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Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: NRWC

Date: JUNE 11-12

Field Personnel: J. Leslie

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>28</u>	<u>2-3</u>	<u>100%</u>	<u>8</u>	<u>RAIN</u>

ELC Polygon: #18-2 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/potential 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)

AMT

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	SITE: <u>NIAGARA</u>		POLYGON: <u>3</u>	
	SURVEYOR(S): <u>SM</u>		DATE: <u>JUN 11-12</u>	UTME:
COMMUNITY DESCRIPTION & CLASSIFICATION	START: <u>1:37</u>	END: <u>2:35</u>	UTMZ:	UTMN:

POLYGON DESCRIPTION

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

STAND DESCRIPTION:

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	ACEFREE = ACESAJA > ULMAMER = BETALLE
2	SUB-CANOPY	3	4	ALERSPP > ULMAMER = FRAPENN
3	UNDERSTOREY	4.5	4	LINBENZ
4	GRD. LAYER	1-3	4	PARQUIN > TOXRADI = ONOSENS = SOLRUGO

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

VR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤50% 4=CVR>50%

STAND COMPOSITION:

SIZE CLASS ANALYSIS:	A	<10	A	10 - 24	B-A	25 - 50	Z	>50
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STANDING SNAGS:	2	<10	1	10 - 24	1	25 - 50	2	>50
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HEADFALL LOGS: ☒ <10 ☐ $10-24$ ☒ $25-50$ ☐ >50

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

DOMM. AGE:	☐ PIONEER	☐ YOUNG	☐ MID-AGE	☒ MATURE	☐ OLD GROWTH
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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: F-M Sugar Maple-hardwood deciduous for.		CODE: F096-5
INCLUSION		CODE:
COMPLEX		CODE:

Evidence of Disturbance / Notes:

 ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:	(SE 108)
	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)

pic 23

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

Signature:

(Project Manager)



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Project Number:

160950269

Project Name: NRW

Date: Jun 11-22

Field Personnel: J. Leslie

Weather Conditions:

TEMP (°C):

28

WIND:

2-3

CLOUD:

100%

PPT:

9

PPT (in last 24 hrs):

1270

ELC Polygon: #10-3 **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
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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

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>NIAGARA</u>		POLYGON: <u>14</u>	
	SURVEYOR(S): <u>JSZ</u>		DATE: <u>M-E 11-72</u>	UTME:
	START: <u>2:40</u>	END: <u>3:18</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	☒ SWAMP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☒ DECIDUOUS	☐ BOG
		☐ TALLUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE	COVER	☐ MIXED	☐ MEADOW
☐ OPEN WATER		☐ ALVAR	☐ OPEN		☐ PRAIRIE
☐ SHALLOW WATER		☐ ROCKLAND	☐ SHRUB		☐ THICKET
☒ SURFICIAL DEP.		☐ BEACH / BAR	☒ TREED		☐ SAVANNAH
☐ BEDROCK		☐ 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	1.2	4	ACEFREE >> FRAPENN > ULMAMER
2 SUB-CANOPY	3	3	ACEFREE > ULMAMER > FRAPENN
3 UNDERSTOREY	4-5	3	LIN BEN > ACEFREE = FRAPENN
4 GRD. LAYER	6-7	3	THEPALU > CAREXSPP > GLYSTRI

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≤50% 4=CVR>50%

STAND COMPOSITION:

SIZE CLASS ANALYSIS:

[illegible]

STANDING SNAGS:

TEDE ALLA OGS:	☐	≤10	☐	10-24	☐	25-50	☒	≥50
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ABUNDANCE CODES:

ABUNDANCE CODES:	RAIRIE	RAIRIE	SCORPIONINE	ABUNDANT

SUM. AGE:

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	PERCENT	PERCENT
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MOISTURE:

HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:	(m)

ISOTOPICALLY VARIABLE

COMMUNITY CLASSIFICATION:

COMMUNITY CHURCH FOR WOMEN

COMMUNITY CLASS:	CODE:
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COMMUNITY SERIES:

ECOSITE: _____ **CODE:** _____

COSTS:

VEGETATION TYPE: 1 0 0 CODE: 1 2

Swan

INCLUSION		CODE:
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INCLUSION

COMPLEX	CODE:
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Evidence of Disturbance

- 3000 SATURATED (17 12 11 10 9 8 7 6 5 4 3 2 1)

- SOIL SATURATED IN FEW AREAS
- NO SURFACE H₂O
- TRUNKS SUGGEST SEASONAL POOLING UP

8

 ELC ENVIRONMENTAL 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)

- TRACTOR PATH - EXTENDS THROUGH

W:\resources\Internal Info and Teams\FIELD FORMS\Vegetation\ELC-wo-woodland-wildlife-habitat-form.docx / (DERIVED FROM LEE ET AL. 1998)



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Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: NRUC

Date: JUNE 11-12

Field Personnel: JN

Weather Conditions:	TEMP (°C): <u>28</u>	WIND: <u>2-3</u>	CLOUD: <u>100%</u>	PPT: <u>Ø</u>	PPT (in last 24 hrs): <u>RAIN</u>
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ELC Polygon: # 10-4 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?
<u>throughout</u>	<u>pools</u>		<u>30 cm (now dry)</u>		<u>✓</u>	<u>✓</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: NRWG

Date: June 8

Field Personnel: N. Charlton

Weather Conditions:	TEMP (°C): <u>25</u>	WIND: <u>2</u>	CLOUD: <u>50</u>	PPT: <u>—</u>	PPT (in last 24 hrs): <u>—</u>
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ELC Polygon: #11-1 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?

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

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

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

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

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	3	4	trembling aspen > green ash = sugar maple
2	SUB-CANOPY	n/a		
3	UNDERSTOREY	4	2	virginia creeper
4	GRD. LAYER	5-7	2	ground hells = birch = sensitive fern

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

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

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

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE: Dry - Fresh Poplar lauridicus Forest type.		CODE: FOD3-1
☐	INCLUSION	CODE:
☐	COMPLEX	CODE:

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>NRWC</u>	
	POLYGON: <u>SE11C</u>	<u>4</u>
	DATE: <u>May 24, 2012</u>	
	SURVEYOR(S): <u>C. Partridge</u>	

[illegible]

(Project Manager)



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Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: NRWC SE110

Date: May 24, 2012

Field Personnel: C. Paquette

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>31</u>	<u>1</u>	<u>0%</u>	<u>None</u>	<u>None</u>

ELC Polygon: # 4 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?

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:		POLYGON:	
	SURVEYOR(S):		DATE:	UTME:
	START:	END:	UTMZ:	UTMN:

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.	☐ ROLL. UPLAND ☐ CLIFF		☐ BRYOPHYTE ☐ DECIDUOUS	☐ FEN ☐ BOG
	☐ BASIC BEDRK.	☐ TALUS ☐ CREVICE / GAVE		☐ CONIFEROUS ☐ MIXED	☐ BARREN ☐ MEADOW
SITE			COVER		
☐ OPEN WATER	☐ CARB. BEDRK.	☐ ALVAR ☐ ROCKLAND	☐ OPEN ☐ SHRUB		☐ PRAIRIE ☐ THICKET
☐ SHALLOW WATER		☐ BEACH / BAR ☐ SAND DUNE	☐ TREED		☐ SAVANNAH ☐ WOODLAND
☐ SURFICIAL DEP.		☐ BLUFF			☐ FOREST
☐ BEDROCK					☐ PLANTATION

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			

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

STAND COMPOSITION: BA: /

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

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

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE: <i>HR</i>		CODE:
☐	INCLUSION	CODE:
☐	COMPLEX	CODE:

Animal Den along farm field/HR - Fairly large opening about 40cm across
 ↳ photos: 41-42

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>NRWC</u>	
	POLYGON: <u>SE10</u>	<u>-3</u>
	DATE: <u>May 24 2012</u>	
	SURVEYOR(S): <u>C. Paster</u>	

[illegible]

Signature:

(Field Personnel)

Signature

(Project Manager)



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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 SE110

Date: May 24, 2012

Field Personnel: C. Payette

Weather Conditions:	TEMP (°C): <u>31</u>	WIND: <u>1</u>	CLOUD: <u>0%</u>	PPT: <u>None</u>	PPT (in last 24 hrs): <u>None</u>
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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?

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:		POLYGON:	
	SURVEYOR(S):		DATE:	UTME:
	START:	END:	UTMZ:	UTMN:

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
SITE			COVER		
☐ OPEN WATER			☐ OPEN		
☐ SHALLOW WATER			☐ SHRUB		
☒ SURFICIAL DEP.			☒ TREED		
☐ BEDROCK					

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	Sugar maple >> Red maple > Black cherry > Basswood
2	SUB-CANOPY	3	3	All + 1/2 dead dogwood > Basswood > Ironwood
3	UNDERSTOREY	4	3	Red raspberry > Spicebush > Blueberry
4	GRD. LAYER	5-7	3	Red baneberr > Trillium = woodcherry = tufted dog

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

100 200 300 400 500 600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700 2800 2900 3000 3100 3200 3300 3400 3500 3600 3700 3800 3900 4000 4100 4200 4300 4400 4500 4600 4700 4800 4900 5000 5100 5200 5300 5400 5500 5600 5700 5800 5900 6000 6100 6200 6300 6400 6500 6600 6700 6800 6900 7000 7100 7200 7300 7400 7500 7600 7700 7800 7900 8000 8100 8200 8300 8400 8500 8600 8700 8800 8900 9000 9100 9200 9300 9400 9500 9600 9700 9800 9900 10000

SIZE CLASS ANALYSIS:	☐ <10	☒ 10 - 24	☐ 25 - 50	☒ >50
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STANDING SNAGS:	N	<10	R	10 - 24	N	25 - 50	N	>50
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DEADFALL/LOGS:	A	<10	A	10 - 24	C	25 - 50	L	>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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TEXTURE: <i>Fine sand</i>	DEPTH TO MOTTLES/GLEY	g= <i>35cm</i>	G= <i>n/a</i>
MOISTURE: <i>5</i>	DEPTH OF ORGANICS:	<i>2</i>	(cm)
HOMOGENEOUS / <i>(VARIABLE)</i>	DEPTH TO BEDROCK:	<i>3.72m</i>	(cm)

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE: F-M Sugar maple-Hardwood Deciduous		CODE: F006-S
INCLUSION		CODE:
COMPLEX		CODE:

photos 39-40 lots of leaf litter in understory, very little understory veg.

