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows))

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature
623874, 4264432	PILE OF CONCRETE SLABS	708	NONE

Bat Hibernacula Features: Contains potential bat hibernacula features?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

(i.e. tall trees with open surrounding canopy (DBH > 25cm, side-facing cavities > 10m high in trees))

POTENTIAL BAT HIBERNACULA / ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Spp. Observed Using Feature

Presence of Stick Nests: Contains large stick nests?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Photo No.	Height/ Placement	Nest Size	Spp. Observed Using Feature

Presence of Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

SPECIES OBSERVATIONS (list species and type of observation & indicate on map)

A=appearance; DP=disturbance; F=feeding evidence; FV=feigning; HO=home/roost; OB=observed; SC=scat at edge; T=track; V=vernal pool

2. of

Signature:

(Field Personnel)

Quality Control: This form is complete ☐ & legible ☐.

Signature:

(Project Manager)

REV: 2011-06-00

U.S.E.

ELC SITE: NIAGARA POLYGON: 16A

COMMUNITY DESCRIPTION & CLASSIFICATION

SURVEYOR(S): NC DATE: Oct 26

START: 8:30 END: 12:00

UTMZ: UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
TERRESTRIAL	ORGANIC	LACUSTRINE	NATURAL	PLANKTON	LAKE
WETLAND	MINERAL SOIL	RIVERINE	CULTURAL	SUBMERGED	POND
AQUATIC	PARENT MIN.	BOTTOMLAND		FLOATING-LVD.	RIVER
	ACIDIC BEDRK.	TERRACE		GRAMINOID	STREAM
	BASIC BEDRK.	VALLEY SLOPE		FORB	MARSH
	CARB. BEDRK.	TABLELAND		lichen	SWAMP
		ROLL UPLAND		BRYOPHYTE	FEN
		CLIFF		DECIDUOUS	BOG
		TALUS		CONIFEROUS	BARREN
		CREVICE / CAVE	COVER	MIXED	MEADOW
		ALVAR	OPEN		PRAIRIE
		ROCKLAND	SHRUB		THICKET
		BEACH / BAR	TREED		SAVANNAH
		SAND DUNE			WOODLAND
		BLUFF			FOREST
					PLANTATION

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1 CANOPY	2	3	ACEFREE > ACERUBR > QUERICO
2 SUB-CANOPY	3	3	OSTVIRG >> FRANIGR
3 UNDERSTOREY	4	2	ILEVERT = CEPOCCI > VACCORV = CORNUS
4 GRD. LAYER	5-7	4	ONOSENS > SOLRUGO > CAREX SPP

HT CODES: 1=>25m 2=10<HT<25m 3=2<HT<10m 4=1<HT<2m 5=0.5<HT<1m 6=0.2<HT<0.5m 7=HT<0.2m

CVR CODES: 0=NONE 1=0%<CVR<10% 2=10<CVR<25% 3=25<CVR<60% 4=CVR>60%

STAND COMPOSITION: BA:

SIZE CLASS ANALYSIS: 0 <10 1A 10-24 10A 25-50 1R >50

STANDING SNAGS: 0 <10 0 10-24 1R 25-50 1N >50

DEADFALL/LOGS: 0 <10 0 10-24 1R 25-50 1N >50

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE: 1 PIONEER 2 YOUNG 3 MID-AGE 4 MATURE 5 OLD GROWTH

SOIL ANALYSIS:

TEXTURE: DEPTH TO MOTTLES/GLEY g= G=

MOISTURE: DEPTH OF ORGANICS: (cm)

HOMOGENEOUS / VARIABLE DEPTH TO BEDROCK: (cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS: CODE:

COMMUNITY SERIES: CODE:

ECOSITE: CODE:

VEGETATION TYPE: Swamp maple mineral deciduous swamp CODE: SWD3-3

INCLUSION CODE:

COMPLEX F-M sugar-maple-hardwood deciduous forest CODE: FOD6-5

Evidence of Disturbance / Notes:

Freeman's maple swamp with pockets of swamp white oak and buttonbush / Ilex thickets in pools of water from 0.5-1.5 ft deep > dark patches on map

Complexed within this is a network/patchwork of fresh-moist sugar maple-hardwood deciduous forest (Maple, beech, oak, ironwood, hickory)

ELC SITE: SE 54, T1R F-16, Poly A

COMMUNITY DESCRIPTION & CLASSIFICATION

POLYGON: DATE: SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

SPECIES CODE	LAYER				COLL.	SPECIES CODE	LAYER				COLL.
	1	2	3	4			1	2	3	4	
ACEFREE	A	0		0		SOLCANA				0-A	
ACERUBR	0					ONOSENS				0	
ULMAMER	R					RUBHIS				0-A	
FRANIGR		R				SOLRUGO				0-A	
QUERICO	R-0					SYMLANC				0	
OSTVIRG		0				LEEORYZ				0	
						GLYSTRI				R	
						CAREX				A-0	
						Duckweed				0	
						SCICYPE				0	
						EUPPERF				R	
						LYCINIIF				R	
						EPILOBUM				R	
						Royal fern				0	
ILEVERT			0								
COROBLI			0								
RUBCANA				0							
VACCORV			0								
CEPOCCI			0								
SPIALBA			R-0								

