ELC COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 16101064b		POLYGON: (9)	
SURVEYOR(S): GAW	DATE: Nov. 4.10	UTMZ:	UTME:
START:	END:		UTMN:

POLYGON DESCRIPTION

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

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	1-2	4	FRAPENN
2	SUB-CANOPY	3	4	FRAPENN >> ULMAMER
3	UNDERSTOREY	4-5	4	CORSTOL
4	GRD. LAYER	6-7		

} No Access

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

STAND COMPOSITION:							BA:	
SIZE CLASS ANALYSIS:	A	< 10	A	10 - 24	O	25 - 50	/	> 50
STANDING SNAGS:		< 10		10 - 24		25 - 50		> 50
DEADFALL / LOGS:		< 10		10 - 24		25 - 50		> 50

} No Access

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

COMM. AGE :		PIONEER		YOUNG	X	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)

COMMUNITYCLASSIFICATION:

COMMUNITY CLASS: Swamp	CODE: SW
COMMUNITY SERIES: Deciduous Swamp	CODE: SWD
ECOSITE: Ash Mineral Deciduous Swamp	CODE: SWD2
VEGETATION TYPE: Green Ash Mineral Dec. Swamp	CODE: SWD2-2
INCLUSION	CODE:
COMPLEX	CODE:

Notes:

ELC PLANT SPECIES LIST

SITE:	T-Line
POLYGON:	Feature 2
DATE:	
SURVEYOR(S):	

LAYERS: 1 = CANOPY > 10m 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.	SPECIES CODE	LAYER 1	2	3	4	COLL.
FRAPENN	D	D									
ULMAMER		A									
ACERUBR	R										
CORSTOL			O								

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

STAND DESCRIPTION:

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

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

STAND COMPOSITION:	BA:

SIZE CLASS ANALYSIS:		< 10		10 - 24		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)

COMMUNITYCLASSIFICATION:

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

Notes:

ELC
PLANT SPECIES LIST

SITE:	
POLYGON:	
DATE:	
SURVEYOR(S):	

LAYERS: 1 = CANOPY > 10m 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

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

581131 582131 583131 584131

4754234

TOWNLINE ROAD
DUXBURY ROAD
CONCESSION 10
HALDIMAND ROAD 20
CONCESSION 9 W-1
HALDIMAND ROAD 53

Hay
Soy
Fallow
Ploughed
Pasture
Hay/Mowed
SWD2-2
OA
Fence cut?

N

0 150 300 m
1:10,000

4753234

November 2010
160960577

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Legend

- Project Location
- 120m Zone of Investigation
- Proposed Turbine Location (V3)
- Access Road Centre Line (V3)
- Proposed Collector Line (V2 Sept 30)
- ROW Installation Zone (V3)
- Substation Property
- Elexco Aquired Agreements (Oct 26)
- Government Lands
- UDI Lands
- Road
- Railway
- Abandoned Railway
- Transmission Line (OBM)
- Deer Wintering Area
- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Watercourse (OBM)
- Waterbody

Area of Natural and Scientific Interest (ANSI)

- Life Science, Provincially Significant
- Earth Science, Provincially Significant
- Earth Science, Regionally Significant

Stantec

GAW
Nov.4.10

Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Data Sources: Ontario Ministry of Natural Resources © Queens Printer Ontario, 2009; © Samsung, 2010.
3. Image Source: Grand River Conservation Authority © First Base Solutions, 2010 - Imagery Date: Spring 2006; LIDAR IMAGERY SOURCE???
4. Produced using the Version 3 site plan provided by Samsung issued on October 18, 2010

Client/Project
SAMSUNG C&T
GRAND RENEWABLE ENERGY PARK

Figure No.
FIELD MAP 5

Title
TRANSMISSION LINE - MAPBOOK

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

FEATURE 3

Wildlife Habitat Assessment

Polygon (9)

Project Number: 161010646

Project Name: Samsung - T-Line

Date / Time: Nov. 4, 2010

Field Personnel: GAW

Weather Conditions:	Temp:	Wind:	Cloud:	PPT:	PPT in last 24 hrs:
	10°	2	100%	light rain	Rain

Reptile Hibernacula Features 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)

Does the site contain potential reptile hibernacula features? ☐ Yes ☐ No (if yes, describe details in Table 1). Unknown

Bat Hibernacula Features i.e. karst topography, abandoned mines or caves

Unknown

Does the site contain potential bat hibernacula features? ☐ Yes ☐ No (if yes, describe details in Table 1).

Table 1: Potential bat/reptile hibernacula features identified on site

UTM	Feature type	Photo #	Description	Species observed usi feature

Species Observations

List species and type of observation: (**TK** = track, **SC** = scat, **VO** = vocalization, **OB** = observed, **DP** = distinctive parts, **FE** = feeding evidence, **CA** = carcass, **FY** = eggs, nest, **HO** = house/den, **SI** = other sign)

Birds	Mammals	Herps	Butterflies / Dragonflies	Other
i.e. AMRO/VO				
/	/	/	/	/

Woodland Assessment- *complete 1 assessment for each woodland*

Woodlot # (indicate on map) : Feature 3

Approximate age of stand Midage

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☒ Yes ☐ No
If yes, approximate # present or % of stand V. Rare (~1)
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc..) from edge

Are snags present? ☒ Yes ☐ No
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark. only small ones seen, rarely w loose bark

Trees with cavities present? ☐ No ☐ Rare ☐ Occasional ☐ Abundant None seen
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)

BAT MAT ROOST ? None Seen

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☐ No
If yes, UTM and describe tree type, height and position in tree, size of nest, species present
Unknown

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☐ Yes ☐ No
If yes, describe Unknown

Seeps/ springs present? ☐ Yes ☐ No If yes, Unknown

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? ☐ Yes ☐ No If yes, Unknown

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shru logs at pond edg

584364 585364 586364 587364

4752730

OLD TALBOT ROAD
HALDIMAND ROAD 20
CONCESSION 9
HALDIMAND ROAD 53
HIGHWAY 3
Nelles Corners
DRY LAKE ROAD
CONCESSION 8
IRISH LINE
SWD2-2
FODS-11*
CUP3-13*
19
585686
N
0 150 300 m
1:10,000

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November 2010
160960577

Legend

- Project Location
- 120m Zone of Investigation
- Proposed Turbine Location (V3)
- Access Road Centre Line (V3)
- Proposed Collector Line (V2 Sept 30)
- ROW Installation Zone (V3)
- Substation Property
- Elexco Aquired Agreements (Oct 26)
- Government Lands
- UDI Lands
- Road
- Railway
- Abandoned Railway
- Transmission Line (OBM)
- Deer Wintering Area
- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Watercourse (OBM)
- Waterbody

Area of Natural and Scientific Interest (ANSI)

- Life Science, Provincially Significant
- Earth Science, Provincially Significant
- Earth Science, Regionally Significant

Stantec

GAW
Nov. 4. 10

Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Data Sources: Ontario Ministry of Natural Resources © Queens Printer Ontario, 2009; © Samsung, 2010.
3. Image Source: Grand River Conservation Authority © First Base Solutions, 2010 - Imagery Date: Spring 2006; LIDAR IMAGERY SOURCE???
4. Produced using the Version 3 site plan provided by Samsung issued on October 18, 2010

Client/Project
SAMSUNG C&T
GRAND RENEWABLE ENERGY PARK

Figure No.
FIELD MAP 4

Title
TRANSMISSION LINE - MAPBOOK

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

Feature 4

Wildlife Habitat Assessment

Polygon (16) T-line

Project Number: 161010646

Project Name: Samsung

Date / Time: Nov. 4. 10

Field Personnel: GAW

Weather Conditions:	Temp:	Wind:	Cloud:	PPT:	PPT in last 24 hrs:
	10°	2	100%	light Rain	Rain

Reptile Hibernacula Features 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)

Does the site contain potential reptile hibernacula features? ☐ Yes ☐ No (if yes, describe details in Table 1).

Unknown

Bat Hibernacula Features i.e. karst topography, abandoned mines or caves

Does the site contain potential bat hibernacula features? ☐ Yes ☐ No (if yes, describe details in Table 1).

Unknown

Table 1: Potential bat/reptile hibernacula features identified on site

UTM	Feature type	Photo #	Description	Species observed using feature

Species Observations

List species and type of observation: (**TK** = track, **SC** = scat, **VO** = vocalization, **OB** = observed, **DP** = distinctive parts, **FE** = feeding evidence, **CA** = carcass, **FY** = eggs, nest, **HO** = house/den, **SI** = other sign)

Birds	Mammals	Herps	Butterflies / Dragonflies	Other
i.e. AMRO/VO /	/	/	/	/

Woodland Assessment- *complete 1 assessment for each woodland*

Woodlot # (indicate on map) : Polygon (16)

Approximate age of stand Mature

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☒ Yes ☐ No
If yes, approximate # present or % of stand few observed
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc..) from edge

Are snags present? ☒ Yes ☐ No
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark. Several small snags seen

Trees with cavities present? ☐ No ☐ Rare ☐ Occasional ☐ Abundant None seen
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)

BAT MAT ROOST? None Seen

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☐ No None seen
If yes, UTM and describe tree type, height and position in tree, size of nest, species present

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☐ Yes ☐ No Unknown
If yes, describe

Seeps/ springs present? ☐ Yes ☐ No If yes, Unknown

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? ☐ Yes ☐ No If yes, Unknown

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shrub logs at pond edge

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 16101064		POLYGON: (9)	
SURVEYOR(S): GAW	DATE: Nov. 4. 10		UTME:
START:	END	UTMZ:	UTMN:

POLYGON DESCRIPTION

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

SITE

☐ OPEN WATER
☐ SHALLOW WATER
☒ SURFICIAL DEP.
☐ BEDROCK

COVER

☐ OPEN
☐ SHRUB
■ TREED

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	1-2	4	FRAPENN
2	SUB-CANOPY	3	4	FRAPENN >>ULMAMER
3	UNDERSTOREY	4-5	4	CORSTOL
4	GRD. LAYER	6-7	4	

} No Access

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

STAND COMPOSITION: BA:

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

} No Access

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

COMM. AGE :		PIONEER		YOUNG	X	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: Swamp		CODE: SW
COMMUNITY SERIES: Deciduous Swamp		CODE: SWD
ECOSITE: Ash Mineral Deciduous Swamp		CODE: SWD2
VEGETATION TYPE: Green Ash Mineral Dec. Swamp		CODE: SWD2-2
☐ INCLUSION		CODE:
☐ COMPLEX		CODE:

Notes:

ELC — PLANT SPECIES LIST

SITE: T-Line
POLYGON: Feature 4
DATE:
SURVEYOR(S):

LAYERS: 1 = CANOPY > 10m 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
FRAPENN	D	D			
ULMAMER		A			
ACERUBR	R				
CORSTOL			O		

SPECIES CODE	LAYER 1	2	3	4	COLL.

ELC COMMUNITY DESCRIPTION & CLASSIFICATION

SITE:		POLYGON: 9	
SURVEYOR(S):	DATE:		UTME:
START:	END:	UTMZ:	UTMN:

POLYGON DESCRIPTION

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

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	1-2	4	FRAPENN
2	SUB-CANOPY	3	4	" >> ULMAMER
3	UNDERSTOREY	4-5	4	CORSTOL
4	GRD. LAYER	6-7		No Access

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

STAND COMPOSITION:							BA:	
SIZE CLASS ANALYSIS:	A	< 10	A	10 - 24	O	25 - 50	/	> 50
STANDING SNAGS:		< 10		10 - 24		25 - 50		> 50
DEADFALL / LOGS:		< 10		10 - 24		25 - 50		> 50

} No Access

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

COMM. AGE:		PIONEER		YOUNG	X	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: Swamp	CODE:	SW
COMMUNITY SERIES: Deciduous Swamp	CODE:	SWD
ECOSITE: Ash Mineral Deciduous Swamp	CODE:	SWD2
VEGETATION TYPE: Green Ash Mineral Dec. Swamp	CODE:	SWD2-2
INCLUSION	CODE:	
COMPLEX	CODE:	

Notes:

ELC PLANT SPECIES LIST

SITE:	T-Line
POLYGON:	Feature 3
DATE:	
SURVEYOR(S):	

LAYERS: 1 = CANOPY > 10m 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
FRAPENN	D	D			
ULMAMER		A			
ACERUBR	R				
CORSTOL			O		

SPECIES CODE	LAYER 1	2	3	4	COLL.

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

Feature 4

Wildlife Habitat Assessment

Samsung T-line

Project Number: 161010646	Project Name: Polygon (9) (represents several small patches)
Date / Time: Nov. 4. 10	Field Personnel: GAW

Weather Conditions:	Temp:	Wind:	Cloud:	PPT:	PPT in last 24 hrs:
	10°	2	100%	light rain	Rain

Reptile Hibernacula Features 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)

Does the site contain potential reptile hibernacula features? ☐ Yes ☐ No (if yes, describe details in Table 1). Unknown

Bat Hibernacula Features i.e. karst topography, abandoned mines or caves Unknown

Does the site contain potential bat hibernacula features? ☐ Yes ☐ No (if yes, describe details in Table 1).