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>NRWC</u>
	POLYGON: <u>SE10</u> <u>2</u>
	DATE: <u>May 24, 2012</u>
	SURVEYOR(S): <u>C. P. Smith</u>

[illegible]

Signature: [Signature]
(Field Personnel)

Signature: [Signature]
(Project Manager)



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Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: NRWC SE110

Date: May 24, 2012

Field Personnel: C. Payette

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>31</u>	<u>1</u>	<u>0%</u>	<u>None</u>	<u>None</u>

ELC Polygon: # 2 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?

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:		POLYGON:	
	SURVEYOR(S):		DATE:	UTME:
	START:	END:	UTMZ:	UTMN:

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
☐ OPEN WATER		☐ ROCKLAND	☐ OPEN		☐ THICKET
☐ SHALLOW WATER		☐ BEACH / BAR	☐ SHRUB		☐ SAVANNAH
☐ SURFICIAL DEP.		☐ SAND DUNE	☐ TREED		☐ WOODLAND
☐ BEDROCK		☐ BLUFF			☐ FOREST
					☐ PLANTATION

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	3	1	green ash, 7 eastern cottonwood, 7 apple
2	SUB-CANOPY			
3	UNDERSTOREY	4	3	stephens small, 7 raspberry, 7 riverbank grape
4	GRD. LAYER	5-7	4	red clover, grass, wild flower, 50% meadowweet

STAND COMPOSITION:	BA:
--------------------	-----

ABUNDANCE CODES:		N=NONE	R=RARE	O=OCCASIONAL	A=ABUNDANT	
COMM. AGE:	PIONEER	☒	YOUNG	MID-AGE	MATURE	OLD GROWTH

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

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE: Sumac Cultural thicket		CODE: CUT 1-1
☐	INCLUSION	CODE:
☐	COMPLEX	CODE:

photos 36-38

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>NRWC</u>	
	POLYGON: <u>SE10</u>	<u>1</u>
	DATE: <u>May 24, 2012</u>	
	SURVEYOR(S): <u>C. P. He</u>	

[illegible]

Signature: [Signature]
(Field Personnel)

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: NRWC SE110

Field Personnel: C. Payne

Weather Conditions:

TEMP (°C):

31

WIND:

1

CLOUD:

39.

PPT:

None

PPT (in last 24 hrs):

None

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)

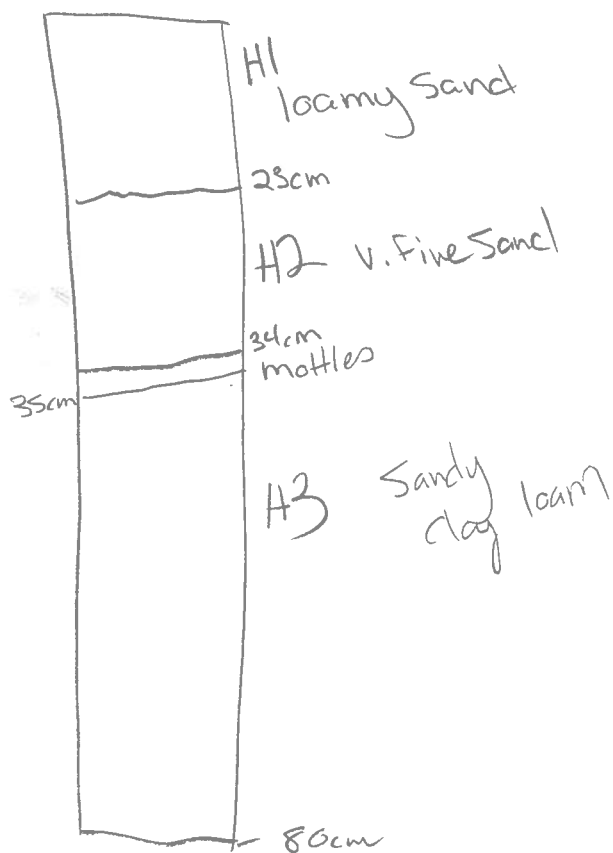
SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

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

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

Soils Site 2, Sello landakiff



ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>NIAGARA C</u>		POLYGON: <u>C</u>	
	SURVEYOR(S): <u>STV</u>		DATE: <u>JUNE 11-12</u>	UTME:
	START: <u>4:58</u>	END: <u>5:13</u>	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.	☐ 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		☐ PRAIRIE ☐ THICKET
☐ SHALLOW WATER		☐ BEACH / BAR ☐ SAND DUNE	☒ TREED		☐ SAVANNAH ☒ WOODLAND
☐ SURFICIAL DEP.		☐ BLUFF			☐ FOREST ☐ PLANTATION
☐ BEDROCK					

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1 CANOPY	2	3	JUGLIFR > ACESASA = FRAPENN
2 SUB-CANOPY	3	4	JUGLIFR > FRAPENN > ALENESU
3 UNDERSTOREY	4	3	RUBIDAE > PRUNIFR > LONTART
4 GRD. LAYER	5-2	4	Grasses > HESMAT > ALLPETI = W. AVENS

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:

Table 1 Demographic characteristics of study population

SIZE CLASS ANALYSIS:

STANDING SNAGS:

[illegible]

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: Black walnut - greenash cultural woodland		CODE: CJW1-4*
INCLUSION		CODE:
COMPLEX		CODE:

Evidence of Disturbance / Notes:

- DRAIN VALLEY CUTS THROUGH

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>SE113</u>	
	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)



Woodland & Wildlife Habitat Assessment Form

Project Name: AIRWC

Field Personnel: J. Leslie

PPT (in last 24 hrs):

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

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

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: <u>NIAGARA</u>		POLYGON: <u>2</u>	
	SURVEYOR(S): <u>ST</u>		DATE: <u>JUNE 14 12</u>	UTME:
	START: <u>5:14</u>	END: <u>5:26 PM</u>	UTMZ:	UTMN:

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.	☐ 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		☐ PRAIRIE ☐ THICKET
☐ SHALLOW WATER		☐ BEACH / BAR ☐ SAND DUNE	☐ TREED		☐ SAVANNAH ☐ WOODLAND
☐ SURFICIAL DEP.		☐ BLUFF			☐ FOREST
☐ BEDROCK					☐ PLANTATION

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

STAND COMPOSITION: BA:

ABUNDANCE CODES:		N=NONE		R=RARE		O=OCCASIONAL		A=ABUNDANT			
COMM. AGE:		PIONEER		YOUNG		MID-AGE		MATURE		OLD GROWTH	

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

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE:	CODE:

Handwritten notes: *Hampton cultural thicket* and *CUT1-7**

INCLUSION	CODE:
COMPLEX	CODE:

Cultural
Thicket.

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>SE 113</u>
	POLYGON: _____
	DATE: _____
	SURVEYOR(S): _____

[illegible]

Pic 26

(Project Manager)



Stantec Consulting Ltd.
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:

Field Personnel:

J. Leslie

Weather Conditions:

TEMP (°C):

WIND:

CLOUD:

PPT:

PPT (in last 24 hrs):