Page ____ of ____

Signature: [Signature] (Field Personnel)

Quality Control: This form is complete [Signature] (Project Manager)



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1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
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Windfarm Wildlife Habitat Assessment Form

Stantec

Project Number: 160950269

Project Name: NRWC

Date: Oct 26, 2011

Field Personnel: N. Charlton

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>10</u>	<u>2</u>	<u>100</u>	<u>rain</u>	<u>rain</u>

ELC Polygon: # Visual Assessment: ☐ Roadside, no access

Physical Assessment: ☒ Walk through feature

Extent of Physical Investigation of Feature: ☒ Entire / ☐ Partial, walk through polygon (indicate on map)

Reptile Hibernacula Features: Contains potential reptile hibernacula features?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Hibernacula Features: Contains potential bat hibernacula features?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

i.e. tall trees with open surrounding canopy (DBH > 25cm, side-facing cavities > 10m high in tree)

POTENTIAL BAT HIBERNACULA / ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Spp. Observed Using Feature

Presence of Stick Nests: Contains large stick nests?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Photo No.	Height/ Placement	Nest Size	Spp. Observed Using Feature

Presence of Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
<u>Swamp complex - many pools</u>					<u>yes</u>	<u>yes</u>

SPECIES OBSERVATIONS (list species and type of observation & indicate on map)

Abbreviations: D=disturbance; F=furrowing evidence; FV=furrows/nests; HO=hoarse/roar; OB=observed; SC=scatter of water signs; T=territorial; V=visual evidence

3. of 10

Signature: _____

(Field Personnel)

Quality Control: This form is complete ☐ & legible ☐.

Signature: _____

(Project Manager)

RFV-2011-06.00

ELC SITE: **NIAGARA** POLYGON: **16-A**

COMMUNITY DESCRIPTION & CLASSIFICATION SURVEYOR(S): **NC** DATE: **Oct. 25** TIME:

START: **4:00** END: **6:30** UTMZ: UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
1 TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☐ NATURAL	☐ PLANKTON	☐ LAKE
2 WETLAND	☐ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
3 AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☐ SWAMP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☐ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1 CANOPY			
2 SUB-CANOPY			
3 UNDERSTOREY			
4 GRD. LAYER			

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

STAND COMPOSITION: BA:

SIZE CLASS ANALYSIS:	<10	10 - 24	25 - 50	>50
STANDING SNAGS:				
DEADFALL/LOGS:				

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE: PIONEER YOUNG MID-AGE MATURE OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	g=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE:	CODE:
INCLUSION	CODE:
COMPLEX	CODE:

Evidence of Disturbance / Notes:

* species in SWD community

- exposed roots?

ELC SITE: **SES4; T:16 F-16; Poly A**

COMMUNITY DESCRIPTION & CLASSIFICATION SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

SPECIES CODE	LAYER				COLL.	SPECIES CODE	LAYER				COLL.
	1	2	3	4			1	2	3	4	
FAGGRAN						ELMOBROV					
ACESASA	A					XMAS FERN					
CARCORO	R	R				EQUISETUM					
PRUSER		R				SYMMACR					
CAROVAT	R-O					SYMMACR					
QUERUBR	A					SOLIDAGO					
QUK SP	O					SMILAX (smooth)					
OSTVIRG		A				GEUM SP					
TILAMER						FRAG-VIRG					
* ACEFREE						SOLRUG-O					
* LILHAMER						* RUBRISP					
* FRANIGR						* EPILOBIUM					
* LLEVERT						* EUPPERE					
* ACERUBR						* PANDSENS					
DINSTRO						CAREX					
FRAX SP						VIOLA SP					
* SWAMPOLK?						* FERN SP (cinn?)					
CRATHEGUS		R				* SOLDULC					
downy amaranth						MITREPE					
RUBCANVA						* ROYAL FERN					
* ROSA SP						Ground cedar					
* collected shrub						COPTRIF					
* CEPOCEI						MYDVIRG					
RUBIDAE						LEORYZE					
RIBCVNO						CARPLAN					
AMELANCHIE?						VEROFFI					

Page ___ of ___

Signature: _____

(Field Personnel)

Quality Control: This form is complete ☐ & legible ☐

Signature: _____

(Project Manager)

MITREPE

17 0625178

unknown tree - Baybaw?
0625271

nichien