Table 1: Potential bat/reptile hibernacula features identified on site

UTM	Feature type	Photo #	Description	Species observed using feature

Species Observations

List species and type of observation: (**TK** = track, **SC** = scat, **VO** = vocalization, **OB** = observed, **DP** = distinctive parts, **FE** = feeding evidence, **CA** = carcass, **FY** = eggs, nest, **HO** = house/den, **SI** = other sign)

Birds	Mammals	Herps	Butterflies / Dragonflies	Other
i.e. AMRO/VO /	/	/	/	/

Woodland Assessment- *complete 1 assessment for each woodland*

Woodlot # (indicate on map) : Polygon (9)

Approximate age of stand Midage

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☒ Yes ☐ No
If yes, approximate # present or % of stand Very rare: ~1
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc..) from edge

Are snags present? ☒ Yes ☐ No
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark. only small snags seen, rarely w loose bark.

Trees with cavities present? ☐ No ☐ Rare ☐ Occasional ☐ Abundant None Seen.
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)

BAT MAT Roost? None seen

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☐ No
If yes, UTM and describe tree type, height and position in tree, size of nest, species present Unknown

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☐ Yes ☐ No
If yes, describe Unknown

Seeps/ springs present? ☐ Yes ☐ No If yes, Unknown

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? ☐ Yes ☐ No If yes, Unknown

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shrubs, logs at pond edge

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE:		POLYGON: 16		
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
SITE		☐ ROLL. UPLAND	COVER	☐ BRYOPHYTE	☐ FEN
☐ OPEN WATER		☐ CLIFF	☐ OPEN	☑ DECIDUOUS	☐ BOG
☐ SHALLOW WATER		☐ TALUS	☐ SHRUB	☐ CONIFEROUS	☐ BARREN
☑ SURFICIAL DEP.		☐ CREVICE / CAVE	☑ TREED	☐ MIXED	☐ MEADOW
☐ BEDROCK		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☑ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	1-2	4	ACESASA >> QUERUBR >
2	SUB-CANOPY	3	4	" > FAGGRAN
3	UNDERSTOREY	4-5	4	" ≥ "
4	GRD. LAYER	6-7		

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

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

STAND COMPOSITION:							BA:	
SIZE CLASS ANALYSIS:	A	< 10	A	10 - 24	O	25 - 50	/	> 50
STANDING SNAGS:		< 10		10 - 24		25 - 50		> 50
DEADFALL / LOGS:		< 10		10 - 24		25 - 50		> 50

} No Access

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

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

SOIL ANALYSIS:

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

COMMUNITYCLASSIFICATION:

COMMUNITY CLASS: FOREST	CODE:	FO
COMMUNITY SERIES: Deciduous Forest	CODE:	FOD
ECOSITE: D-F Sugar maple Dec Forest	CODE:	FOD5
VEGETATION TYPE: D-F Sugar maple - oak - beech Dec. Forest	CODE:	FOD5-11*
INCLUSION	CODE:	
COMPLEX	CODE:	

Notes: few ~~small~~ large trees. Mostly small snags. No cavities seen.

No Access.

ELC — PLANT SPECIES LIST

SITE: T-Line

POLYGON: Feature 4

DATE:

SURVEYOR(S):

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
Shagbark	O	O			
QUERUBR	A	O			
ACESASA	D	D	A		
FAGGRAN	O	A	A		
TILAMER	O	O			

SPECIES CODE	LAYER 1	2	3	4	COLL.

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 161010646		POLYGON: (15)	
SURVEYOR(S): GAW	DATE: Nov. 4. 10	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
SITE	☐ BASIC BEDRK.	☐ VALLEY SLOPE	COVER	☐ FORB	☐ MARSH
☐ OPEN WATER	☐ CARB. BEDRK.	☒ TABLELAND	☐ OPEN	☐ LICHEN	☐ SWAMP
☐ SHALLOW WATER		☐ ROLL. UPLAND	☐ SHRUB	☐ BRYOPHYTE	☐ FEN
☒ SURFICIAL DEP.		☐ CLIFF	☒ TREED	☒ DECIDUOUS	☐ BOG
☐ BEDROCK		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☒ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	4	3	PICGLAU
2	SUB-CANOPY	5	4	"
3	UNDERSTOREY	6	4	CUMI sp
4	GRD. LAYER	7	4	"

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

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

STAND COMPOSITION:							BA:	
SIZE CLASS ANALYSIS:	D	< 10	/	10 - 24	/	25 - 50	/	> 50
STANDING SNAGS:		< 10		10 - 24		25 - 50		> 50
DEADFALL / LOGS:		< 10		10 - 24		25 - 50		> 50

No Access

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

COMM. AGE :		PIONEER	X	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)

COMMUNITYCLASSIFICATION:

COMMUNITY CLASS:	Cultural	CODE: CU
COMMUNITY SERIES:	Cultural Plantation	CODE: CUP
ECOSITE:	Coniferous Plantation	CODE: CUP3
VEGETATION TYPE:	wht. spruce Coniferous Plantation	CODE: CUP3-13*
INCLUSION		CODE:
COMPLEX		CODE:

Notes: No Access

ELC — PLANT SPECIES LIST

SITE:	Transmission Line
POLYGON:	Feature 6
DATE:	
SURVEYOR(S):	

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
Wht. spruce	D	A			

SPECIES CODE	LAYER 1	2	3	4	COLL.
CUMI spp					

W:\active\60960577\drawing\GIS\MXD\NaturalHeritageAssessment\FieldMaps\60960577_FIELDMAP_TransmissionLine_Mapbook_V3_20101103_PW.mxd - 11/3/2010 @ 1:20:48 PM

Legend

- Project Location
- 120m Zone of Investigation
- Proposed Turbine Location (V3)
- Access Road Centre Line (V3)
- Proposed Collector Line (V2 Sept 30)
- ROW Installation Zone (V3)
- Substation Property
- Elexco Aquired Agreements (Oct 26)
- Government Lands
- UDI Lands
- Road
- Railway
- Abandoned Railway
- Transmission Line (OBM)
- Deer Wintering Area
- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Watercourse (OBM)
- Waterbody

Area of Natural and Scientific Interest (ANSI)

- Life Science, Provincially Significant
- Earth Science, Provincially Significant
- Earth Science, Regionally Significant

Stantec

GAW
Nov. 4. 10

Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Data Sources: Ontario Ministry of Natural Resources © Queens Printer Ontario, 2009; © Samsung, 2010.
3. Image Source: Grand River Conservation Authority © First Base Solutions, 2010 - Imagery Date: Spring 2006; LIDAR IMAGERY SOURCE???
4. Produced using the Version 3 site plan provided by Samsung issued on October 18, 2010

Client/Project

SAMSUNG C&T
GRAND RENEWABLE ENERGY PARK

Figure No.

FIELD MAP 3

Title

TRANSMISSION LINE - MAPBOOK

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

Feature 10

Wildlife Habitat Assessment

Polygon (12) T-line

Project Number 161010646

Project Name: Samsung

Date / Time: Nov. 4. 10

Field Personnel: GAW

Weather Conditions:	Temp:	Wind:	Cloud:	PPT:	PPT in last 24 hrs:
	10°	2	100%	light rain	Rain

Reptile Hibernacula Features 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)

Unknown

Does the site contain potential reptile hibernacula features? ☐ Yes ☐ No (if yes, describe details in Table 1).

Bat Hibernacula Features i.e. karst topography, abandoned mines or caves

Unknown

Does the site contain potential bat hibernacula features? ☐ Yes ☐ No (if yes, describe details in Table 1).

Table 1: Potential bat/reptile hibernacula features identified on site

UTM	Feature type	Photo #	Description	Species observed using feature

Species Observations

List species and type of observation: (**TK** = track, **SC** = scat, **VO** = vocalization, **OB** = observed, **DP** = distinctive parts, **FE** = feeding evidence, **CA** = carcass, **FY** = eggs, nest, **HO** = house/den, **SI** = other sign)

Birds	Mammals	Herps	Butterflies / Dragonflies	Other
i.e. AMRO/VO BCCH BLJA NOHA	/	/	/	/

Woodland Assessment- *complete 1 assessment for each woodland*

Woodlot # (indicate on map) : Polygon (12)

Approximate age of stand Mature

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☐ Yes ☐ No None Seen
If yes, approximate # present or % of stand _____
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc..) _____

Are snags present? ☐ Yes ☐ No None seen
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark.

Trees with cavities present? ☐ No ☐ Rare ☐ Occasional ☐ Abundant Unknown
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)

BAT MAT Roost? None Seen

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☐ No
If yes, UTM and describe tree type, height and position in tree, size of nest, species present Unknown

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☐ Yes ☐ No Unknown
If yes, describe _____

Seeps/ springs present? ☐ Yes ☐ No If yes, Unknown

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? ☐ Yes ☐ No If yes, Unknown

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shrub logs at pond edge

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE:		POLYGON: (12)	
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	1-2	4	ACESASA >> Quercus > FRAPENN
2	SUB-CANOPY	3	4	" >> FAGGRAN
3	UNDERSTOREY	4-5	4	" > "
4	GRD. LAYER	6-7		

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

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

STAND COMPOSITION:			BA:
SIZE CLASS ANALYSIS:	A < 10	A 10 - 24	O 25 - 50	/ > 50
STANDING SNAGS:	< 10	10 - 24	25 - 50	> 50
DEADFALL / LOGS:	< 10	10 - 24	25 - 50	> 50

} No Access

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

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

SOIL ANALYSIS:

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

COMMUNITYCLASSIFICATION:

COMMUNITY CLASS: Forest	CODE: FO
COMMUNITY SERIES: Deciduous Forest	CODE: FOD
ECOSITE: D-F Sugar Maple Dec. Forest	CODE: FOD5
VEGETATION TYPE:	CODE:
INCLUSION	CODE:
COMPLEX	CODE:

Notes: No large trees or snags seen.

BCCH
BLJA
NOHA

No Access

ELC — PLANT SPECIES LIST

SITE: T-Line

POLYGON: Feature 10

DATE:

SURVEYOR(S):

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
FAGGRAN	O	A	A		
FRAPENN	A				
ACESASA	D	D	D		
Shagbark	O				
TILAMER	O				
OSTVIRG		O			
QUERUBR	A				
QUEMACR	A-O				

SPECIES CODE	LAYER 1	2	3	4	COLL.

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 161010646		POLYGON: (11)	
SURVEYOR(S): GAW	DATE: Nov. 4. 10	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	1-2	4	ACESASA >> FAGGRAN > QUERUBR
2	SUB-CANOPY	3	4	" > "
3	UNDERSTOREY	4.5	4	FAGGRAN
4	GRD. LAYER	6-7		

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

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

STAND COMPOSITION:						BA:	
SIZE CLASS ANALYSIS:	A	< 10	A	10 - 24	O	25 - 50	/ > 50
STANDING SNAGS:		< 10		10 - 24		25 - 50	> 50
DEADFALL / LOGS:		< 10		10 - 24		25 - 50	> 50

No Access

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

COMM. AGE :		PIONEER		YOUNG		MID-AGE	X	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: Forest	CODE:	FO
COMMUNITY SERIES: Deciduous Forest	CODE:	FOD
ECOSITE: D-F Sugar Maple Dec. Forest	CODE:	FOD5
VEGETATION TYPE: D-F Sugar Maple - beech Dec. Forest	CODE:	FOD5-2
☐ INCLUSION	CODE:	
☐ COMPLEX	CODE:	

Notes: No large snags, just some small ones.

No large trees seen.

No Access.

ELC — PLANT SPECIES LIST

SITE: Transmission Line	
POLYGON: Feature 11	
DATE:	
SURVEYOR(S):	

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.	SPECIES CODE	LAYER 1	2	3	4	COLL.
ACESASA	D	A	A								
FAGGRAN	A	A	A								
QUERUBR	A										
FRAPENN	O										
PRUSERO	O										
TILAMER	O										

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

Feature 11

Wildlife Habitat Assessment

Polygon (11) T-line

Project Number: 161010646

Project Name: Samsung

Date / Time: Nov. 4. 10

Field Personnel: GAW

Weather Conditions:	Temp:	Wind:	Cloud:	PPT:	PPT in last 24 hrs:
	10°	2.	100%.	light rain	Rain

Reptile Hibernacula Features 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)

Does the site contain potential reptile hibernacula features? ☐ Yes ☐ No (if yes, describe details in Table 1).

Unknown

Bat Hibernacula Features i.e. karst topography, abandoned mines or caves

Does the site contain potential bat hibernacula features? ☐ Yes ☐ No (if yes, describe details in Table 1).

Unknown

Table 1: Potential bat/reptile hibernacula features identified on site

UTM	Feature type	Photo #	Description	Species observed using feature

Species Observations

List species and type of observation: (**TK** = track, **SC** = scat, **VO** = vocalization, **OB** = observed, **DP** = distinctive parts, **FE** = feeding evidence, **CA** = carcass, **FY** = eggs, nest, **HO** = house/den, **SI** = other sign)

Birds	Mammals	Herps	Butterflies / Dragonflies	Other
i.e. AMRO/VO /	/	/	/	/

Woodland Assessment- *complete 1 assessment for each woodland*

Woodlot # (indicate on map) : Polygon (11)

Approximate age of stand Mature

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☐ Yes ☐ No None Seen
If yes, approximate # present or % of stand _____
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc..) _____

Are snags present? ☒ Yes ☐ No
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark. Small ones only; loose bark rare.