ELC Polygon: # 2

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

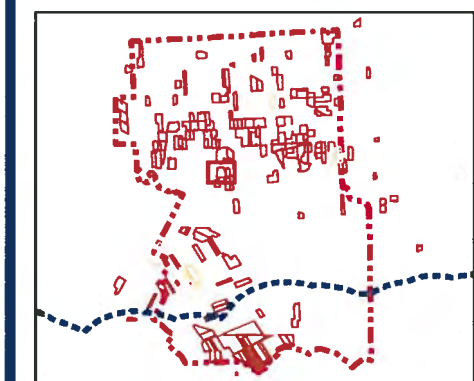
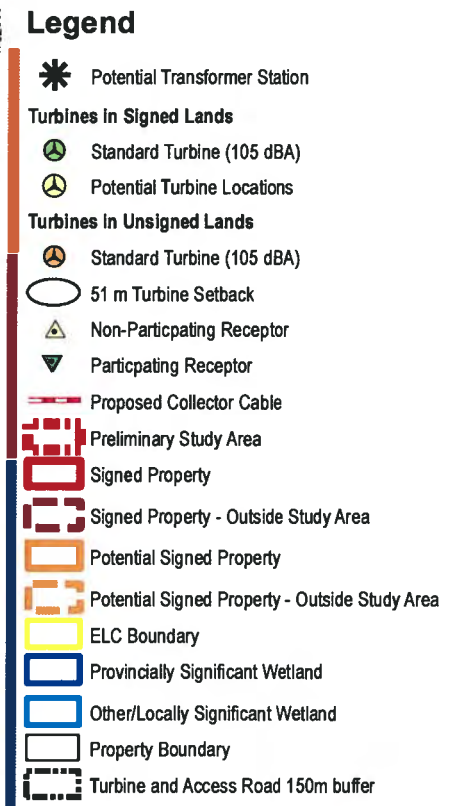
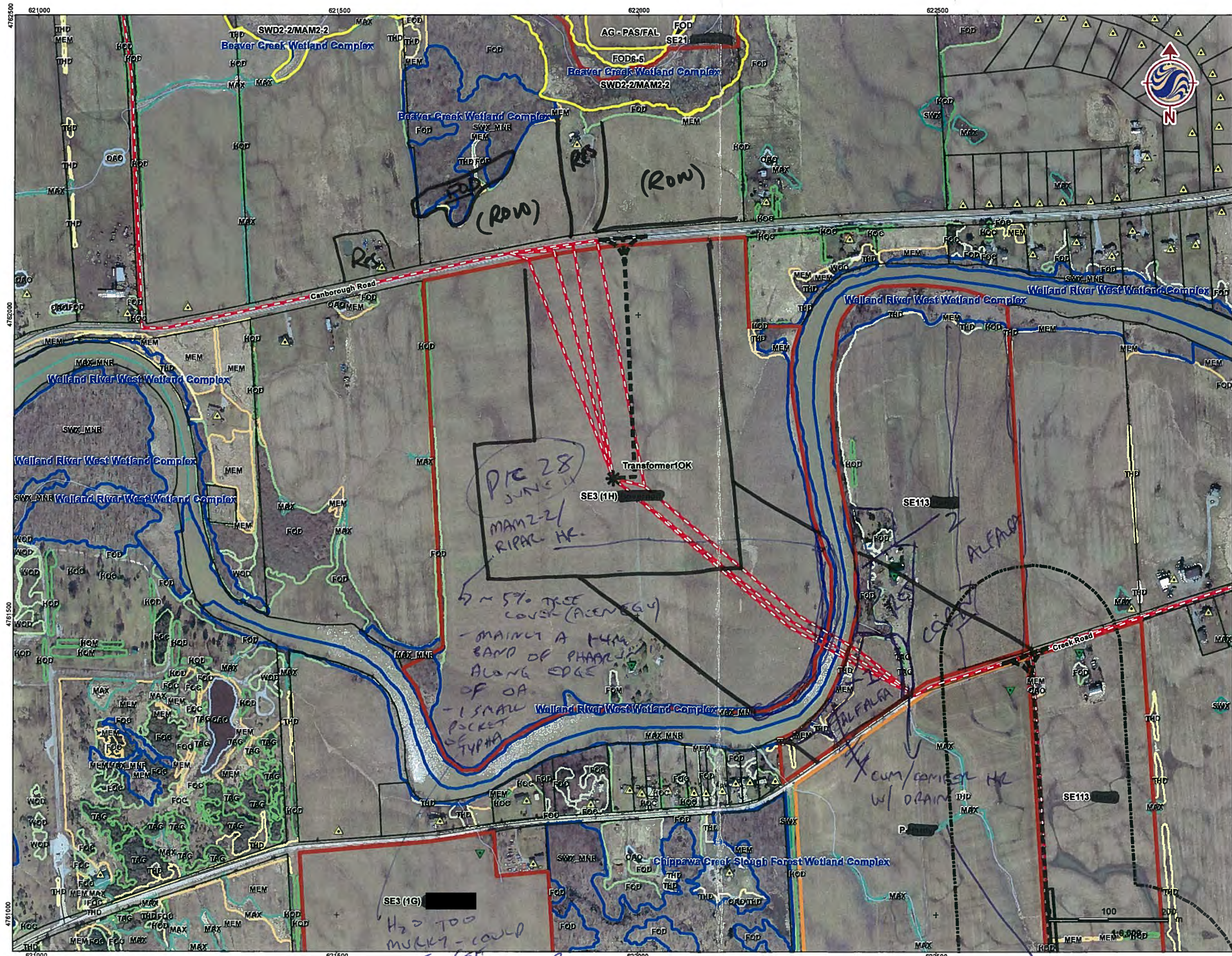
UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

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

- DEER BEDS ~ 5 obs.

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

REV: 2011-07-18



- ### 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.



Client/Project
Niagara Region Wind Corporation
Amphibian Field Maps

Figure No.
1

Title
Property

-NO POOLING ISLAND. SUBMERGED SPP. EMERGENT VEG
CUM SPP SIMILAR TO THE COT

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

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
	☐ TALUS	☒ TABLELAND		☐ LICHEN	☐ SWAMP
	☐ CREVICE / CAVE	☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
	☐ CLIFF	☐ CLIFF		☐ DECIDUOUS	☐ BOG
	☐ CARB. BEDRK.	☐ ALVAR		☐ CONIFEROUS	☐ BARREN
		☐ ROCKLAND		☐ MIXED	☐ MEADOW
		☐ BEACH / BAR			☐ PRAIRIE
		☐ SAND DUNE			☐ THICKET
		☐ BLUFF			☐ SAVANNAH
					☒ WOODLAND
					☐ FOREST
					☐ PLANTATION

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
CANOPY	23	3	eastern cottonwood > white ash > Am elm
SUB-CANOPY	4	3	Staghorn sumac > gray dogwood
UNDERSTOREY	5	4	virginia creeper = riverbank grape
GRD. LAYER	6-7	4	giant mustard > Red Canary grass > goldenrod sp

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

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

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

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
COSITE:		CODE:
VEGETATION TYPE: <i>Dec. Fresh Poplar Dec. Forest type</i>		CODE: <i>FOP3-1</i>
INCLUSION		CODE:
COMPLEX		CODE:

GRCA KILL AMRO
FRES WAVE MODO
ALBA VELIA TUVU

Follows old rail line.
photo #1, 2

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>SE114</u>
	POLYGON: <u>HB#1</u>
	DATE: <u>May 23, 2012</u>
	SURVEYOR(S): <u>C. Poirer</u>

[illegible]

Signature: [Signature]
(Field Personnel)

Signature: _____
(Project Manager)



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Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: Niagara region wind SE114

Date: May 23, 2012

Field Personnel: C. Payette

Weather Conditions:	TEMP (°C): <u>24</u>	WIND: <u>2</u>	CLOUD: <u>40%</u>	PPT: <u>none</u>	PPT (in last 24 hrs): <u>light drizzle</u>
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ELC Polygon: # HR1 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?

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:		POLYGON:	
	SURVEYOR(S):		DATE:	UTME:
	START:	END:	UTMZ:	UTMN:

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

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	green oak > Swamp maple = red maple
2	SUB-CANOPY	1/4		
3	UNDERSTOREY	3-4	3	Spice bush > virginian creeper = poison ivy
4	GRD. LAYER	5-7	2	Red canopy green > Sedge sp > Jewelweed

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

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

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

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
COSITE:		CODE:
VEGETATION TYPE:		CODE:
Green ash mineral deciduous Swamp		SW02-2
INCLUSION		CODE:
COMPLEX		CODE:

42FR
BRTW

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: SE114
	POLYGON: 2
	DATE: May 23, 2012
	SURVEYOR(S): C. Payette

[illegible]

: *[Signature]*
(Field Personnel)

re:  (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: NRWC SE 114Date: May 23, 2012Field Personnel: C. Payne

Weather Conditions:	TEMP (°C): <u>23</u>	WIND: <u>2-3</u>	CLOUD: <u>10%</u>	PPT: <u>None</u>	PPT (in last 24 hrs): <u>None</u>
---------------------	-------------------------	---------------------	----------------------	---------------------	--------------------------------------

ELC Polygon: # 2 Assessment Type: ☐-Visual; no access / ☒-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)

throughout

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:		POLYGON:	
	SURVEYOR(S):		DATE:	UTME:
	START:	END:	UTMZ:	UTMN:

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.	☐ ROLL. UPLAND ☐ CLIFF		☐ BRYOPHYTE ☐ DECIDUOUS	☐ FEN ☐ BOG
	☐ BASIC BEDRK.	☐ TALUS ☐ CREVICE / CAVE		☐ CONIFEROUS ☐ MIXED	☐ BARREN ☐ MEADOW
SITE	☐ CARB. BEDRK.	☐ ALVAR ☐ ROCKLAND	COVER		☐ PRAIRIE ☐ THICKET
☐ OPEN WATER		☐ BEACH / BAR ☐ SAND DUNE	☐ OPEN ☐ SHRUB		☐ SAVANNAH ☐ WOODLAND
☐ SHALLOW WATER		☐ BLUFF	☒ TREED		☒ FOREST
☒ SURFICIAL DEP.					☐ PLANTATION
☐ BEDROCK					

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	3	green ash > eastern cottonwood > trembling aspen
2	SUB-CANOPY	n/a	4	
3	UNDERSTOREY	3-4	4	riverbank grape > gray dogwood > speckled alder
4	GRD. LAYER	5-7	4	goldenrod sp. > reed canary grass > milkweed

TAND COMPOSITION:										BA:	
IZE CLASS ANALYSIS:		I	<10	O	10 - 24	R	25 - 50	N	>50		
TANDING SNAGS:		N	<10	R	10 - 24	N	25 - 50	N	>50		
EADFALL/LOGS:		O	<10	R	10 - 24	N	25 - 50	N	>50		
BUNDANCE CODES:		N=NONE		R=RARE		O=OCCASIONAL		A=ABUNDANT			
OMM. AGE:		PIONEER		YOUNG		MID-AGE		MATURE		OLD GROWTH	

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

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
COSITE:	CODE:
VEGETATION TYPE:	CODE:
F-M Ash lowland Deciduous	FOD7-2
INCLUSION	CODE: MAM2-6
Broad-leaved Srdng. Meadow	
COMPLEX	CODE: CUM1-1
Cultural meadow	

KEEP quite open patches, likely cut at one point photos 3-6
Further in becomes quite swampy, likely Swamp 2-3

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: SE 114	
	POLYGON: 3	
	DATE: May 23, 2012	
	SURVEYOR(S): C. Parvett	

[illegible]

Signature: 
(Field Personnel)

Signature: [Signature]
(Project Manager)



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Fax: (519) 836-2493

Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: NRWC SE114

Date: May 23, 2012

Field Personnel: C. Payette

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>23</u>	<u>2-3</u>	<u>10%</u>	<u>None</u>	<u>None</u>

ELC Polygon: # 3 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?

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

thought

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

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.	☐ ROLL. UPLAND ☐ CLIFF		☐ BRYOPHYTE ☐ DECIDUOUS	☐ FEN ☐ BOG
	☐ BASIC BEDRK.	☐ TALUS ☐ CREVICE / CAVE		☐ CONIFEROUS	☐ BARREN ☐ MEADOW
SITE	☐ CARB. BEDRK.	☐ ALVAR ☐ ROCKLAND	COVER	☐ MIXED	☐ PRAIRIE ☐ THICKET
OPEN WATER		☐ BEACH / BAR ☐ SAND DUNE	☐ OPEN ☐ SHRUB ☐ TREED		☐ SAVANNAH ☐ WOODLAND
SHALLOW WATER		☐ BLUFF			☐ FOREST ☐ PLANTATION
SURFICIAL DEP. BEDROCK					

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
CANOPY	2	4	greenash > red maple > silver maple
SUB-CANOPY			
UNDERSTOREY	3-4	3	spicebush >> virginia creeper > maple leaved viburnum
GRD. LAYER	5-7	3	jewelweed > sensitive fern > sedge (bladder) sp

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

ZE CLASS ANALYSIS:		A	<10	O	10 - 24	A	25 - 50	R	>50
HANDING SNAGS:		R	<10	R	10 - 24	M	25 - 50	N	>50
ADFALL/LOGS:		A	<10	O	10 - 24	R	25 - 50	N	>50
UNDANCE CODES:		N=NONE		R=RARE		O=OCCASIONAL		A=ABUNDANT	
MM. AGE:		PIONEER	YOUNG	MID-AGE	☒ MATURE	OLD GROWTH			

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

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
COSITE:		CODE:
VEGETATION TYPE:		CODE:
green and mineral dec. Swamp		SWD2-2
INCLUSION	green and Min. dec. Swamp	CODE: SWD2-2
COMPLEX		CODE:

30 vernal pooling throughout photos 6-11 (1 of representative vernal pool)

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>SE114</u>
	POLYGON: <u>4</u>
	DATE: <u>May 23, 2012</u>
	SURVEYOR(S): <u>C. Priette</u>

[illegible]

Signature: 
(Field Personnel)

Signature: [Signature]
(Project Manager)



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Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: NRWC SE114

Date: May 23, 2012

Field Personnel: C. Payette

Weather Conditions:	TEMP (°C): <u>23</u>	WIND: <u>2-3</u>	CLOUD: <u>100%</u>	PPT: <u>None</u>	PPT (in last 24 hrs): <u>None</u>
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ELC Polygon: # 4 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?

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

→ vernal pools throughout woodland, too many to estimate all of them

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

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= $HT < 0.2m$

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:	Deciduous forest Hardgrove	CODE: HR - Dec
☐	INCLUSION	CODE:
☐	COMPLEX	CODE:

Evidence of Disturbance / Notes:

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>SELLS.</u>
	POLYGON: <u>#1 - HK</u>
	DATE: <u>May 23, 2012</u>
	SURVEYOR(S): <u>C. Pavette</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 ____ of ____

Signature:

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

Signature:

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Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269Project Name: NRWE SE115Date: May 23, 2012Field Personnel: C. Payette

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>24</u>	<u>2</u>	<u>40%</u>	<u>none</u>	<u>none</u>

ELC Polygon: # 1 Assessment Type: ☐ Visual; no access / ☒ 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

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

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		
☐ OPEN WATER		☐ ALVAR	☐ OPEN		☐ PRAIRIE
☐ SHALLOW WATER		☐ ROCKLAND	☐ SHRUB		☐ THICKET
☒ SURFICIAL DEP.		☐ BEACH / BAR	☒ TREED		☐ SAVANNAH
☐ BEDROCK		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	Silver maple Green Ash White Birch
2	SUB-CANOPY			
3	UNDERSTOREY	5-7	4	Poisoning 2cubation honey suckle 2cogin 2creeper
4	GRD. LAYER	5-7	3	Juniperus 2cogin 2creeper

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

SIZE CLASS ANALYSIS:		O	<10	A	10 - 24	O	25 - 50	R	>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		

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

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE: <i>Silver poplar grassland Sec. Swamp</i>	CODE: <i>SWD.3-2</i>
INCLUSION	CODE:
COMPLEX	CODE:

Evidence of Disturbance / Notes:	Tractor trail between fence & woods, lots of standing water / vernal pools		(Field Personnel)
----------------------------------	--	--	-------------------

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>SELLS</u>	
	POLYGON: <u>#2</u>	
	DATE: <u>May 23 / 2012</u>	
	SURVEYOR(S): <u>C. P. R. #C</u>	

[illegible]

(Field Personnel)

(Project Manager)



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Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: NRWC SE115

Date: May 23, 2012

Field Personnel: C. Payette

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>24</u>	<u>2</u>	<u>40%</u>	<u>none</u>	<u>none</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?	

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:		POLYGON:	
	SURVEYOR(S):		DATE:	UTME:
	START:	END:	UTMZ:	UTMN:

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

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	1-2	4	green ad > Silver maple = trembling asp
2	SUB-CANOPY			
3	UNDERSTOREY	3-4	3	Poa annua > spike rush = speckled dog
4	GRD. LAYER	5-7	3	Solar sp = Sensitive fern = true O. weed

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

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

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

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE:		CODE:
greenish Min. Dec. Swamp		SWD2-2
☐	INCLUSION	CODE:
☐	COMPLEX	CODE:

EWPE
VEER
RTHA

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>SE151</u>
	POLYGON: <u>#3</u>
	DATE: <u>May 23, 2012</u>
	SURVEYOR(S): <u>C. P. Smith</u>

[illegible]

(Field Personnel)

Signature:  _____
(Project Manager)

**Stantec**

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Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269Project Name: NRWC SE115Date: May 23, 2012Field Personnel: C. Paquette

Weather Conditions:	TEMP (°C): <u>24</u>	WIND: <u>2</u>	CLOUD: <u>40%</u>	PPT: <u>none</u>	PPT (in last 24 hrs): <u>none</u>
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ELC Polygon: # 3 Assessment Type: ☒ Visual; no access / ☐ 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

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:		POLYGON:	
	SURVEYOR(S):		DATE:	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			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☒ FOREST
					☐ PLANTATION
SITE			COVER		
☐ OPEN WATER			☐ 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	3	3	trembling aspen > green ash > white birch
2	SUB-CANOPY			
3	UNDERSTOREY	4	2	Staghorn Sumac > prickly pear > willow
4	GRD. LAYER	5-7	3	gold chain > Dog's Head > milkweed

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	N	25 - 50	N	>50
STANDING SNAGS:		N	<10	R	10 - 24	N	25 - 50	N	>50
DEADFALL/LOGS:		O	<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: D-F Poplar Dec. forest	CODE: FOD3-1
INCLUSION Pond	CODE:
COMPLEX	CODE:

Evidence of Disturbance / Notes: GRRR

Fish present in pond, 2 ponds, one has shed & camper trailer by it, mown grass & chairs

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>SELLS</u>
	POLYGON: <u>4</u>
	DATE: <u>May 23, 2012</u>
	SURVEYOR(S): <u>C. Partridge</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 ____ of ____

Signature:

(Field Personnel)

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

Signature:

(Project Manager)

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

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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: NRWC SE115Date: May 23, 2012Field Personnel: C. Payette

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>24</u>	<u>2</u>	<u>40%</u>	<u>none</u>	<u>none</u>

ELC Polygon: # 4 Assessment Type: ☒ -Visual; no access / ☒ -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

Roadside ELC or Road allowance

ELC
COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: NRWC Sells
POLYGON: Sells 1st 5
DATE: May 23, 2018
SURVEYOR(S): C. Payette

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]

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	Sugar maple 2 whitebark = green ash
2	SUB-CANOPY			
3	UNDERSTOREY	3-4	3	poison ivy = wing. co. oaks
4	GRD. LAYER	5-7	3	manzanilla 2 sensitive fern = fern sp.

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= $HT < 0.2m$

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	A	10 - 24	0	25 - 50	L	>50
STANDING SNAGS: unknown		2	<10		10 - 24		25 - 50		>50
DEADFALL/LOGS: unknown			<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:
F-M Sugar maple Dec.		F0D6
✓	INCLUSION	Decid. swamp
	COMPLEX	CODE:
		SWD

Evidence of Disturbance / Notes: very dense, can not see very deep.

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 SE115

Date: May 24, 2012

Field Personnel: C. Payette

Weather Conditions:	TEMP (°C): <u>24</u>	WIND: <u>2</u>	CLOUD: <u>40%</u>	PPT: <u>none</u>	PPT (in last 24 hrs): <u>none</u>
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ELC Polygon: # 5 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?	

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

SE115; Tile 15; no poly #

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:		POLYGON:	
	SURVEYOR(S):		DATE:	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
		☐ 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	1	red maple
2 SUB-CANOPY	—	—	
3 UNDERSTOREY	—	—	
4 GRD. LAYER	5-7	4	Red canopy grass >> phil. Fleabane = horse tail

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:
Red canopy meadow marsh	MAM2-2
INCLUSION	CODE:
COMPLEX	CODE:

Evidence of Disturbance / Notes:

Some standing water ~ 2-5cm

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: NRWC	
	POLYGON: SE115. -MAM	
	DATE: May 23, 2019	
	SURVEYOR(S): C. Puyfelle	

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	
red maple	2					Red canopy grass					A
						phil. Fleabane					O
						Sensitive Fern					RO
						rocky weed					R
						horse tail					O

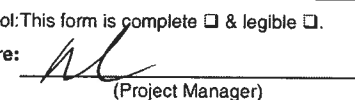
Page ___ of ___

Signature:



(Field Personnel)
Quality Control: This form is complete ☐ & legible ☐.

Signature:



(Project Manager)



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Guelph, ON
Canada N1G 4P5
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Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: NRWC SE115

Date: May 23, 2012

Field Personnel: C. Payette

Weather Conditions:	TEMP (°C): <u>24</u>	WIND: <u>2</u>	CLOUD: <u>40%</u>	PPT: <u>none</u>	PPT (in last 24 hrs): <u>none</u>
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ELC Polygon: #MAM 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?