Trees with cavities present? ☐ No ☐ Rare ☐ Occasional ☐ Abundant None Seen
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)

Bat Mat Roost? None seen

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☐ No Unknown
If yes, UTM and describe tree type, height and position in tree, size of nest, species present
_____

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☐ Yes ☐ No Unknown
If yes, describe _____

Seeps/ springs present? ☐ Yes ☐ No If yes, Unknown

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? ☐ Yes ☐ No If yes, Unknown

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shrubs, logs at pond edge

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Feature 12

Wildlife Habitat Assessment

Polygon (10) T-line

Project Number 161010646

Project Name: Samsung

Date / Time: Nov. 4. 10

Field Personnel: GAW

Weather Conditions:	Temp:	Wind:	Cloud:	PPT:	PPT in last 24 hrs:
	10°	2	100%	light rain	Rain

Reptile Hibernacula Features 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)

Unknown

Does the site contain potential reptile hibernacula features? ☐ Yes ☐ No (if yes, describe details in Table 1).

Bat Hibernacula Features i.e. karst topography, abandoned mines or caves

Unknown

Does the site contain potential bat hibernacula features? ☐ Yes ☐ No (if yes, describe details in Table 1).

Table 1: Potential bat/reptile hibernacula features identified on site

UTM	Feature type	Photo #	Description	Species observed using feature

Species Observations

List species and type of observation: (**TK** = track, **SC** = scat, **VO** = vocalization, **OB** = observed, **DP** = distinctive parts, **FE** = feeding evidence, **CA** = carcass, **FY** = eggs, nest, **HO** = house/den, **SI** = other sign)

Birds	Mammals	Herps	Butterflies / Dragonflies	Other
i.e. AMRO/VO	Gr. Squirrel			
/	/	/	/	/

Woodland Assessment- *complete 1 assessment for each woodland*

Woodlot # (indicate on map) : Polygon (10)

Approximate age of stand Mature

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☒ Yes ☐ No
If yes, approximate # present or % of stand Scattered
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc..) from edge.

Are snags present? ☒ Yes ☐ No
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark. one large, hollow w med. cavities. Several medium snags with medium cavities & loose bark.

Trees with cavities present? ☐ No ☐ Rare ☒ Occasional ☐ Abundant
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)
See Above	7-20m	15-45 cm	3-10m	medium

Bat Mat Roost? Possible

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☐ No None seen
If yes, UTM and describe tree type, height and position in tree, size of nest, species present

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☒ Yes ☐ No
If yes, describe Extensive dumping seen in east portion

Seeps/ springs present? ☐ Yes ☐ No If yes, Unknown

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? ☐ Yes ☐ No If yes, Unknown

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shrubs, logs at pond edge

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Feature 13

Wildlife Habitat Assessment

Polygon (14) T-line

Project Number 161010646

Project Name: Samsung

Date / Time: Nov. 4. 10

Field Personnel: GAW

Weather Conditions:	Temp:	Wind:	Cloud:	PPT:	PPT in last 24 hrs:
	10°	2	100%	light rain	Rain

Reptile Hibernacula Features 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)

Unknown

Does the site contain potential reptile hibernacula features? ☐ Yes ☐ No (if yes, describe details in Table 1).

Bat Hibernacula Features i.e. karst topography, abandoned mines or caves

Unknown

Does the site contain potential bat hibernacula features? ☐ Yes ☐ No (if yes, describe details in Table 1).

Table 1: Potential bat/reptile hibernacula features identified on site

UTM	Feature type	Photo #	Description	Species observed using feature

Species Observations

List species and type of observation: (**TK** = track, **SC** = scat, **VO** = vocalization, **OB** = observed, **DP** = distinctive parts, **FE** = feeding evidence, **CA** = carcass, **FY** = eggs, nest, **HO** = house/den, **SI** = other sign)

Birds	Mammals	Herps	Butterflies / Dragonflies	Other
i.e. AMRO/VO				
AMCR	/	/	/	/

Woodland Assessment- *complete 1 assessment for each woodland*

Woodlot # (indicate on map) : Polygon (4)

Approximate age of stand Mature

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☐ Yes ☐ No None Seen
If yes, approximate # present or % of stand _____
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc..) _____

Are snags present? ☒ Yes ☐ No
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark. Several small snags seen

Trees with cavities present? ☐ No ☐ Rare ☐ Occasional ☐ Abundant None Seen
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)

Bat Mat Roost? None seen

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☐ No
If yes, UTM and describe tree type, height and position in tree, size of nest, species present None Seen

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☐ Yes ☐ No
If yes, describe Unknown

Seeps/ springs present? ☐ Yes ☐ No If yes, Unknown

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? ☐ Yes ☐ No If yes, Unknown

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shrub logs at pond edge

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Feature 13

Wildlife Habitat Assessment

Polygon (13) T-line

Project Number 161010646

Project Name: Samsung

Date / Time: Nov. 4. 10

Field Personnel: GAW

Weather Conditions:	Temp:	Wind:	Cloud:	PPT:	PPT in last 24 hrs:
	10°	2	100%	light rain	Rain

Reptile Hibernacula Features 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)

Does the site contain potential reptile hibernacula features? ☐ Yes ☐ No (if yes, describe details in Table 1).

Unknown

Bat Hibernacula Features i.e. karst topography, abandoned mines or caves

Unknown

Does the site contain potential bat hibernacula features? ☐ Yes ☐ No (if yes, describe details in Table 1).

Table 1: Potential bat/reptile hibernacula features identified on site

UTM	Feature type	Photo #	Description	Species observed using feature

Species Observations

List species and type of observation: (**TK** = track, **SC** = scat, **VO** = vocalization, **OB** = observed, **DP** = distinctive parts, **FE** = feeding evidence, **CA** = carcass, **FY** = eggs, nest, **HO** = house/den, **SI** = other sign)

Birds	Mammals	Herps	Butterflies / Dragonflies	Other
i.e. AMRO/VO RTHA	Gr. squirrel	/	/	/

Woodland Assessment- *complete 1 assessment for each woodland*

Woodlot # (indicate on map) : Polygon (13)

Approximate age of stand Mature

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☐ Yes ☐ No None Seen
If yes, approximate # present or % of stand _____
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc..) _____

Are snags present? ☒ Yes ☐ No
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark. Several small, snags with some loose bark & medium

Trees with cavities present? ☐ No ☒ Rare ☐ Occasional ☐ Abundant
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)
	7-15m	15-20 cm	2-4m	medium

Bat Mat Roost? None seen

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☐ No
If yes, UTM and describe tree type, height and position in tree, size of nest, species present Unknown

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☐ Yes ☐ No
If yes, describe _____ Unknown

Seeps/ springs present? ☐ Yes ☐ No If yes, Unknown

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? ☐ Yes ☐ No If yes, Unknown

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shrub logs at pond edge

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 161010646 | POLYGON: (13)
SURVEYOR(S): GAW | DATE: Nov. 4. 10 | 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	1-2	4	ACESASA >> Quercus > FAGGRAN
2	SUB-CANOPY	3	4	" > Shagbark = FAGGRAN
3	UNDERSTOREY	4-5	4	" > FAGGRAN
4	GRD. LAYER	6-7		

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

STAND COMPOSITION: | BA:

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

No Access

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

COMM. AGE :		PIONEER		YOUNG		MID-AGE	X	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: Forest	CODE: FO
COMMUNITY SERIES: Deciduous Forest	CODE: FOD
ECOSITE: D-F Sugar Maple Dec. Forest	CODE: FOD5
VEGETATION TYPE: D-F Sugar Maple (oak) - Beech Dec. Forest	CODE: FOD5-11*
☐ INCLUSION	CODE:
☐ COMPLEX	CODE:

Notes: No Access
RTHA
No very large trees. Several small, med. snags: some with loose bark + cavities (med.)
Gr. sq.

ELC — PLANT SPECIES LIST

SITE: Transmission Line
POLYGON: Feature 13
DATE:
SURVEYOR(S):

LAYERS: 1 = CANOPY > 10m 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
ACESASA	D	D	D		
FAGGRAN	O	A	A		
TILAMER	O				
Shagbark	O	O-A			
QUERUBR	O-A				

SPECIES CODE	LAYER 1	2	3	4	COLL.

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ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE:		POLYGON: (14)		
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	1-2	4	ACESASA >> Quercus > Shagbark
2	SUB-CANOPY	3	4	" > shagbark
3	UNDERSTOREY	4-5	4	" > FAGGRAN
4	GRD. LAYER	6-7		

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

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

STAND COMPOSITION:							BA:	
SIZE CLASS ANALYSIS:	A	< 10	A	10 - 24	O	25 - 50	/	> 50
STANDING SNAGS:		< 10		10 - 24		25 - 50		> 50
DEADFALL / LOGS:		< 10		10 - 24		25 - 50		> 50

No Access

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

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

SOIL ANALYSIS:

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

COMMUNITYCLASSIFICATION:

COMMUNITY CLASS: Forest		CODE: FO
COMMUNITY SERIES: Deciduous Forest		CODE: FOD
ECOSITE: D-F Sugar Maple Dec. Forest		CODE: FOD5
VEGETATION TYPE: D-F Sugar Maple - Oak Dec. Forest		CODE: FOD5-3
INCLUSION		CODE:
COMPLEX		CODE:

Notes: No large trees or snags seen. Several small snags: no cavities.

AMCR

No Access

ELC — PLANT SPECIES LIST

SITE:	T-Line
POLYGON:	Feature 13
DATE:	
SURVEYOR(S):	

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
FAGGRAN	R		O		
ACESASA	D	D	A		
QUERUBR	A				
QUEMACR	O				
Shagbark	A	A			
OSTVIRG		O			
FRAPENN	O-R				
PINSTRO	R				

SPECIES CODE	LAYER 1	2	3	4	COLL.

Page ..... of .....

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Feature 80

Wildlife Habitat Assessment

T-line

Project Number: 161010646	Project Name: Samsung
Date / Time: Nov. 4. 2010	Field Personnel: GAW

Weather Conditions:	Temp:	Wind:	Cloud:	PPT:	PPT in last 24 hrs:
	10°	2	100%	light rain	Rain

Reptile Hibernacula Features 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)

Does the site contain potential reptile hibernacula features? ☐ Yes ☐ No (if yes, describe details in Table 1).

Unknown

Bat Hibernacula Features i.e. karst topography, abandoned mines or caves

Does the site contain potential bat hibernacula features? ☐ Yes ☐ No (if yes, describe details in Table 1).

Unknown

Table 1: Potential bat/reptile hibernacula features identified on site

UTM	Feature type	Photo #	Description	Species observed usi feature

Species Observations

List species and type of observation: (**TK** = track, **SC** = scat, **VO** = vocalization, **OB** = observed, **DP** = distinctive parts, **FE** = feeding evidence, **CA** = carcass, **FY** = eggs, nest, **HO** = house/den, **SI** = other sign)

Birds	Mammals	Herps	Butterflies / Dragonflies	Other
i.e. AMRO/VO				

Woodland Assessment- *complete 1 assessment for each woodland*

Woodlot # (indicate on map) : Polygon 13

Approximate age of stand Mature

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☐ Yes ☐ No None Seen
If yes, approximate # present or % of stand _____
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc..) _____

Are snags present? ☒ Yes ☐ No
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark. Several small + med snags. Rare loose bark.

Trees with cavities present? ☒ No ☐ Rare ☐ Occasional ☐ Abundant
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)

Bat Mat Roost? None Seen

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☐ No
If yes, UTM and describe tree type, height and position in tree, size of nest, species present
Unknown

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☐ Yes ☐ No
If yes, describe Unknown

Seeps/ springs present? ☐ Yes ☐ No If yes, Unknown

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? ☐ Yes ☐ No If yes, Unknown

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shr logs at pond ed

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 16101064b		POLYGON: (13)	
SURVEYOR(S): GAW	DATE: Nov. 4, 10	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
SITE	☐ CARB. BEDRK.	☑ TABLELAND		☐ LICHEN	☐ SWAMP
☐ OPEN WATER		☐ ROLL. UPLAND	COVER	☐ BRYOPHYTE	☐ FEN
☐ SHALLOW WATER		☐ CLIFF		☑ DECIDUOUS	☐ BOG
☑ SURFICIAL DEP.		☐ TALUS	☐ OPEN	☐ CONIFEROUS	☐ BARREN
☐ BEDROCK		☐ CREVICE / CAVE	☐ SHRUB	☐ MIXED	☐ MEADOW
		☐ ALVAR	☑ TREED		☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☑ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	1-2	4	ACESASA >> Quercus ≥ FAGGRAN
2	SUB-CANOPY	3	4	" > Shagbark = FAGGRAN
3	UNDERSTOREY	4-5	4	" > FAGGRAN
4	GRD. LAYER	6-7	4	No Access

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

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

STAND COMPOSITION:							BA:
SIZE CLASS ANALYSIS:	A	< 10	A	10 - 24	A	25 - 50	/ > 50
STANDING SNAGS:		< 10		10 - 24		25 - 50	> 50 } No Access
DEADFALL / LOGS:		< 10		10 - 24		25 - 50	> 50 } No Access

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: Forest	CODE: FO
COMMUNITY SERIES: Deciduous Forest	CODE: FOD
ECOSITE: D-F Sugar Maple Dec. Forest	CODE: FOD5
VEGETATION TYPE: D-F Sugar Maple - Oak - Beech Dec. Forest	CODE: FOD5-11*
☐ INCLUSION	CODE:
☐ COMPLEX	CODE:

Notes:

ELC — PLANT SPECIES LIST

SITE: T-Line

POLYGON: Feature 80

DATE:

SURVEYOR(S):

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
ACESASA	D	D			
FAGGRAN	O	A	A		
TILAMER	O				
Shagbark	O	% A			
QUERUBR	% A				

SPECIES CODE	LAYER 1	2	3	4	COLL.