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

SE115; Tile 15; no poly number

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:		POLYGON:	
	SURVEYOR(S):		DATE:	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
SITE		☐ TALUS	COVER	☐ CONIFEROUS	☐ BARREN
☐ OPEN WATER		☐ CREVICE / CAVE	☐ OPEN	☐ MIXED	☐ MEADOW
☐ SHALLOW WATER		☐ ALVAR	☐ SHRUB		☐ PRAIRIE
☐ SURFICIAL DEP.		☐ ROCKLAND	☐ TREED		☐ THICKET
☐ BEDROCK		☐ 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	1	green ash
3 UNDERSTOREY	4	2	willow sp, rose sp, Red-osier dogwood
4 GRD. LAYER			Red-osier dogwood, goldenrod sp, timothy grass

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:				
	12	<10	10-24	25-50
STANDING SNAGS:				
	10	<10	10-24	25-50
DEADFALL/LOGS:				
	10	<10	10-24	25-50
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:
old field type cultural meadow	CUM1-1
INCLUSION	CODE:
COMPLEX	CODE:

Evidence of Disturbance / Notes:

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: NRWC	
	POLYGON: SE115 Cultural meadow	
	DATE: May 23, 2012	
	SURVEYOR(S): C. Pugh	

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.
	1	2	3	4	
green ash		R			
Red-osier dogwood					A
goldenrod sp					A
spike mustard					O
Rose sp.					O
Daisy					R-O
Dandelion					O
timothy grass					O-A
horse tail sp					O
begonia tick					R-O
Fl. red-osier dogwood					R-O
Mullein					O
Red-osier dogwood					R
Rose sp.					R-O
willow sp					O

Page ____ of ____

Signature:

(Field Personnel)

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

Signature:

(Project Manager)



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Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: NRWC SE115

Date: May 23, 2012

Field Personnel: C. Page

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
				<u>N/A</u>	<u>N/A</u>

ELC Polygon: # CUM 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?

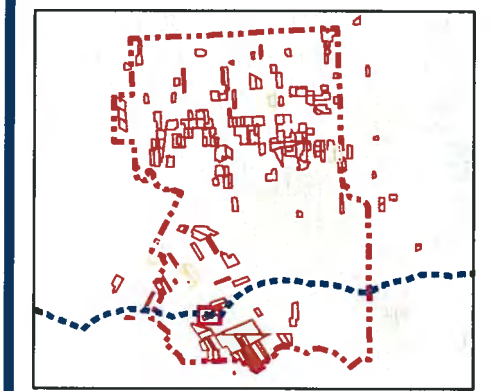
SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

--

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
- Turbines in Signed Lands
 - Standard Turbine (105 dBA)
 - Potential Turbine Locations
 - Turbines in Unsigned Lands
 - Standard Turbine (105 dBA)
 - 51 m Turbine Setback
 - Non-Participating Receptor
 - Participating Receptor
 - Preliminary Study Area
 - Signed Property
 - Signed Property - Outside Study Area
 - Potential Signed Property
 - Potential Signed Property - Outside Study Area
 - ELC Boundary
 - Provincially Significant Wetland
 - Other/Locally Significant Wetland
 - Property Boundary
 - Turbine and Access Road 150m buffer



- ### 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.



Client/Project
Niagara Region Wind Corporation
Amphibian Field Maps

Figure No.
15
Title
Property with Turbine SE115

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 4 of 5

Signature:

(Field Personnel)

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

Signature:

(Project Manager)



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Guelph, ON
Canada N1G 4P5
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Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number:

160950159

Project Name:

NRWC

SE 116

Date:

Aug 27/12

Field Personnel:

M. Ross

Weather Conditions:

TEMP (°C):

25°

WIND:

3-4

CLOUD:

100

PPT:

Rain

PPT (in last 24 hrs):

None

ELC Polygon: #

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?

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

BCCH
AM60
SOSP

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

Stantec

Project Number:

160950269

Project Name:

NRWC

Date:

May 29/12

Field Personnel:

M. Ross

Weather Conditions:

TEMP (°C):

29°C

WIND:

S 90st + 6

CLOUD:

75-90% haze

PPT:

None

PPT (In last 24 hrs):

None

ELC Polygon: # 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?

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>NRWC SE (Figure 2)</u>		POLYGON: <u>B</u>	
	SURVEYOR(S): <u>M. Ross</u>	DATE: <u>May 29/12</u>	UTME:	
	START:	END:	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.	☐ 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		☐ PRAIRIE ☐ THICKET
☐ SHALLOW WATER		☐ BEACH / BAR ☐ SAND DUNE	☒ TREED		☐ SAVANNAH ☐ WOODLAND
☐ SURFICIAL DEP.		☐ BLUFF			☐ FOREST ☐ PLANTATION
☐ BEDROCK					

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1 CANOPY	2	3	SCOTS PINE > E. COHONWOOD
2 SUB-CANOPY	3	2	AM. ELM > MAN. MAPLE
3 UNDERSTOREY	3-4	4	SILKY DOGWOOD > GREY DOGWOOD > C. BUCKTHORN > N. YEW
4 GRD. LAYER	5-7	4	PARULITA = RUBUS IDAEUS > POISON IVY = THAI

HT CODES: 1=25m 2=10-4HTS25m 3=2-4HTS10m 4=1-4HTS2m 5=0.5-4HTS1m 6=0.2-4HTS0.5m 7=HT<0.2m
CVR CODES: 0=NONE 1=0%<CVR510% 2=10%-CVR25% 3=25%-CVR50% 4=CVR>50%

STAND COMPOSITION:							BA:				
SIZE CLASS ANALYSIS:			<10	A	10 - 24	R	25 - 50	M	>50		
STANDING SNAGS:		0	<10	0	10 - 24	R	25 - 50	M	>50		
DEADFALL LOGS:			<10	A	10 - 24		25 - 50	M	>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:

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)

AMRO, GRCA, WAVI, CHSP

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

Signature:

Project Manager



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Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: NRWC

Date: May 29/12

Field Personnel: M. Ross

Weather Conditions: TEMP (°C): 29 WIND: 5 gust to 6 CLOUD: 75-90% haze PPT: None PPT (in last 24 hrs): None

ELC Polygon: # B 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; HQ=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:

May 29/12

Field Personnel:

M. Rss

Weather Conditions:

TEMP (°C):

29°C

WIND:

5 gust to 6

CLOUD:

75-90% haze

PPT:

None

PPT (in last 24 hrs):

None

ELC Polygon: # C

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

ELC	SITE: NRWC SE (Page 2)		POLYGON: D	
	SURVEYOR(S): M. Ross		DATE: May 29/12	
COMMUNITY DESCRIPTION & CLASSIFICATION	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
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND	☐ OPEN		☐ THICKET
		☐ BEACH / BAR	☐ SHRUB		☐ SAVANNAH
		☐ SAND DUNE	☐ STREET		☐ 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	GR. ASH > E. Cottonwood
2	SUB-CANOPY	3	4	GR. ASH > AM. Elm = W. Birch > T. Aspen
3	UNDERSTOREY	3-4	4	Silk Dogwood > Gray Dogwood > Ruck Thorn > Nannyberry
4	GRD. LAYER	6-7	3	PARVITA > Poisonbail > Avers > IMCAPE

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≤80% 4=CVR>80%

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

SOIL ANALYSIS:

TEXTURE: <i>Sandy lo</i>	DEPTH TO MOTTLES/GLEY	<i>3</i>	<i>5</i>	<i>3</i>	<i>NH</i>
MOISTURE: <i>3</i>	DEPTH OF ORGANICS:		<i>0</i>		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:				(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE: <i>FM Ash lowland Dec. Forest</i>		CODE: <i>FOD 7 2</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)

NOCA, RBGR (Field)

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

Signature:

(Project Manager)



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Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: NRWC

Date: May 29/12

Field Personnel: M. Ross

Weather Conditions: TEMP (°C): 29° WIND: 5 gust to 6 CLOUD: 75-90% haze PPT: None PPT (in last 24 hrs): None

ELC Polygon: # D 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

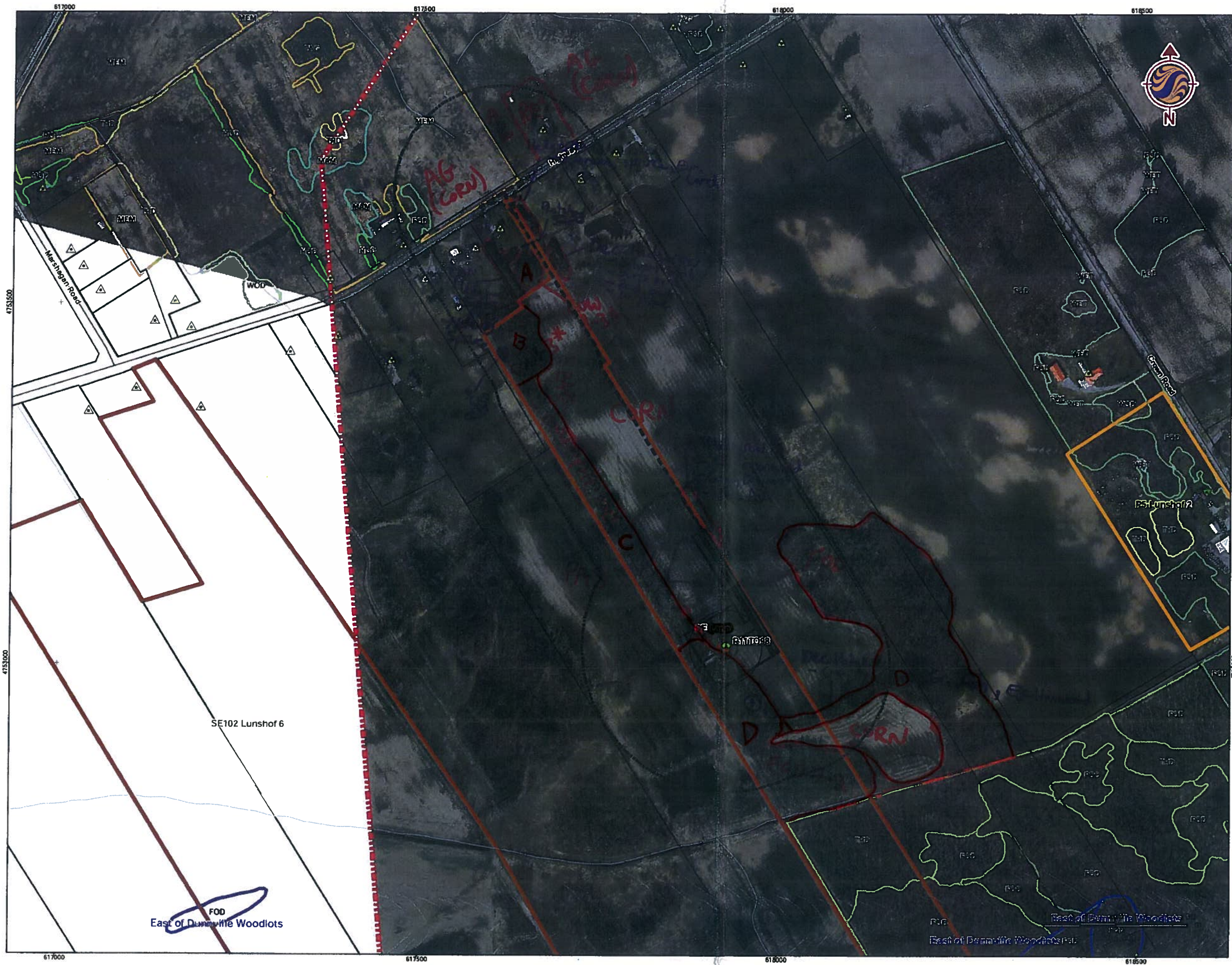
UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
617965 - 4752969	①		N/A	39	No	Yes

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

Low lying area appears to have been inundated before, appears to be a drain like feature (linear)

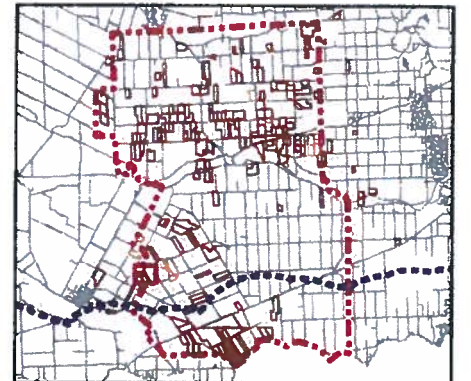
CA=carcass; DP=distinctive pair; FB=feeding evidence; FY=eggs/nest; HQ=house/den; OB=observed; SC=scar; SI=other sign; TK=track; VO=vocalization

V:\1609\Active\1609-0269\Planning\Drawing\mxd\20120423_NE_Fieldmap\16090269_Release_17_ELC_Map_Book_20120518.mxd
Revised: 2012-05-23 By: bcooper



Legend

- Turbines in Signed Lands**
 - Standard Turbine (105 dBA)
 - Potential Turbine Locations
- Turbines in Unsigned Lands**
 - Standard Turbine (105 dBA)
- 51 m Turbine Setback
- Non-Participating Receptor
- Participating Receptor
- Preliminary Study Area
- Signed Property
- Signed Property - Outside Study Area
- Potential Signed Property
- Potential Signed Property - Outside Study Area
- ELC Boundary
- Provincially Significant Wetland
- Other/Locally Significant Wetland
- Property Boundary
- Turbine and Access Road 150m buffer



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

May 2012
16090269

Client/Project

Niagara Region Wind Corporation
Amphibian Field Maps

Figure No.

2

Title

Property with Turbine
SE 116-2

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: NRWC		POLYGON: A	
	SURVEYOR(S): M. ROSS		DATE: May 30/12	
	START:	END:	UTMZ:	UTMN:

OLYGON 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
SITE		☐ TALLS		☐ CONIFEROUS	☐ BARREN
OPEN WATER	☐ CARB. BEDRK.	☐ CREVICE / CAVE	COVER	☐ MIXED	☐ MEADOW
SHALLOW		☐ ALVAR	☐ OPEN		☐ PRAIRIE
WATER		☐ ROCKLAND	☐ SHRUB		☐ THICKET
SURFICIAL DEP.		☐ BEACH / BAR	☐ TREED		☐ SAVANNAH
BEDROCK		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION

RAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
CANOPY	2	3	FRAPENN > SALIX NIGRA
SUB-CANOPY	3	3	FRAPENN > SALIX NIGRA > SA x SP
UNDERSTOREY	2-3	2	Silky Dogwood > SAM CANA
GRD. LAYER	5-7	4	PHALARIS > IMP CAPE > VILK > FAL

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

AND COMPOSITION:

IE CLASS ANALYSIS:		A	<10	A	10 - 24	O	25 - 50	R	>50
ANDING SNAGS:		R	<10	O	10 - 24	R	25 - 50	M	>50
AD FALL LOGS:		O	<10	A	10 - 24	R	25 - 50	M	>50
UNDANCE CODES:		N=NONE R=RARE O=OCCASIONAL A=ABUNDANT							
MM. AGE:		PIONEER	YOUNG	☒ MID-AGE	MATURE	OLD GROWTH			

NL ANALYSIS:

TEXTURE: clay, loam	DEPTH TO MOTTLES/GLEY	0-105cm	0-N/A
TEXTURE: 13	DEPTH OF ORGANICS:	~2	(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:	>120	(cm)

IMMUNITY CLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
OSITE:		CODE:
VEGETATION TYPE: Ash-Willow Mineral Thicket Swamp		CODE: SW2-13*
INCLUSION		CODE:
COMPLEX		CODE:

idence of Disturbance / Notes:

Photos 42, 43, 48, 49
emergent + floating sp.
present

Polygon: photo 45, 46
No surface H₂O

Fig 1 May 2012 R11T099 p__L

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 1 of 1

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) 836-2483

Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: NRWC

Date: May 30/12

Field Personnel: M. Ross

Weather Conditions: TEMP (°C): 21°C WIND: 3-4 CLOUD: 15-50 PPT: None PPT (in last 24 hrs): None

ELC Polygon: # 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
619287-4749002	(1)	Salix sp	~35	44	5	~5	6-8m; old wood pecker nest/feeding

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?
619184-4748947	(2)	3x4m	N/A	47	No	Yes

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

WIFL GRCA VESP GBHE AM60
AMRO SOSF HOWR AMCR JUVU
YWAR INBU MODO GHOW (AMCR Mobbing/chasing
COYE NOCA CDGR RTHA GHOW)
RWBL BCCH
Smallmouth sp (Black, Canada)
Raccoon tracks
W. Tailed Deer Tracks
NLFR

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

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <i>NRWC</i>		POLYGON: <i>B</i>	
	SURVEYOR(S): <i>M. Ross</i>		DATE: <i>May 30/12</i>	
START:	END:	UTME:		UTMN:
		UTMZ:		

OLYGON 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	☐ SOG
		☐ TALLS		☐ CONIFEROUS	☐ BARREN
SITE		☐ CREVICE / CAVE	COVER	☐ MIXED	☐ MEADOW
OPEN WATER	☐ CARB. BEDRK.	☐ ALVAR	☐ OPEN		☐ PRAIRIE
SHALLOW		☐ ROCKLAND	☐ SHRUB		☐ THICKET
WATER		☐ BEACH / BAR	☐ TREED		☐ SAVANNAH
SURFICIAL DEP.		☐ SAND DUNE			☐ WOODLAND
BEDROCK		☐ BLUFF			☐ FOREST
					☐ PLANTATION

TAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
CANOPY			SA 6 E 4 <i>wood</i> FRAP MV
SUB-CANOPY		1	AL N GOS <i>wood</i> FRAP MV
UNDERSTOREY			<i>wood</i>
GRD. LAYER	6 + 4	4	18 LAT

* 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
* R CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤50% 4=CVR>50%

***AND COMPOSITION:**

AND COMPOSITION: 1 BA: NA

ZE CLASS ANALYSIS:	<10	10 - 24	25 - 50	>50
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LANDING SNAGS:	<10	10 - 24	25 - 50	>50
----------------	-----	---------	---------	-----

ADFALL LOGS:	<10	10-24	25-50	50
--------------	-----	-------	-------	----

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

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

OIL ANALYSIS:

XTURE: N/A DEPTH TO MOTTLES/GLEY N/A 1-1/2 2-1/2

TEXTURE:	N/A	DEPTH OF ORGANICS:	N/A	N/A	N/A
----------	-----	--------------------	-----	-----	-----

MOGENEOUS / VARIABLE	DEPTH TO BEDROCK:	N/A	N/A	(cm)
----------------------	-------------------	-----	-----	------

COMMUNITY CLASSIFICATION:

IMMUNITY CLASS:	CODE:
-----------------	-------

COMMUNITY SERIES: _____ CODE: _____

OSITE: _____ CODE: _____

GETATION TYPE: M CODE: M

INCLUSION	CODE:
------------------	--------------

COMPLEX		CODE:
----------------	--	--------------

idence 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 2

Signature:

(Field Personnel)

Quality Control: This form is complete ☐ & legible ☐

Signature:

(Project Manager)



Stantec Consulting Ltd.
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:

160950264

Project Name:

NRWC

Date:

May 30/12

Field Personnel:

M. Ross

Weather Conditions:

TEMP (°C):

21°C

WIND:

3-4

CLOUD:

15-75%

PPT:

None

PPT (in last 24 hrs):

None

ELC Polygon: # B 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)

RWBL
SOSP
COYE

SE13; Tile 16; Poly 1-1

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: NRWC - SE13(18D)	POLYGON: 1-1
	SURVEYOR(S): NAL	DATE: JUNE 5, 2012
	START: 9:30	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	☐ SWAMP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☒ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
SITE		☐ CREVICE / CAVE	COVER	☐ MIXED	☐ MEADOW
☐ OPEN WATER		☐ ALVAR	☐ OPEN		☐ PRAIRIE
☐ SHALLOW WATER		☐ ROCKLAND	☒ SHRUB		☒ THICKET
☒ SURFICIAL DEP.		☐ BEACH / BAR	☐ TREED		☐ SAVANNAH
☐ BEDROCK		☐ 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	23	SUMAC > DOGWOOD > ELM > CHERRY
4 GRD. LAYER	5-7	4	GRASSES >> VIRG CREEPER = Goldenrods

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	☒ N	10-24	☒ N	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:	CODE:
Mineral Cultural Thicket	CUT 1
INCLUSION	CODE:
COMPLEX	CODE:

Evidence of Disturbance / Notes:

This community acts as a divider between properties → Predominantly grasses w patches of shrubs scattered throughout

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	
Sumac			D			horsetail				O	
Dogwood			D			dandelion				R	
ULMACEAE	R		R-D			red clover				O	
Chokecherry			R			orchard grass				D-A	
						reed canopy				D-A	
						goldenrods				O	
						exceeding daisy				R	
						rose sp.				R	
						garlic mustard				R-D	
						virg. creeper				R-D	
						cleavers				R	

Page ___ of ___

Signature:

Nataheara
(Field Personnel)

Quality Control: This form is complete & legible.