ELC COMMUNITY DESCRIPTION & CLASSIFICATION

SITE:		POLYGON: 9	
SURVEYOR(S):	DATE:		UTME:
START:	END:	UTMZ:	UTMN:

POLYGON DESCRIPTION

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

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	1-2	4	FRAPENN
2	SUB-CANOPY	3	4	" >> ULMAMER
3	UNDERSTOREY	4-5	4	CORSTOL
4	GRD. LAYER	6-7		

} No Access

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

STAND COMPOSITION:								BA:
SIZE CLASS ANALYSIS:	A	< 10	A	10 - 24	O	25 - 50	/	> 50
STANDING SNAGS:		< 10		10 - 24		25 - 50		> 50
DEADFALL / LOGS:		< 10		10 - 24		25 - 50		> 50

} No Access

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: Swamp	CODE:	SW
COMMUNITY SERIES: Deciduous Swamp	CODE:	SWD
ECOSITE: Ash Mineral Dec. Swamp	CODE:	SWD2
VEGETATION TYPE: Green Ash Mineral Dec. Swamp	CODE:	SWD2-2
INCLUSION	CODE:	
COMPLEX	CODE:	

Notes:

ELC PLANT SPECIES LIST

SITE:	T-Line
POLYGON:	Feature 13
DATE:	
SURVEYOR(S):	

LAYERS: 1 = CANOPY > 10m 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.	SPECIES CODE	LAYER 1	2	3	4	COLL.
FRAPENN	D	D									
ULMAMER		A									
ACERUBR	R										
CORSTOL			O								

Page ...... of ......

590570 591570 592570 593570

4749665

CONCESSION 6

CONCESSION 5

HALDIMAND ROAD 20

KOHLER ROAD

SWD2-2

FODS-3

25
585692

21
585688

49
585716

16
585683

Fallow
Forb
Soy
OA
Hay
Ploughed
CUMI
Winter Wheat
See Turbine Notes

0 150 300 m
1:10,000

N

590570 591570 592570 593570

4749665

W:\active\160960577\drawing\GIS\MXD\NaturalHeritageAssessment\FieldMaps\160960577_FIELDMAP_TransmissionLine_Mapbook_V3_20101103_PW.mxd - 11/3/2010 @ 1:20:48 PM

November 2010
160960577

Legend

- Project Location
- 120m Zone of Investigation
- Proposed Turbine Location (V3)
- Access Road Centre Line (V3)
- Proposed Collector Line (V2 Sept 30)
- ROW Installation Zone (V3)
- Substation Property
- Elexco Aquired Agreements (Oct 26)
- Government Lands
- UDI Lands
- Road
- Railway
- Abandoned Railway
- Transmission Line (OBM)
- Deer Wintering Area
- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Watercourse (OBM)
- Waterbody

Area of Natural and Scientific Interest (ANSI)

- Life Science, Provincially Significant
- Earth Science, Provincially Significant
- Earth Science, Regionally Significant

Stantec

GAW
Nov. 4. 10

Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Data Sources: Ontario Ministry of Natural Resources © Queens Printer Ontario, 2009; © Samsung, 2010.
3. Image Source: Grand River Conservation Authority © First Base Solutions, 2010 - Imagery Date: Spring 2006; LIDAR IMAGERY SOURCE???
4. Produced using the Version 3 site plan provided by Samsung issued on October 18, 2010

Client/Project
SAMSUNG C&T
GRAND RENEWABLE ENERGY PARK

Figure No.
FIELD MAP 2

Title
TRANSMISSION LINE - MAPBOOK

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

FEATURE 18

Wildlife Habitat Assessment

Polygon (9)

Project Number: 161010646

Project Name: Samsung – T-Line

Date / Time: Nov. 4. 2010

Field Personnel: GAW

Weather Conditions:	Temp:	Wind:	Cloud:	PPT:	PPT in last 24 hrs:
	10°	2	100%	light rain	Rain

Reptile Hibernacula Features 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)

Does the site contain potential reptile hibernacula features? ☐ Yes ☐ No (if yes, describe details in Table 1). Unknown

Bat Hibernacula Features i.e. karst topography, abandoned mines or caves

Does the site contain potential bat hibernacula features? ☐ Yes ☐ No (if yes, describe details in Table 1). Unknown

Table 1: Potential bat/reptile hibernacula features identified on site

UTM	Feature type	Photo #	Description	Species observed usi feature

Species Observations

List species and type of observation: (**TK** = track, **SC** = scat, **VO** = vocalization, **OB** = observed, **DP** = distinctive parts, **FE** = feeding evidence, **CA** = carcass, **FY** = eggs, nest, **HO** = house/den, **SI** = other sign)

Birds	Mammals	Herps	Butterflies / Dragonflies	Other
i.e. AMRO/VO /	/	/	/	/

Woodland Assessment- *complete 1 assessment for each woodland*

Woodlot # (indicate on map) : Feature 18 (Polygon 9)

Approximate age of stand Midage

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☒ Yes ☐ No
If yes, approximate # present or % of stand Very Rare (~1)
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc..) from edge

Are snags present? ☒ Yes ☐ No
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark. Only small snags seen, rarely w loose bark.

Trees with cavities present? ☐ No ☐ Rare ☐ Occasional ☐ Abundant None seen.
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)

BAT MAT Roost? None seen

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☐ No
If yes, UTM and describe tree type, height and position in tree, size of nest, species present
Unknown

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☐ Yes ☐ No
If yes, describe Unknown

Seeps/ springs present? ☐ Yes ☐ No If yes, Unknown

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? ☐ Yes ☐ No If yes, Unknown

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shru logs at pond edg

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 16101046		POLYGON: (9)	
SURVEYOR(S): GAW	DATE: Nov. 4.10	UTME:	
START:	END	UTMZ:	UTMN:

POLYGON DESCRIPTION

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

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

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	1-2	4	FRAPENN
2	SUB-CANOPY	3	4	" >> ULMAMER
3	UNDERSTOREY	4-5	4	CORSTOL
4	GRD. LAYER	6-7		No Access

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

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

STAND COMPOSITION:		BA:

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

No Access

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

COMM. AGE :		PIONEER		YOUNG	X	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:

		CODE:
COMMUNITY CLASS:	Swamp	SW
COMMUNITY SERIES:	Deciduous Swamp	SWD
ECOSITE:	Ash Mineral Dec. Swamp	SWD2
VEGETATION TYPE:	Green Ash Mineral Dec. Swamp	SWD2-2
☐ INCLUSION		CODE:
☐ COMPLEX		CODE:

Notes: 1 large tree. Small snags: no loose bark

No Access.

ELC — PLANT SPECIES LIST

SITE:	Transmission Line
POLYGON:	Feature 18
DATE:	
SURVEYOR(S):	

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
FRAPENN	D	D			
ULMAMER		A			
ACERUBR	R				
CORSTOL			O		

SPECIES CODE	LAYER 1	2	3	4	COLL.

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE:		POLYGON: (10)	
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	1-2	4	ACESASA >> FAGGRAN > QUERUBR
2	SUB-CANOPY	3	4	" > FAGGRAN
3	UNDERSTOREY	4-5	4	FAGGRAN
4	GRD. LAYER	6-7		

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

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

STAND COMPOSITION:	BA:

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

No Access

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

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

SOIL ANALYSIS:

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

COMMUNITYCLASSIFICATION:

COMMUNITY CLASS: Forest	CODE:	FO
COMMUNITY SERIES: Deciduous Forest	CODE:	FOD
ECOSITE: D-F Sugar Maple Dec. Forest	CODE:	FOD5
VEGETATION TYPE: D-F Sugar Maple - Beech Dec. Forest	CODE:	FOD5-2
INCLUSION	CODE:	
COMPLEX	CODE:	

Notes: one large, hollow snag w cavities. Extensive trash dumping. Several med. snags w cavities (med) + loose bark.

No Access.

ELC — PLANT SPECIES LIST

SITE: T-Line
POLYGON: Feature 12
DATE:
SURVEYOR(S):

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
ACESASA	D	A	A		
FAGGRAN	A	A	A		
QUERUBR	A				
FRAPENN	O				
PRUSERO	O				
TILAMER	O				

SPECIES CODE	LAYER 1	2	3	4	COLL.

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

Feature 19

Wildlife Habitat Assessment

Polygon (8) T-line

Project Number: 161010646

Project Name: Samsung

Date / Time: Nov. 4. 10

Field Personnel: GAW

Weather Conditions:	Temp:	Wind:	Cloud:	PPT:	PPT in last 24 hrs:
	10°	2	100%	light rain	Rain

Reptile Hibernacula Features 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)

Unknown

Does the site contain potential reptile hibernacula features? ☐ Yes ☐ No (if yes, describe details in Table 1).

Bat Hibernacula Features i.e. karst topography, abandoned mines or caves

Unknown

Does the site contain potential bat hibernacula features? ☐ Yes ☐ No (if yes, describe details in Table 1).

Table 1: Potential bat/reptile hibernacula features identified on site

UTM	Feature type	Photo #	Description	Species observed using feature

Species Observations

List species and type of observation: (**TK** = track, **SC** = scat, **VO** = vocalization, **OB** = observed, **DP** = distinctive parts, **FE** = feeding evidence, **CA** = carcass, **FY** = eggs, nest, **HO** = house/den, **SI** = other sign)

Birds	Mammals	Herps	Butterflies / Dragonflies	Other
i.e. AMRO/VO BLJA	/	/	/	/

Woodland Assessment- *complete 1 assessment for each woodland*

Woodlot # (indicate on map) : Polygon (8)

Approximate age of stand Mature

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☒ Yes ☐ No
If yes, approximate # present or % of stand <10 observed
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc..) from edge.

Are snags present? ☒ Yes ☐ No
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark. Several small - med. snags. Some loose bark.

Trees with cavities present? ☐ No ☒ Rare ☐ Occasional ☐ Abundant
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)
one seen:	15m	20cm	7m	medium.

Bat Mat Roost? None seen

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☐ No
If yes, UTM and describe tree type, height and position in tree, size of nest, species present Unknown

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☐ Yes ☐ No
If yes, describe Unknown

Seeps/ springs present? ☐ Yes ☐ No If yes, Unknown

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? ☐ Yes ☐ No If yes, Unknown

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shrubs, logs at pond edge

ELC COMMUNITY DESCRIPTION & CLASSIFICATION

SITE:		POLYGON: (8)	
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
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	1-2	4	Acer, Quercus
2	SUB-CANOPY	3	4	
3	UNDERSTOREY	4-5	4	
4	GRD. LAYER	6-7		

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

STAND COMPOSITION:							BA:	
SIZE CLASS ANALYSIS:	A	< 10	A	10 - 24	O	25 - 50	/	> 50
STANDING SNAGS:		< 10		10 - 24		25 - 50		> 50
DEADFALL / LOGS:		< 10		10 - 24		25 - 50		> 50

} No Access

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

COMM. AGE :		PIONEER		YOUNG		MID-AGE	X	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: Forest	CODE: FO
COMMUNITY SERIES: Deciduous Forest	CODE: FOD
ECOSITE: D-F Sugar Maple ~~Dec. Forest~~	CODE: FOD5
VEGETATION TYPE: Dry-fresh Sugar Maple-Oak Dec. Forest	CODE: FOD5-3
INCLUSION	CODE:
COMPLEX	CODE:

Notes: several small-med. snags. 1 med. cavity seen, some loose bark. <10 large trees.

BLJA

ELC PLANT SPECIES LIST

SITE: T-Line
POLYGON: Feature 19
DATE:
SURVEYOR(S):

LAYERS: 1 = CANOPY > 10m 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
ACESASA	A				
FAGGRAN	R				
QUERUBR	A				
FRAPENN	O				
Shagbark	R				
LONDIOI				O	

Page ...... of ......

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 161010646		POLYGON: (7)	
SURVEYOR(S): GAW	DATE: Nov. 4. 10	UTME:	
START:	END	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
[x] TERRESTRIAL	[ ] ORGANIC	[ ] LACUSTRINE	[x] NATURAL	[ ] PLANKTON	[ ] LAKE
[ ] WETLAND	[x] MINERAL SOIL	[ ] RIVERINE	[ ] CULTURAL	[ ] SUBMERGED	[ ] POND
[ ] AQUATIC	[ ] PARENT MIN.	[ ] BOTTOMLAND		[ ] FLOATING-LVD.	[ ] RIVER
	[ ] ACIDIC BEDRK.	[ ] TERRACE		[ ] GRAMINOID	[ ] STREAM
SITE	[ ] BASIC BEDRK.	[ ] VALLEY SLOPE	**COVER**	[ ] FORB	[ ] MARSH
[ ] OPEN WATER	[ ] CARB. BEDRK.	[x] TABLELAND	[ ] OPEN	[ ] LICHEN	[ ] SWAMP
[ ] SHALLOW WATER		[ ] ROLL. UPLAND	[ ] SHRUB	[ ] BRYOPHYTE	[ ] FEN
[x] SURFICIAL DEP.		[ ] CLIFF	[x] TREED	[x] DECIDUOUS	[ ] BOG
[ ] BEDROCK		[ ] TALUS		[ ] CONIFEROUS	[ ] BARREN
		[ ] CREVICE / CAVE		[ ] MIXED	[ ] MEADOW
		[ ] ALVAR			[ ] PRAIRIE
		[ ] ROCKLAND			[ ] THICKET
		[ ] BEACH / BAR			[ ] SAVANNAH
		[ ] SAND DUNE			[ ] WOODLAND
		[ ] BLUFF			[x] 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	QUERUBR, Acer, Shagbark, FRAPENN
2	SUB-CANOPY	3	4	
3	UNDERSTOREY	4-5	4	
4	GRD. LAYER	6-7		

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

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

STAND COMPOSITION:						BA:	
SIZE CLASS ANALYSIS:	A	< 10	A	10 - 24	O	25 - 50	/ > 50
STANDING SNAGS:		< 10		10 - 24		25 - 50	> 50
DEADFALL / LOGS:		< 10		10 - 24		25 - 50	> 50

No Access

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

COMM. AGE :		PIONEER		YOUNG		MID-AGE	X	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: Forest		CODE: FO
COMMUNITY SERIES: Deciduous Forest		CODE: FOD
ECOSITE: D-F Sugar Maple Dec. Forest		CODE: FOD5
VEGETATION TYPE: D-F Sugar Maple - Oak Dec. Forest		CODE: FOD5-3
[ ] INCLUSION		CODE:
[ ] COMPLEX		CODE:

Notes: No large trees. Only small, bark-less snags.