Signature:

Natasha
(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: June 5, 2012

Field Personnel: N. Leava

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>20°</u>	<u>0-2</u>	<u>0-25%</u>	<u>Ø</u>	<u>rain</u>

ELC Polygon: # 1-1 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?	

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

KILL - OB, VO

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

SE13; Tile 16; Poly 1-2

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: NRWC SE13(8D)		POLYGON: 1-2	
	SURVEYOR(S): NAL		DATE: JUNE 5, 2012	
	START: 9:30	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	☐ 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	3	4	OAKS > ELM > SALIX
2 SUB-CANOPY	1	1	
3 UNDERSTOREY	5	4	DOGWOOD
4 GRD. LAYER	6-7	3	VITRIPA = GRASSES

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	R	10-24	N	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:	NA	(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE: Hedgerow	CODE: HR
INCLUSION	CODE:
COMPLEX	CODE:

Evidence of Disturbance / Notes:

BORDERING ROAD & AG FIELD, SMALL & DRY DRAINAGE FEATURES

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	
Am Elm						VITRIPA					
G. dogwood						VIR. Creeper					
W. Oak						Dark sp					
R. Oak						Horsetail					
Salix sp.						fescue					
Hickory						chickory					
Com. Apple						Black Mad. c.					
						Daisy					
						B-F. Trefoil					
						Pink flower					
						Red clover					

Page ___ of ___

Signature:

Natchez
(Field Personnel)

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

Signature:

Natchez
(Project Manager)



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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: JUNE 5, 2012

Field Personnel: N. Leawa

Weather Conditions:	TEMP (°C): <u>20°</u>	WIND: <u>0-2</u>	CLOUD: <u>0-25%</u>	PPT: <u>Ø</u>	PPT (in last 24 hrs): <u>rain</u>
---------------------	--------------------------	---------------------	------------------------	------------------	--------------------------------------

ELC Polygon: # 1-2 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)

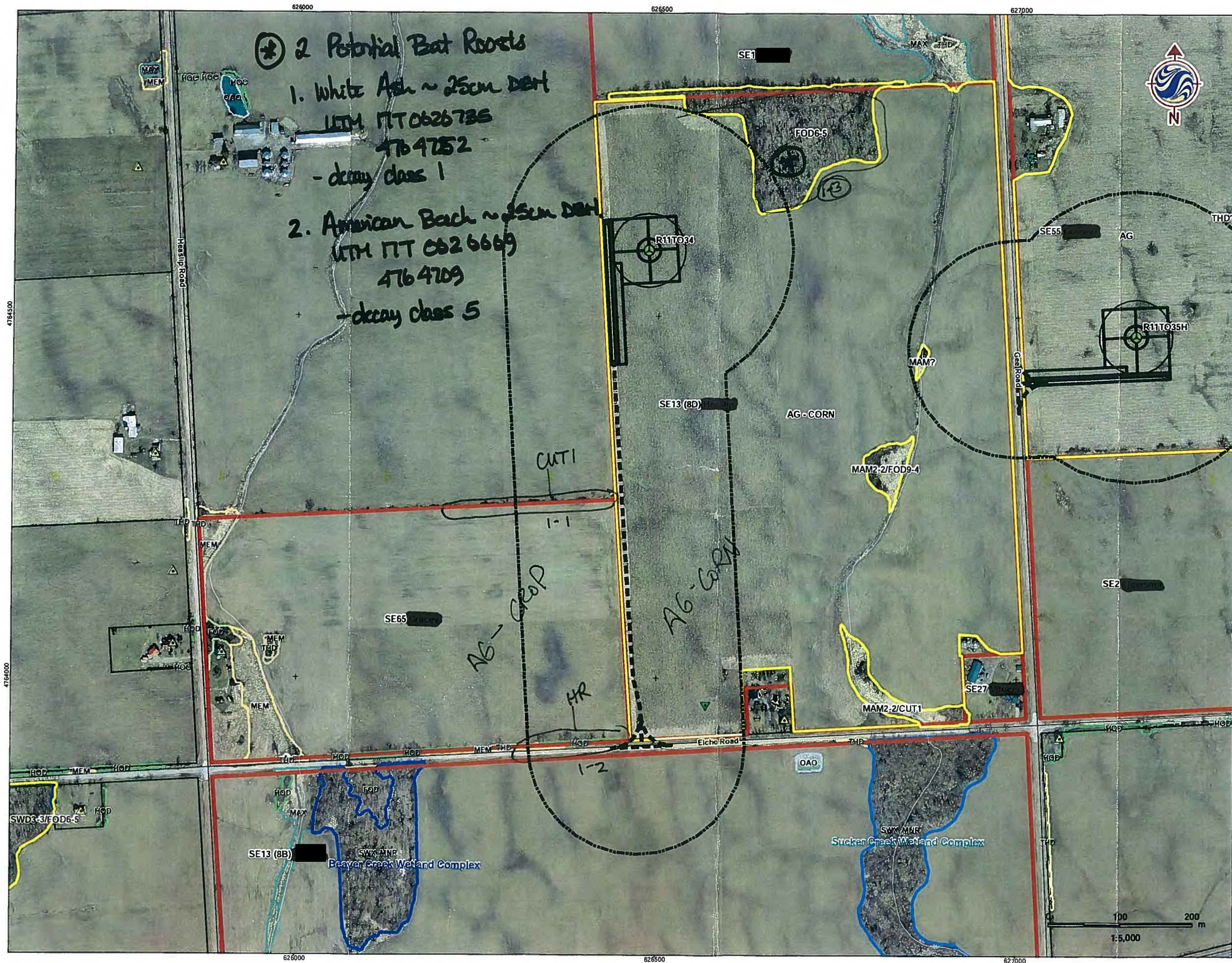
STICK NEST(S) IDENTIFIED						
UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature	

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?	

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



Legend

- Turbines in Signed Lands
 - Standard Turbine (105 dBA)
 - Potential Turbine Locations
- Turbines in Unsigned Lands
 - Standard Turbine (105 dBA)
 - 51 m Turbine Setback
- Non-Participating Receptor
- Participating Receptor
- Preliminary Study Area
- Signed Property
- Signed Property - Outside Study Area
- Potential Signed Property
- Potential Signed Property - Outside Study Area
- ELC Boundary
- Provincially Significant Wetland
- Other/Locally Significant Wetland
- Property Boundary
- Turbine and Access Road 150m buffer



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

May, 2012
160850269

Client/Project
Niagara Region Wind Corporation
Amphibian Field Maps

Figure No.
16

Title
Property with Turbine
SE13 (8D)

SE13; Tile 16; Poly 1-1

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: NRWC - SE13(18D)	POLYGON: 1-1
	SURVEYOR(S): NAL	DATE: JUNE 5, 2012
	START: 9:30	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	☐ SWAMP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☒ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
SITE		☐ CREVICE / CAVE	COVER	☐ MIXED	☐ MEADOW
☐ OPEN WATER		☐ ALVAR	☐ OPEN		☐ PRAIRIE
☐ SHALLOW WATER		☐ ROCKLAND	☒ SHRUB		☒ THICKET
☒ SURFICIAL DEP.		☐ BEACH / BAR	☐ TREED		☐ SAVANNAH
☐ BEDROCK		☐ 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	23	SUMAC > DOGWOOD > ELM > CHERRY
4 GRD. LAYER	5-7	4	GRASSES >> VIRG CREEPER = Goldenrods

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:
Mineral Cultural Thicket	CUT 1
INCLUSION	CODE:
COMPLEX	CODE:

Evidence of Disturbance / Notes:

This community acts as a divider between properties - Predominantly grasses w patches of shrubs scattered throughout

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	
Sumac			D			horsetail				O	
Dogwood			D			dandelion				R	
ULMACEAE	R		R-D			red clover				O	
Chokecherry			R			orchard grass				D-A	
						reed canopy				D-A	
						goldenrods				O	
						exceed daisy				R	
						rose sp.				R	
						garlic mustard				R-D	
						virg. creeper				R-D	
						cleavers				R	

Page ___ of ___

Signature:

Nataheara
(Field Personnel)

Quality Control: This form is complete & legible.

Signature:

Natasha
(Project Manager)



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Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: NRWC

Date: June 5, 2012

Field Personnel: N. Leava

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>20°</u>	<u>0-2</u>	<u>0-25%</u>	<u>Ø</u>	<u>rain</u>

ELC Polygon: # 1-1 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?	