No Access

ELC — PLANT SPECIES LIST

SITE: Transmission Line	
POLYGON: Feature 21	
DATE:	
SURVEYOR(S):	

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.	SPECIES CODE	LAYER 1	2	3	4	COLL.
QUERUBR	A										
ACESASA	A										
FRAPENN	A										
PINSTRO	R										
FAGGRAN	O	O	O								
Shagbark	A										

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

Feature 21

Wildlife Habitat Assessment

Polygon (7) T-line

Project Number: 161010646	Project Name: Samsung
Date / Time: Nov. 4. 10	Field Personnel: GAW

Weather Conditions:	Temp:	Wind:	Cloud:	PPT:	PPT in last 24 hrs:
	10°	2	100%	light rain	Rain

Reptile Hibernacula Features 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)

Unknown

Does the site contain potential reptile hibernacula features? ☐ Yes ☐ No (if yes, describe details in Table 1).

Bat Hibernacula Features i.e. karst topography, abandoned mines or caves

Unknown

Does the site contain potential bat hibernacula features? ☐ Yes ☐ No (if yes, describe details in Table 1).

Table 1: Potential bat/reptile hibernacula features identified on site

UTM	Feature type	Photo #	Description	Species observed using feature

Species Observations

List species and type of observation: (**TK** = track, **SC** = scat, **VO** = vocalization, **OB** = observed, **DP** = distinctive parts, **FE** = feeding evidence, **CA** = carcass, **FY** = eggs, nest, **HO** = house/den, **SI** = other sign)

Birds	Mammals	Herps	Butterflies / Dragonflies	Other
i.e. AMRO/VO	Grey Squirrel	/	/	/
/				

Woodland Assessment- *complete 1 assessment for each woodland*

Woodlot # (indicate on map) : Polygon ⑦

Approximate age of stand Mature

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☐ Yes ☐ No None Seen.
If yes, approximate # present or % of stand _____
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc..) _____

Are snags present? ☒ Yes ☐ No
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark. only small, barkless snags observed.

Trees with cavities present? ☐ No ☐ Rare ☐ Occasional ☐ Abundant None Seen
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)

Bat Mat Roost? None Seen

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☐ No None Seen
If yes, UTM and describe tree type, height and position in tree, size of nest, species present
_____

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☐ Yes ☐ No None Seen
If yes, describe _____

Seeps/ springs present? ☐ Yes ☐ No If yes, Unknown

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? ☐ Yes ☐ No If yes, Unknown

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shrubs, logs at pond edge

November 2010
160960577

Legend

- Project Location
- 120m Zone of Investigation
- Proposed Turbine Location (V3)
- Access Road Centre Line (V3)
- Proposed Collector Line (V2 Sept 30)
- ROW Installation Zone (V3)
- Substation Property
- Elexco Aquired Agreements (Oct 26)
- Government Lands
- UDI Lands
- Road
- Railway
- Abandoned Railway
- Transmission Line (OBM)
- Deer Wintering Area
- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Watercourse (OBM)
- Waterbody

Area of Natural and Scientific Interest (ANSI)

- Life Science, Provincially Significant
- Earth Science, Provincially Significant
- Earth Science, Regionally Significant

Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Data Sources: Ontario Ministry of Natural Resources © Queens Printer Ontario, 2009; © Samsung, 2010.
3. Image Source: Grand River Conservation Authority © First Base Solutions, 2010 - Imagery Date: Spring 2006; **LIDAR IMAGERY SOURCE???**
4. Produced using the Version 3 site plan provided by Samsung issued on October 18, 2010

Client/Project

SAMSUNG C&T
GRAND RENEWABLE ENERGY PARK

Figure No.

FIELD MAP 1

Title

TRANSMISSION LINE - MAPBOOK

Stantec

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

Feature 29

Wildlife Habitat Assessment

Polygon (4) T-line

Project Number: 161010646	Project Name: Samsung
Date / Time: Nov. 4. 10	Field Personnel: GAW

Weather Conditions:	Temp:	Wind:	Cloud:	PPT:	PPT in last 24 hrs:
	10°	2	100%	light rain	Rain

Reptile Hibernacula Features 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)

Does the site contain potential reptile hibernacula features? ☐ Yes ☐ No (if yes, describe details in Table 1). Unknown

Bat Hibernacula Features i.e. karst topography, abandoned mines or caves

Does the site contain potential bat hibernacula features? ☐ Yes ☐ No (if yes, describe details in Table 1). Unknown

Table 1: Potential bat/reptile hibernacula features identified on site

UTM	Feature type	Photo #	Description	Species observed using feature

Species Observations

List species and type of observation: (**TK** = track, **SC** = scat, **VO** = vocalization, **OB** = observed, **DP** = distinctive parts, **FE** = feeding evidence, **CA** = carcass, **FY** = eggs, nest, **HO** = house/den, **SI** = other sign)

Birds	Mammals	Herps	Butterflies / Dragonflies	Other
i.e. AMRO/VO	Gr. squirrel	/	/	
/				

Woodland Assessment- *complete 1 assessment for each woodland*

Woodlot # (indicate on map) : Polygon (4)

Approximate age of stand midage

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☒ Yes ☐ No
If yes, approximate # present or % of stand _____ one observed.
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc..) _____

Are snags present? ☒ Yes ☐ No
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark. one medium tree observed, Barkless.

Trees with cavities present? ☐ No ☐ Rare ☐ Occasional ☐ Abundant None Seen
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)

Bat Mat Roost? None seen

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☐ No None seen
If yes, UTM and describe tree type, height and position in tree, size of nest, species present
_____

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☐ Yes ☐ No Unknown
If yes, describe _____

Seeps/ springs present? ☐ Yes ☐ No If yes, Unknown

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? ☐ Yes ☐ No If yes, Unknown

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shrubs, logs at pond edge

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N1G 4P5
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Feature 29

Wildlife Habitat Assessment

Polygon (6) T-line

Project Number: 161010646	Project Name: Samsung
Date / Time: Nov. 4. 10	Field Personnel: GAW

Weather Conditions:	Temp:	Wind:	Cloud:	PPT:	PPT in last 24 hrs:
	10°	2	100%	light rain	Rain

Reptile Hibernacula Features 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)

Does the site contain potential reptile hibernacula features? ☐ Yes ☐ No (if yes, describe details in Table 1). Unknown

Bat Hibernacula Features i.e. karst topography, abandoned mines or caves

Does the site contain potential bat hibernacula features? ☐ Yes ☐ No (if yes, describe details in Table 1). Unknown

Table 1: Potential bat/reptile hibernacula features identified on site

UTM	Feature type	Photo #	Description	Species observed using feature

Species Observations

List species and type of observation: (**TK** = track, **SC** = scat, **VO** = vocalization, **OB** = observed, **DP** = distinctive parts, **FE** = feeding evidence, **CA** = carcass, **FY** = eggs, nest, **HO** = house/den, **SI** = other sign)

Birds	Mammals	Herps	Butterflies / Dragonflies	Other
i.e. AMRO/VO BCCH	gray squirrel	/	/	/

Woodland Assessment- *complete 1 assessment for each woodland*

Woodlot # (indicate on map) : Polygon (6)

Approximate age of stand Mature

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☐ Yes ☐ No None Seen
If yes, approximate # present or % of stand _____
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc..) _____

Are snags present? ☐ Yes ☐ No None Seen
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark.

Trees with cavities present? ☐ No ☐ Rare ☐ Occasional ☐ Abundant None Seen
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)

Bat Mat Roost? None seen

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☐ No None Seen
If yes, UTM and describe tree type, height and position in tree, size of nest, species present

_____

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☐ Yes ☐ No Unknown
If yes, describe _____

Seeps/ springs present? ☐ Yes ☐ No If yes, Unknown

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? ☐ Yes ☐ No If yes, Unknown

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shrubs, logs at pond edge

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE:		POLYGON: (6)	
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	1-2	4	ACESASA > Hickories ≥ Quercus
2	SUB-CANOPY	3	4	ACESASA > FRAPENN
3	UNDERSTOREY	4-5	4	
4	GRD. LAYER	6-7	4	

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

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

STAND COMPOSITION:	BA:

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

} No Access

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

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

SOIL ANALYSIS:

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

COMMUNITYCLASSIFICATION:

COMMUNITY CLASS: Forest	CODE:	FO
COMMUNITY SERIES: Deciduous Forest	CODE:	FOD
ECOSITE: D-F Sugar Maple Dec. Forest	CODE:	FOD5
VEGETATION TYPE: D-F Sugar Maple - Oak Dec. Forest	CODE:	FOD5-3
INCLUSION	CODE:	
COMPLEX	CODE:	

Notes: No large trees or snags seen.
BCCH

ELC — PLANT SPECIES LIST

SITE: T-Line	
POLYGON: Feature 29	
DATE:	
SURVEYOR(S):	

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
FAGGRAN	O				
FRAPENN	O	A			
QUERUBR	A				
ACESASA	A	A			
Shagbark	O				
bitternut	O				
TILAMER	O				

SPECIES CODE	LAYER 1	2	3	4	COLL.

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 161010646		POLYGON: (5)	
SURVEYOR(S): GAW	DATE: Nov. 4. 10	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
SITE	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
☐ OPEN WATER	☐ CARB. BEDRK.	☑ TABLELAND	COVER	☐ LICHEN	☐ SWAMP
☐ SHALLOW WATER		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
☑ SURFICIAL DEP.		☐ CLIFF	☐ OPEN	☑ DECIDUOUS	☐ BOG
☐ BEDROCK		☐ TALUS	☑ SHRUB	☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE	☑ TREED	☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☑ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	1	FRAPENN
2	SUB-CANOPY	3	4	Cornus
3	UNDERSTOREY	4-5	4	" , old field spp
4	GRD. LAYER	6-7	4	

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

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

STAND COMPOSITION:							BA:	
SIZE CLASS ANALYSIS:	D	< 10	O	10 - 24	R	25 - 50	/	> 50
STANDING SNAGS:		< 10		10 - 24		25 - 50		> 50
DEADFALL / LOGS:		< 10		10 - 24		25 - 50		> 50

} No Access

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

COMM. AGE :		PIONEER	X	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: Swamp	CODE: SW
COMMUNITY SERIES: Thicket Swamp	CODE: SWT
ECOSITE: Mineral Thicket Swamp	CODE: SWT2
VEGETATION TYPE: dogwood red-osier Mineral Thicket Swamp	CODE: SWT2-5
INCLUSION	CODE:
COMPLEX	CODE:

Notes: No large trees.
Small snags throughout

No Access

(5a) : CUW

ELC — PLANT SPECIES LIST

SITE: Transmission Line
POLYGON: Feature 29
DATE:
SURVEYOR(S):

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.	SPECIES CODE	LAYER 1	2	3	4	COLL.
CORSTOL											
CORFORA											
SOLCANA											
DAUCARO											
FRAPENN											
Populus											
THUOCCI											
PINSTRO											
ULMAMER											
Red Cedar											
teasle											

ELC COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 161010646			POLYGON: ②	
SURVEYOR(S): GAW		DATE: Nov 4. 2010		UTME:
START:	END:		UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM
- ☐ TERRESTRIAL
- ☒ WETLAND
- ☐ AQUATIC

SITE
- ☐ OPEN WATER
- ☐ SHALLOW WATER
- ☒ SURFICIAL DEP.
- ☐ BEDROCK

SUBSTRATE
- ☐ ORGANIC
- ☒ MINERAL SOIL
- ☐ PARENT MIN.
- ☐ ACIDIC BEDRK.
- ☐ BASIC BEDRK.
- ☐ CARB. BEDRK.

TOPOGRAPHIC FEATURE
- ☐ LACUSTRINE
- ☐ RIVERINE
- ☐ BOTTOMLAND
- ☐ TERRACE
- ☐ VALLEY SLOPE
- ☒ TABLELAND
- ☐ ROLL. UPLAND
- ☐ CLIFF
- ☐ TALUS
- ☐ CREVICE / CAVE
- ☐ ALVAR
- ☐ ROCKLAND
- ☐ BEACH / BAR
- ☐ SAND DUNE
- ☐ BLUFF

HISTORY
- ☒ NATURAL
- ☐ CULTURAL

COVER
- ☒ OPEN
- ☐ SHRUB
- ☐ TREED

PLANT FORM
- ☐ PLANKTON
- ☐ SUBMERGED
- ☐ FLOATING-LVD.
- ☒ GRAMINOID
- ☐ FORB
- ☐ LICHEN
- ☐ BRYOPHYTE
- ☐ DECIDUOUS
- ☐ CONIFEROUS
- ☐ MIXED

COMMUNITY
- ☐ LAKE
- ☐ POND
- ☐ RIVER
- ☐ STREAM
- ☒ MARSH
- ☐ SWAMP
- ☐ FEN
- ☐ BOG
- ☐ BARREN
- ☐ MEADOW
- ☐ PRAIRIE
- ☐ THICKET
- ☐ SAVANNAH
- ☐ WOODLAND
- ☐ FOREST
- ☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	4	4	Reed Canary
2	SUB-CANOPY	5	4	〃
3	UNDERSTOREY	6	4	〃
4	GRD. LAYER	7	4	〃

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

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

STAND COMPOSITION:							BA:	
SIZE CLASS ANALYSIS:	/	< 10	/	10 - 24	/	25 - 50	/	> 50
STANDING SNAGS:		< 10		10 - 24		25 - 50		> 50
DEADFALL / LOGS:		< 10		10 - 24		25 - 50		> 50

No Access (handwritten beside STANDING SNAGS and 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)

COMMUNITYCLASSIFICATION:

COMMUNITY CLASS: Marsh	CODE:	MA
COMMUNITY SERIES: Meadow Marsh	CODE:	MAM
ECOSITE: Mineral Meadow Marsh	CODE:	MAM2
VEGETATION TYPE: Reed Canary Grass Mineral Meadow Marsh	CODE:	MAM2-2
INCLUSION	CODE:	
COMPLEX	CODE:	

Notes:

ELC PLANT SPECIES LIST

SITE:	T-Line
POLYGON:	Feature 29
DATE:	
SURVEYOR(S):	

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.	SPECIES CODE	LAYER 1	2	3	4	COLL.
Reed Canary	D	D	D	D							

Page .... of ....

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE:		POLYGON: (2)	
SURVEYOR(S):		DATE:	UTME:
START:	END	UTMZ:	UTMN:

POLYGON DESCRIPTION

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

SITE

☐ OPEN WATER
☐ SHALLOW WATER
☒ SURFICIAL DEP.
☐ BEDROCK

COVER

☒ OPEN
☐ SHRUB
☐ TREED

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	4	4	reed canary grass
2	SUB-CANOPY	5	4	"
3	UNDERSTOREY	6	4	"
4	GRD. LAYER	7	4	"

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

STAND COMPOSITION:		BA:

SIZE CLASS ANALYSIS:	☐ < 10	☐ 10 - 24	☐ 25 - 50	☐ > 50
STANDING SNAGS:	☐ < 10	☐ 10 - 24	☐ 25 - 50	☐ > 50
DEADFALL / LOGS:	☐ < 10	☐ 10 - 24	☐ 25 - 50	☐ > 50

No Access

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: Marsh	CODE: MA	
COMMUNITY SERIES: Meadow Marsh	CODE: MAM	
ECOSITE: Mineral Meadow Marsh	CODE: MAM2	
VEGETATION TYPE: Reed Canary Grass Mineral Meadow Marsh	CODE: MAM2-2	
☐ INCLUSION	CODE:	
☐ COMPLEX	CODE:	

Notes:

ELC — PLANT SPECIES LIST

SITE: T-Line	
POLYGON: Feature 10	
DATE:	
SURVEYOR(S):	

LAYERS: 1 = CANOPY > 10m 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
Reed Canary	D	D	D	D	

SPECIES CODE	LAYER 1	2	3	4	COLL.

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Tel: (519) 836-6050
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Feature 36

Wildlife Habitat Assessment

Polygon (3) T-line

Project Number: 161010646

Project Name: SAMSUNG

Date / Time: Nov. 4. 10

Field Personnel: GAW

Weather Conditions:	Temp:	Wind:	Cloud:	PPT:	PPT in last 24 hrs:
	10°	2	100%	light rain	rain

Reptile Hibernacula Features 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)

Does the site contain potential reptile hibernacula features? ☐ Yes ☐ No (if yes, describe details in Table 1). Unknown

Bat Hibernacula Features i.e. karst topography, abandoned mines or caves

Does the site contain potential bat hibernacula features? ☐ Yes ☐ No (if yes, describe details in Table 1). Unknown

Table 1: Potential bat/reptile hibernacula features identified on site

UTM	Feature type	Photo #	Description	Species observed using feature

Species Observations

List species and type of observation: (**TK** = track, **SC** = scat, **VO** = vocalization, **OB** = observed, **DP** = distinctive parts, **FE** = feeding evidence, **CA** = carcass, **FY** = eggs, nest, **HO** = house/den, **SI** = other sign)

Birds	Mammals	Herps	Butterflies / Dragonflies	Other
i.e. AMRO/VO NOCA AMGO GRCA DOWO EUST	/	/	/	/

Woodland Assessment- *complete 1 assessment for each woodland*

Woodlot # (indicate on map) : Polygon 3

Approximate age of stand Mature

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☐ Yes ☒ No None seen from road
If yes, approximate # present or % of stand _____
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc..) _____

Are snags present? ☐ Yes ☐ No Unknown
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark.

Trees with cavities present? ☐ No ☐ Rare ☐ Occasional ☐ Abundant Unknown
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)

Bat Mat Roost? None seen

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☐ No None seen
If yes, UTM and describe tree type, height and position in tree, size of nest, species present

_____

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☐ Yes ☐ No Unknown
If yes, describe _____

Seeps/ springs present? ☐ Yes ☐ No If yes, Unknown

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? ☐ Yes ☐ No If yes, Unknown

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shrubs, logs at pond edge

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 161010646		POLYGON: (3)	
SURVEYOR(S): GAW	DATE: Nov. 4. 10	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
SITE	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
☐ OPEN WATER	☐ CARB. BEDRK.	■ TABLELAND		☐ LICHEN	☐ SWAMP
☐ SHALLOW WATER		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
■ SURFICIAL DEP.		☐ CLIFF		■ DECIDUOUS	☐ BOG
☐ BEDROCK		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE	COVER	☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND	☐ OPEN		☐ THICKET
		☐ BEACH / BAR	☐ SHRUB		☐ SAVANNAH
		☐ SAND DUNE	■ TREED		☐ WOODLAND
		☐ BLUFF			■ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	1-2	4	Shagbark, Quercus, Acer, FRAPENN
2	SUB-CANOPY	3	4	
3	UNDERSTOREY	4-5	4	
4	GRD. LAYER	6-7	4	

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

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	O	25 - 50	/ > 50
STANDING SNAGS:		< 10		10 - 24		25 - 50	> 50
DEADFALL / LOGS:		< 10		10 - 24		25 - 50	> 50

} No Access

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

COMM. AGE :		PIONEER		YOUNG		MID-AGE	X	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: Forest	CODE: FO
COMMUNITY SERIES: Deciduous Forest	CODE: FOD
ECOSITE: D-F Sugar Maple Dec. Forest	CODE: FOD5
VEGETATION TYPE:	CODE:
☐ INCLUSION	CODE:
☐ COMPLEX	CODE:

Notes: No Access

ELC — PLANT SPECIES LIST

SITE: Transmission Line
POLYGON: Feature 36
DATE:
SURVEYOR(S):

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
QUEMACR	O				
Shagbark	A				
ACESASA	A				
FRAPENN	O				
PINSTRO		R			
RHACATH			O		

SPECIES CODE	LAYER 1	2	3	4	COLL.

Page ..... of .....

ELC
COMMUNITY DESCRIPTION & CLASSIFICATION

SITE:		POLYGON: (4)	
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	1-2	4	Quercus, Acer, Populus
2	SUB-CANOPY	3	4	
3	UNDERSTOREY	4-5	4	
4	GRD. LAYER	6-7	4	

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

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

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

} No Access

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

COMM. AGE:		PIONEER		YOUNG	X	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)

COMMUNITYCLASSIFICATION:

COMMUNITY CLASS: Forest	CODE: FO
COMMUNITY SERIES: Deciduous Forest	CODE: FOD
ECOSITE:	CODE:
VEGETATION TYPE:	CODE:
INCLUSION	CODE:
COMPLEX	CODE:

Notes: one large oak
one medium, barkless snag

No Access

ELC
PLANT SPECIES LIST

SITE: T-Line

POLYGON: Feature 29

DATE:

SURVEYOR(S):

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
BETPAPY	R				
QUEMACR	A				
POPTREM	A				
ACESASA	O				
CORFORA			O		
RHACATH			O		

SPECIES CODE	LAYER 1	2	3	4	COLL.

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Feature 37

Wildlife Habitat Assessment

Polygon ① T-line

Project Number: 161010646

Project Name: Samsung

Date / Time: Nov. 4. 10

Field Personnel: GAW

Weather Conditions:	Temp:	Wind:	Cloud:	PPT:	PPT in last 24 hrs:
	10°	2	100%	light rain	Rain

Reptile Hibernacula Features 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)

Does the site contain potential reptile hibernacula features? ☐ Yes ☐ No (if yes, describe details in Table 1). unknown

Bat Hibernacula Features i.e. karst topography, abandoned mines or caves

Does the site contain potential bat hibernacula features? ☐ Yes ☐ No (if yes, describe details in Table 1). unknown

Table 1: Potential bat/reptile hibernacula features identified on site

UTM	Feature type	Photo #	Description	Species observed using feature

Species Observations

List species and type of observation: (**TK** = track, **SC** = scat, **VO** = vocalization, **OB** = observed, **DP** = distinctive parts, **FE** = feeding evidence, **CA** = carcass, **FY** = eggs, nest, **HO** = house/den, **SI** = other sign)

Birds	Mammals	Herps	Butterflies / Dragonflies	Other
i.e. AMRO/VO /	/	/	/	/

Woodland Assessment- *complete 1 assessment for each woodland*

Woodlot # (indicate on map) : Polygon ①

Approximate age of stand midage

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☐ Yes ☒ No not seen from road
If yes, approximate # present or % of stand _____
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc..) _____

Are snags present? ☐ Yes ☐ No None seen from edge
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark.

Trees with cavities present? ☐ No ☐ Rare ☐ Occasional ☐ Abundant Unknown
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)

Bat Mat Roost? None seen.

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☐ No None Seen
If yes, UTM and describe tree type, height and position in tree, size of nest, species present

_____

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☐ Yes ☐ No Unknown
If yes, describe _____

Seeps/ springs present? ☐ Yes ☐ No If yes, Unknown

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? ☐ Yes ☐ No If yes, Unknown

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shrubs, logs at pond edge

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE:		POLYGON: (2)	
SURVEYOR(S):		DATE:	UTME:
START:	END	UTMZ:	UTMN:

POLYGON DESCRIPTION

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

SITE

☐ OPEN WATER
☐ SHALLOW WATER
☒ SURFICIAL DEP.
☐ BEDROCK

COVER

☒ OPEN
☐ SHRUB
☐ TREED

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	4	4	reed canary grass >> TYPANGU
2	SUB-CANOPY	5	4	"
3	UNDERSTOREY	6	4	"
4	GRD. LAYER	7	4	"

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

STAND COMPOSITION:		BA:

SIZE CLASS ANALYSIS:	⁄ < 10	⁄ 10 - 24	⁄ 25 - 50	⁄ > 50
STANDING SNAGS:	⁄ < 10	10 - 24	25 - 50	> 50
DEADFALL / LOGS:	⁄ < 10	10 - 24	25 - 50	> 50

No Access

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

COMM. AGE :	PIONEER	X 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: Marsh	CODE: MA
COMMUNITY SERIES: Meadow Marsh	CODE: MAM
ECOSITE: Mineral Meadow Marsh	CODE: MAM2
VEGETATION TYPE: Reed Canary Grass Mineral Meadow Marsh	CODE: MAM2-2
INCLUSION	CODE:
COMPLEX	CODE:

Notes: No Access

ELC — PLANT SPECIES LIST

SITE: T-Line	
POLYGON: Feature 37	
DATE:	
SURVEYOR(S):	

LAYERS: 1 = CANOPY > 10m 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
reed canary	D	D	D	D	
blue vervain	O				
TYPANGU	A				

SPECIES CODE	LAYER 1	2	3	4	COLL.