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

KILL - OB, VO

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

SE13; Tile 16; Poly 1-2

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: NRWC SE13(8D)		POLYGON: 1-2	
	SURVEYOR(S): NAL		DATE: JUNE 5, 2012	
	START: 9:30	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	☐ 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	3	4	OAKS > ELM > SALIX
2 SUB-CANOPY	1	1	
3 UNDERSTOREY	5	4	DOGWOOD
4 GRD. LAYER	6-7	3	VITRIPA = GRASSES

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	R	10-24	N	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:	NA	(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE: Hedgerow	CODE: HR
INCLUSION	CODE:
COMPLEX	CODE:

Evidence of Disturbance / Notes:

BORDERING ROAD & AG FIELD, SMALL & DRY DRAINAGE FEATURES

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	
Am Elm						VITRIPA					
G. dogwood						VIR Green					
W. Oak						Dark sp					
R. Oak						Horsetail					
Salix sp.						fescue					
Hickory						chickory					
Com. Apple						Black Mad.c.					
						Daisy					
						B-F Trefoil					
						Pink flower					
						Red clover					

Page ___ of ___

Signature:

Natchez
(Field Personnel)

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

Signature:

Natchez
(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: JUNE 5, 2012

Field Personnel: N. Leawa

Weather Conditions:	TEMP (°C): <u>20°</u>	WIND: <u>0-2</u>	CLOUD: <u>0-25%</u>	PPT: <u>Ø</u>	PPT (in last 24 hrs): <u>rain</u>
---------------------	--------------------------	---------------------	------------------------	------------------	--------------------------------------

ELC Polygon: # 1-2 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*)

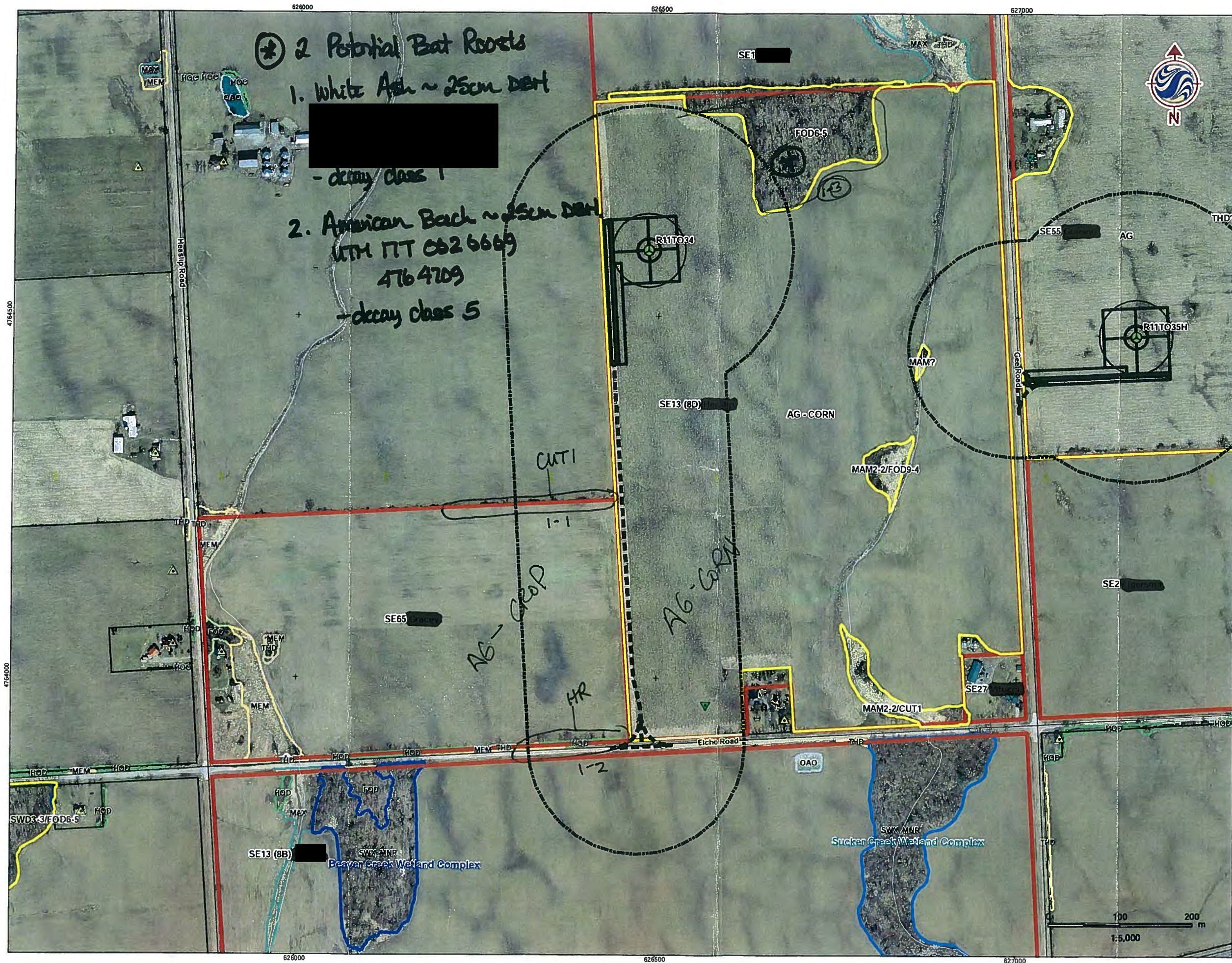
STICK NEST(S) IDENTIFIED						
UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature	

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?	

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



Legend

- Turbines in Signed Lands
 - Standard Turbine (105 dBA)
 - Potential Turbine Locations
- Turbines in Unsigned Lands
 - Standard Turbine (105 dBA)
 - 51 m Turbine Setback
- Receptor
 - Non-Participating Receptor
 - Participating Receptor
- Study Area
 - Preliminary Study Area
 - Signed Property
 - Signed Property - Outside Study Area
 - Potential Signed Property
 - Potential Signed Property - Outside Study Area
- Wetlands
 - ELC Boundary
 - Provincially Significant Wetland
 - Other/Locally Significant Wetland
- Property Boundary
- Turbine and Access Road 150m buffer



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

May, 2012
160850269

Client/Project
Niagara Region Wind Corporation
Amphibian Field Maps

Figure No.
16

Title
Property with Turbine
SE13 (8D)



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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 - ELC

Date: 06 June 2012

Field Personnel: A. Ducharme

Weather Conditions:	TEMP (°C): <u>23</u>	WIND: <u>~15 km/h</u>	CLOUD: <u>part</u>	PPT: <u>none</u>	PPT (in last 24 hrs): <u>~1 mm</u>
---------------------	-------------------------	--------------------------	-----------------------	---------------------	---------------------------------------

ELC Polygon: # 3 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?

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; HQ=house/den; OB=observed; SC=scat; SI=other sign; TK=track; VO=vocalization

SITE: NRC - SE 16 (SE)	POLYGON: 4	DATE: 06 June 2012	
		UTME:	UTMZ:
COMMUNITY DESCRIPTION & CLASSIFICATION	SURVEYOR(S): A. Ducharme	START: 12:30	END: 1:00

POLYGON DESCRIPTION

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

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)			
1	3	1	QUERU > UMANE > CKASUC			
2	-	-				
3	4-5	3	GRASUC > DIFUL > QUERU			
4	6-7	4	PHARUN = ALLPET > GRASSES > Sedges			

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=50<CVR≤60%

STAND COMPOSITION:	
BA:	
SIZE CLASS ANALYSIS:	☐ A ☐ N ☐ N ☐ N <10 10-24 25-50 >50
STANDING SNAGS:	☐ N ☐ N ☐ N <10 10-24 25-50 >50
DEADFALL LOGS:	☐ R ☐ N ☐ N <10 10-24 25-50 >50
ABUNDANCE CODES:	
☐ PIONEER ☐ YOUNG ☐ MID-AGE ☐ MATURE ☐ OLD GROWTH	

COMMUNITY CLASSIFICATION:	
CODE: CODE: CODE: CODE: CODE:	COMMUNITY CLASS: COMMUNITY SERIES: ECOSITE: VEGETATION TYPE:
INCLUSION COMPLEX	

Thin strip of vegetation (2-5 m wide) between farmers' fields.

SITE: NRC - SE 16 (SE)	POLYGON: 4	DATE: 06 June 2012	
		UTME:	UTMZ:
COMMUNITY DESCRIPTION & CLASSIFICATION	SURVEYOR(S): A. Ducharme	START: 12:30	END: 1:00

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

STAND DESCRIPTION:	
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	
LAYER	COLL.
SPECIES CODE 1 2 3 4 QUERU ULMAR RUBIDAE CRASUC	SYMERIC TAROFF ASCSYRI ALLPETI DIFULL TRIPEAT LO CORN THL ARVE PETFRIG LEUVALG PARQUIN PHARUN RUMCEIS VICCRAE GRASSES (other) Sedges



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Fax: (519) 836-2493

Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: NRWC - ELC

Date: 06 June 2012

Field Personnel: A. Ducharme

Weather Conditions: TEMP (°C): ~23 WIND: ~15 km/h CLOUD: part PPT: none PPT (in last 24 hrs): ~1 mm

ELC Polygon: # 4 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 (m 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)

-red-winged blackbirds abundant

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	START: 13:00 END: 13:30	SURVEYOR(S): A. Duckert DATE: 06 June 2012	UTMZ: UTMN:
	SITE: Nkr - SE 16 (SE) POLYGON: 5	UTMZ: UTMN:	UTMZ: UTMN:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
CANOPY	—	—	
SUB-CANOPY	—	—	
UNDERSTOREY	5-6	3	PHARUAN > SOLCANAH
GRD. LAYER	7	2	ALSPLAN > SOLCANAH = PHARUAN

HT CODES: 1=>25m 2=>25m 3=<HT<55m 4=<HT<10m 5=0.5<HT<15m 6=0.2<HT<0.5m 7=HT<0.2m
CVR CODES: 0=NONE 1=0%<CVR<5% 2=10%<CVR<25% 3=25%<CVR<50% 4=CVR>60%

SOIL ANALYSIS: (not completed)		TEXTURE:		DEPTH TO MOTTLES/GLEY		DEPTH OF ORGANICS:		HOMOGENEOUS / VARIABLE		DEPTH TO BEDROCK:		(cm)	
				g=								(cm)	
				G=								(cm)	

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: NRMW - SE 16 (SE)
	POLYGON: S
	DATE: 06 June 2012
	SURVEYOR(S): A. Ducharme

SPECIES CODE					COLL.
1	2	3	4		
LAYER					COLL.
1	2	3	4		

[illegible]

Signature: 

Page 1 of 1

Signature

N. Charlton added codes on request.