ELC COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 16101064b		POLYGON: (1)	
SURVEYOR(S): GAW	DATE: Nov. 4. 10		UTME:
START:	END	UTMZ:	UTMN:

POLYGON DESCRIPTION

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

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	3-4	QUEMACR
2	SUB-CANOPY	3	4	" , POPBALS, ULMAMER
3	UNDERSTOREY	4-5	4	CORSTOL
4	GRD. LAYER	6-7	4	——— No Access

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

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

} No Access

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)

COMMUNITYCLASSIFICATION:

COMMUNITY CLASS: Swamp	CODE: SW
COMMUNITY SERIES: Deciduous Swamp	CODE: SWD
ECOSITE: Oak Mineral Deciduous Swamp	CODE: SWD1
VEGETATION TYPE:	CODE:
INCLUSION	CODE:
COMPLEX	CODE:

Notes: No Access

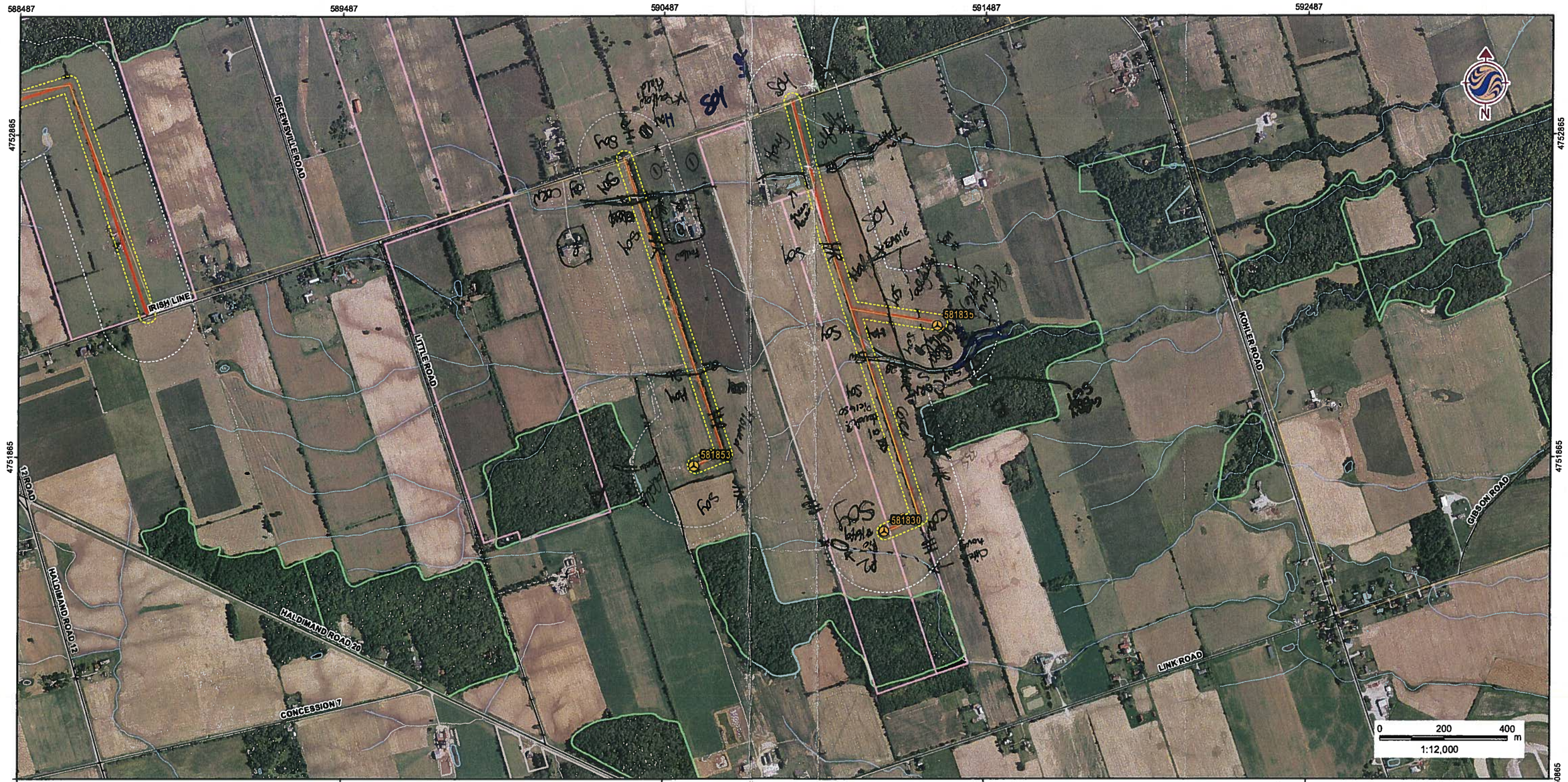
ELC PLANT SPECIES LIST

SITE:	Transmission Line
POLYGON:	Feature 37
DATE:	
SURVEYOR(S):	

LAYERS: 1 = CANOPY > 10m 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.	SPECIES CODE	LAYER 1	2	3	4	COLL.
QUEMACR	A										
POPBALS	O										
ULMAMER	A										
CORSTOL			A								

Page .... of ....



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September 2010
160960577

Legend

- Project Location
- Proposed Turbine Location
- Proposed Access Road
- Proposed Collector Line
- ROW Installation Zone
- 120m Investigation Zone
- Elexco Aquired Agreements
- Government Lands
- UDI Lands
- Road
- Railway
- Abandoned Railway
- Transmission Line (OBM)
- Deer Wintering Area
- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Watercourse (OBM)
- Waterbody

Area of Natural and Scientific Interest (ANSI)

- Life Science, Provincially Significant
- Earth Science, Provincially Significant
- Earth Science, Regionally Significant

Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Data Sources: Ontario Ministry of Natural Resources © Queens Printer Ontario, 2009; © GREP, 2010; © Samsung, 2010.
3. Image Source: © First Base Solutions, 2010 - Imagery Date: Spring 2006; **LIDAR IMAGERY SOURCE???**

Client/Project

SAMSUNG C&T
GRAND RENEWABLE ENERGY PARK

Figure No.

FIELD MAP 3

Title

PROJECT LOCATION MAP

Stantec

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

Wildlife Habitat Assessment

Project Number: 160960577

Project Name: Samsung

Date / Time: 12-Oct-2010 11:45AM

Field Personnel: Melissa Straus

Weather Conditions:	Temp:	Wind:	Cloud:	PPT:	PPT in last 24 hrs:
	10°C	6	30%	none	Heavy Rain

Reptile Hibernacula Features 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)

Does the site contain potential reptile hibernacula features? ☐ Yes ☒ No (if yes, describe details in Table 1).

Bat Hibernacula Features i.e. karst topography, abandoned mines or caves

Does the site contain potential bat hibernacula features? ☐ Yes ☒ No (if yes, describe details in Table 1).

Table 1: Potential bat/reptile hibernacula features identified on site

UTM	Feature type	Photo #	Description	Species observed using feature

Species Observations

List species and type of observation: (**TK** = track, **SC** = scat, **VO** = vocalization, **OB** = observed, **DP** = distinctive parts, **FE** = feeding evidence, **CA** = carcass, **FY** = eggs, nest, **HO** = house/den, **SI** = other sign)

Birds	Mammals	Herps	Butterflies / Dragonflies	Other
i.e. AMRO/VO EAST-OB RBWO-VO BLCH-OB MODO-OB AMCR-OB SOSP-OB HAWO-OB TUVU-OB HOLA-OB BHVI-OB GCKI-OB WTSP OB WBNU-VO EPME-OB	Deer-TK Raccoon-TK	GRFR-OB		

Feature 14

Woodland Assessment- *complete 1 assessment for each woodland*

Woodlot # (indicate on map) : A

Approximate age of stand 60 years

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☒ Yes ☐ No
If yes, approximate # present or % of stand <1%
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc..) Or

Are snags present? ☒ Yes ☐ No
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark. 4@ 30-40cm; loose bark, ↑20m 1@ 25m↑ DBH ~25cm no bark ~6-8/ha

Trees with cavities present? ☐ No ☒ Rare ☐ Occasional ☐ Abundant
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)
Snag 2DD Ash	7	7	5-7	small-med.

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☒ No
If yes, UTM and describe tree type, height and position in tree, size of nest, species present

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☐ Yes ☒ No
If yes, describe

Seeps/ springs present? ☐ Yes ☒ No If yes,

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? ☒ Yes ☐ No If yes,

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shrubs, logs at pond edge
1	Inclusion in 359033/ 4751835	None present	10m x ~20m	Gray Dogwood Speckled Alder	

not vernal pool

Feature 14

ELC COMMUNITY DESCRIPTION / CLASSIFICATION

SITE: Samsung
POLYGON: 3
SURVEYOR(S): D. Straus
DATE: 12-Oct-2010
UTME:
UTMN:
UTMZ:
START: 3:00
END: 3:45

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	HYDROLOGY / TOPOGRAPHY	HISTORY	VEGETATION	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	1	4	CAROVAT > QUERUB > TILAMER
2	SUB-CANOPY	2	4	ACESACS > CAROVAT
3	UNDERSTOREY	3-4	4	ACESACS > OSTVIRG
4	GRD. LAYER	-	3	FRAPENN > CAROVAT

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

STAND COMPOSITION: BA:

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

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

COMM. AGE :		PIONEER		YOUNG	X	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: F-M Oak-Maple-Hickory Dec. Forest		CODE: FOD9
VEGETATION TYPE: F-M Shagbark Hickory Dec. Forest		CODE: FOD9-4*
INCLUSION	Gray Dogwood Thicket Swamp	CODE: SWT2-9
COMPLEX	Mineral	CODE:

Notes: Pic1648

LAYERS: 1 = CANOPY > 10m 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES	1	2	3	4	
CAROVAT	A	O	O	O	
ACESACS	R	O	O	R	
QUERUBR	A	R	—		
OSTVIRG	—	—	O		
FAGGRAN	R	R	R	R	
TILAMER	O	O	R	R	
ULMAMER	R	—	R	—	
FRAPENN	R	—	—	O	
QUEPRIN	—	R	—		
CARCARD	—	R	—		
FRAVIRG				O	
Hawthorn			R		
CARCARP			R		
RUBIDEA					
RIB - Spiny Hackberry				R	
Poison Ivy				R	
Grey Dogwood			R		

SPECIES	1	2	3	4	
Wild Grape					
Jmp Spotted				R	
Asparagus				R	
Wood Nettle				R	
Bur Hackberry				O	
Goldenrod				R	

ELC COMMUNITY DESCRIPTION & CLASSIFICATION

SITE:		POLYGON: (2)	
SURVEYOR(S):	DATE:		UTME:
START 12.15	END 12.30	UTMZ:	UTMN:

POLYGON DESCRIPTION

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

STAND DESCRIPTION:

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

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

STAND COMPOSITION:								BA:
SIZE CLASS ANALYSIS:	R	< 10	R	10 - 24	N	25 - 50	N	> 50
STANDING SNAGS:	N	< 10	N	10 - 24	N	25 - 50	N	> 50
DEADFALL / LOGS:	R	< 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: Riparian Hedgerow(s)	CODE:
INCLUSION	CODE:
COMPLEX	CODE:

Notes:
1644-1645 2
2a = just grass 1643
2b = <0.5 buffer of woods one each side Pic 1646

ELC PLANT SPECIES LIST

SITE: Samsung
POLYGON: 2
DATE: 12-oct-2010
SURVEYOR(S): M. Straus

LAYERS: 1 = CANOPY > 10m 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	1	2	3	4	COLL.	SPECIES CODE	1	2	3	4	COLL.
FRAPENN	R	O				Reed Canarygrass				D	
ULMAMER		R									
Salix sp		R									
CORSTOL						Goldenrod sp				R	

2 {

Page 2 of ......

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September 2010
160960577

Legend

- Project Location
- Proposed Turbine Location
- Proposed Access Road
- Proposed Collector Line
- ROW Installation Zone
- 120m Investigation Zone
- Elexco Aquired Agreements
- Government Lands
- UDI Lands
- Road
- Railway
- Abandoned Railway
- Transmission Line (OBM)
- Deer Wintering Area
- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Watercourse (OBM)
- Waterbody

Area of Natural and Scientific Interest (ANSI)

- Life Science, Provincially Significant
- Earth Science, Provincially Significant
- Earth Science, Regionally Significant

Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Data Sources: Ontario Ministry of Natural Resources © Queens Printer Ontario, 2009; © GREP, 2010; © Samsung, 2010.
3. Image Source: © First Base Solutions, 2010 - Imagery Date: Spring 2006; **LIDAR IMAGERY SOURCE???**

Stantec

Client/Project
SAMSUNG C&T
GRAND RENEWABLE ENERGY PARK

Figure No.
FIELD MAP 3

Title
PROJECT LOCATION MAP

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

Wildlife Habitat Assessment

Project Number: 160960577

Project Name: Samsung

Date / Time: 12-Oct-2010 11:45 am

Field Personnel: Melissa Straus

Weather Conditions:	Temp:	Wind:	Cloud:	PPT:	PPT in last 24 hrs:
	10°C	6	30%	none	Heavy rain

Reptile Hibernacula Features 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)

Does the site contain potential reptile hibernacula features? ☐ Yes ☑ No (if yes, describe details in Table 1).

Bat Hibernacula Features i.e. karst topography, abandoned mines or caves

Does the site contain potential bat hibernacula features? ☐ Yes ☑ No (if yes, describe details in Table 1).

Table 1: Potential bat/reptile hibernacula features identified on site

UTM	Feature type	Photo #	Description	Species observed using feature

Species Observations

List species and type of observation: (**TK** = track, **SC** = scat, **VO** = vocalization, **OB** = observed, **DP** = distinctive parts, **FE** = feeding evidence, **CA** = carcass, **FY** = eggs, nest, **HO** = house/den, **SI** = other sign)

Birds	Mammals	Herps	Butterflies / Dragonflies	Other
i.e. AMRO/VO				

Feature 15

Woodland Assessment- *complete 1 assessment for each woodland*

Woodlot # (indicate on map) : B

Approximate age of stand 50 years

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☒ Yes ☐ No
If yes, approximate # present or % of stand <1%
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc..) ______

Are snags present? ☒ Yes ☐ No
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark. All Ea in Ironwood/Dogwood dead, in Bl... 25-35cm DBH, 10-15m ? all loose bark. (...)

localized throughout ~3/ha.

Trees with cavities present? ☐ No ☒ Rare ☐ Occasional ☐ Abundant
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)
	10?m.	25cm	1-10	hollow - small
snag	3m	15cm	3	small
Ee snag	4m	40cm	0-4	hollow

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☒ No
If yes, UTM and describe tree type, height and position in tree, size of nest, species present

______

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☒ Yes ☐ No
If yes, describe Paths, ATVing through inclusion

Seeps/ springs present? ☐ Yes ☒ No If yes,

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? ☐ Yes ☐ No If yes,

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shrubs, logs at pond edge
	[illegible]	[illegible]		some dogwoods	

No feature

ELC COMMUNITY DESCRIPTION / CLASSIFICATION	SITE:		POLYGON: 1	
	SURVEYOR(S):	DATE:	UTME:	
	START: 11:45	END 12:15	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	HYDROGRAPHIC FEATURE	HISTORY	PLANTFORM	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			
2	SUB-CANOPY			
3	UNDERSTOREY			
4	GRD. LAYER		4	White Aster Type > goldenrod > P.S. Aster

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

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

STAND COMPOSITION:	BA:

SIZE CLASS ANALYSIS:	N	< 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)

COMMUNITYCLASSIFICATION:

		CODE:
COMMUNITY CLASS:		
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE:	Mineral Cultural Meadow	CODE: Cum
☐ INCLUSION		CODE:
☐ COMPLEX		CODE:

Notes: Across road - 1042 - Hay

ELC PLANT SPECIES LIST	SITE: Samsung
	POLYGON: 1
	DATE: 12-Oct-2010
	SURVEYOR(S): M. Straus

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

PLANT SPECIES CODE						PLANT SPECIES					
						P.S. Aster				O	
						B.F. Trefoil				O	
						N. Flat Aster				R	
						Chickory				R	
						Dandelion				O	
						Red Clover				A	
						Timothy				O	
						Q. A. Lace				O	
						White Aster type				A	✓
						Goldenrod				A	

No feature.

ELC COMMUNITY DESCRIPTION / CLASSIFICATION	SITE:	POLYGON: 2	
	SURVEYOR(S):	DATE:	UTME:
	START 12.15	END 12.30	UTMZ:	UTMN:

POLYGON DESCRIPTION

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

SITE	TOPOGRAPHY
☐ OPEN WATER ☐ SHALLOW WATER ☐ SURFICIAL DEP. ☐ BEDROCK	☐ OPEN ☐ SHRUB ☐ TREED

STAND DESCRIPTION:

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

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

STAND COMPOSITION:		BA:

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

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

COMM. AGE :	PIONEER	X 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: Riparian Hedgerow(s)		CODE:
INCLUSION		CODE:
COMPLEX		CODE:

Notes:

1644-1645 2

2a = just grass 1643

2b = <0.5 buffer & weeds on roadside Pic 1646

ELC PLANT SPECIES LIST	SITE: Samsung
	POLYGON: 2
	DATE: 12-Oct-2010
	SURVEYOR(S): M. Straus

LAYERS: 1 = CANOPY > 10m 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	LAYER 2	LAYER 3	LAYER 4	NOTES
FRAPENN	R	O			
ULMAMER		R			
SOIX SP		R			
CORSTOL					
Reed Canarygrass				D	2+2+26
Goldenrod sp				R	

2

Page 2 of .....

ELC COMMUNITY DESCRIPTION CLASSIFICATION

SITE:		POLYGON: (3)	
SURVEYOR(S):	DATE:		UTME:
START: 13:00	END: 13:45	UTMZ:	UTMN:

POLYGON DESCRIPTION

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

STAND DESCRIPTION:

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

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

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

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

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

COMM. AGE :		PIONEER		YOUNG	X	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)

COMMUNITYCLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE: F-M Oak-Maple-Hickory Dec Forest	CODE: FOD9
VEGETATION TYPE: F-M Shagbark Hickory Dec. Forest	CODE: FOD9-4
INCLUSION Gray Dogwood Thicket Swamp Mineral	CODE: SWT2-9
COMPLEX	CODE:

Notes: Pic1648

Feature 14

ELC PLANT SPECIES LIST

SITE:	Samsung
POLYGON:	3
DATE:	12-Oct-2010
SURVEYOR(S):	M. Straus

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	1	2	3	4	COLL.
CAROVAT	A	O	O	O	
ACESACS	R	O	O	R	
QUERUBR	A	R	—		
OSTVIRG	—	—	O		
FAGGRAN	R	R	R	R	
TILAMER	O	O	R	R	
ULMAMER	R	—	R	-	
FRAPENN	R	—	—	O	
ACEFREE	-	R	—		
CARCARD	-	R	—		
FRAVIRG				O	
Hawthorn			R		
CARCARP			R		
RUBIDEA					
RIB - Spike @ nodes hair petioles				R	
Poison Ivy				R	
Grey Dogwood			R		

SPECIES CODE	1	2	3	4	COLL.
Wild Ginger				R	
Imp Spotted				R	
Agrimony				R	
Wood Nettle				R	
Buttercup sp				O	
Goldenrod				R	

RIBES CYNOSBATI

ELC COMMUNITY DESCRIPTION & CLASSIFICATION

SITE:		POLYGON: (4)	
SURVEYOR(S):	DATE:		UTME:
START: 14:30	END: 15:00	UTMZ:	UTMN:

POLYGON DESCRIPTION

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

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	1	4	CARDVAT > QUERUBR
2	SUB-CANOPY	2	4	CARDVAT > TILAMER
3	UNDERSTOREY	3-4	4	ULMAMER > Gray Dogwood ≥ OSTVIRG
4	GRD. LAYER	5-7	4	Wood Nettle < Poison Ivy

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

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

STAND COMPOSITION:								BA:	
SIZE CLASS ANALYSIS:	O	< 10	O	10 - 24	O	25 - 50	N	> 50	
STANDING SNAGS:	N	< 10	R	10 - 24	N	25 - 50	N	> 50	
DEADFALL / LOGS:	R	< 10	O	10 - 24	O	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: F-M Oak-Maple-Hickory Dec. Forest	CODE: FOD9
VEGETATION TYPE: Lowland Oak-Hickory 1563 F-M Red Oak-Shagbark Hickory Deci. Forest	CODE: FOD9-6 *
INCLUSION Red canary Grass Mineral Meadow Marsh	CODE: MAM2-2
COMPLEX	CODE:

Notes:
Pic 1563 - Lowland Oak-Hickory
Inclusion - Pic #1651

Feature 15

ELC PLANT SPECIES LIST

SITE:	Samsung
POLYGON:	4
DATE:	12-Oct-2010
SURVEYOR(S):	M. Strauss

LAYERS: 1 = CANOPY > 10m 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

ACESACC	R	—			
ACESACS	R	R	—		
FRAPENN	R	R	—		
FRANIGR	-	R	—		
OSTVIRG	—		O	O	
QUERUBR	O	O	R	R	
TILAMER	R	O	—		
CARCARO			R		
FRAVIRG				O	
Poison Ivy			O		
Gray Dogwood			R	-	
RUBIDEA			O	-	

Reed Canary Grass				I	D
Whit Flat Aster				I	O
S.T. Me Nots				I	O
—					
Wood Nettle				O	
Buttercup sp.				O	

Feature 15

ELC COMMUNITY DESCRIPTION	SITE:		POLYGON: 5	
	SURVEYOR(S):	DATE:	UTME:	
	START: 15:00 END: 15:30		UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANKTON/TERM	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
SITE	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
☐ OPEN WATER	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☐ SWAMP
☐ SHALLOW WATER		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
☐ SURFICIAL DEP.		☐ CLIFF		☐ DECIDUOUS	☐ BOG
☐ BEDROCK		☐ TALUS	COVER	☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE	☐ OPEN	☐ MIXED	☐ MEADOW
		☐ ALVAR	☐ SHRUB		☐ PRAIRIE
		☐ ROCKLAND	☐ TREED		☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY		4	ACESACS > T / LARMER > QUERUB
2	SUB-CANOPY	2	4	ACESACS > T / LARMER
3	UNDERSTOREY	3	4	ACESACS = PAGGRAN
4	GRD. LAYER	5-7	3	FRAPENN

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

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

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

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

COMM. AGE :		PIONEER		YOUNG		MID-AGE	7	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:

		CODE:
COMMUNITY CLASS:		
COMMUNITY SERIES:		CODE:
ECOSITE: D-E Sugar Maple		CODE: FOD6
VEGETATION TYPE: E-M Sugar Maple-Hardwood Dec. Forest		CODE: FOD6-5
INCLUSION		CODE:
COMPLEX		CODE:

Notes: Pic1652

ELC COMMUNITY SERIES	SITE: Samsung
	POLYGON: 5
	DATE: 12-Oct-2010
	SURVEYOR(S): M. Straus

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES						SPECIES					
ACESACS	D	O	O			L. Leaf Aster				R	
TILAMER	O										
PAGGRAN	R	O	O	-							
CARCAT	R	—	—	—							
QUERUB	O	+	R	R							
FRAMMER	R	—	O								
QUEALB	R	—									
OSTVIRG	—										
FRAPENN	R										
M. V. Burman			R								
PRUVIRG			R								
RUBIDEP			R								

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:		POLYGON: (6)	
	SURVEYOR(S):	DATE:		UTME:
	START: 15.30	END 15.45	UTMZ:	UTMN:

POLYGON DESCRIPTION

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

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	1	Manitoba Maple
2	SUB-CANOPY			
3	UNDERSTOREY	4	3	Hawthorn > Gray Dogwood > RUBIDEA
4	GRD. LAYER	5-7	4	Reed Canary Grass

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

STAND COMPOSITION:	BA:

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

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

COMM. AGE :	X	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: MA
COMMUNITY SERIES:	CODE: MAM
ECOSITE:	CODE: MAMA2
VEGETATION TYPE: Reed-canary Grass Mineral Meadow Marsh	CODE: MAMA-2
INCLUSION	CODE:
COMPLEX	CODE:

Notes: MAM - w/ cultural influences

Feature 15

ELC PLANT SPECIES LIST	
SITE:	Samsung
POLYGON:	6
DATE:	12-Oct-2010
SURVEYOR(S):	M. Straus

LAYERS: 1 = CANOPY > 10m 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

Species	1	2	3	4	Coll.
Manitoba Maple	R				
Hawthorn			O		
Gray Dogwood			O		
RUBIDEA			O		

Species	1	2	3	4	Coll.
Reed Canary				D	
Water Hemlock				R	
White Aster				O	✓
Goldenrod					

Page 6 of ......

Feature 16

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

STAND DESCRIPTION:

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

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

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

STAND COMPOSITION:						BA:	
SIZE CLASS ANALYSIS:		< 10		10 - 24		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)

COMMUNITYCLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE: Fresh-moist White Elm Lowland Dec. Forest		CODE: FOD7-1
☐ INCLUSION		CODE:
☐ COMPLEX		CODE:

Notes: Creek feature running through

ELC — PLANT SPECIES LIST

SITE: Samsung
POLYGON: 3-5
DATE: 22-Dec-2010
SURVEYOR(S): M. Straus

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.	SPECIES CODE	LAYER 1	2	3	4	COLL.
ULMAMER	D										
QUEMACR	O										
QUEALBA	O										
CARQUAT	O										

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

STAND DESCRIPTION:

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

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

STAND COMPOSITION:	BA:

SIZE CLASS ANALYSIS:		< 10		10 - 24		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)

COMMUNITYCLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE: Reed-canaryGrass Meadow Marsh		CODE: MAM2-2.
INCLUSION		CODE:
COMPLEX		CODE:

Notes:

No feature

ELC PLANT SPECIES LIST	SITE: Samsung
	POLYGON: 3-8
	DATE: 20-Dec-2010
	SURVEYOR(S): M. Straus

LAYERS: 1 = CANOPY > 10m 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.	SPECIES CODE	LAYER 1	2	3	4	COLL.
						R.C. grass				D	

December 2010
160960577

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Legend

- Proposed Turbine Location
- 120m Zone of Investigation
- ROW Installation Zone
- ELC Communities
- Access Road
- Overhead Collector Line
- Underground Collector Line
- Substation Property
- Road
- Transmission Line (OBM)
- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Watercourse (OBM)
- Waterbody

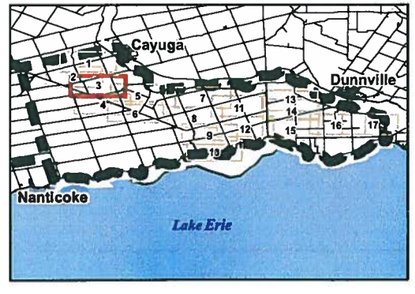
Forest Communities (FO)
FOM2-2- Dry-fresh White Pine – Sugar Maple Mixed Forest
FOD- Deciduous Forest
FOD2-1- Dry-fresh Oak – Red Maple Deciduous Forest
FOD2-2- Dry-fresh Oak – Hickory Deciduous Forest
FOD2-4- Dry-fresh Oak – Hardwood Deciduous Forest
FOD3-1- Dry-fresh Poplar Deciduous Forest
FOD4-1- Dry-fresh Beech Deciduous Forest
FOD4-2- Dry-fresh White Ash Deciduous Forest
FOD5-1- Dry-fresh Sugar Maple Deciduous Forest
FOD5-2- Dry-fresh Sugar Maple – Beech Deciduous Forest
FOD5-3- Dry-fresh Sugar Maple – Oak Deciduous Forest
FOD5-8- Dry-fresh Sugar Maple – White Ash Deciduous Forest
FOD5-11*- Dry-fresh Sugar Maple – Oak – Beech Deciduous Forest
FOD5-12*- Dry-fresh Sugar Maple – Hickory – Beech Deciduous Forest
FOD6-1- Fresh-moist Sugar Maple – Lowland Ash Deciduous Forest
FOD6-5- Fresh-moist Sugar Maple – Hardwood Deciduous Forest
FOD6-6*- Fresh-moist Sugar Maple – Hickory Deciduous Forest
FOD7-1- Fresh-moist White Elm Lowkind Deciduous Forest
FOD7-2- Fresh-moist Ash Lowland Deciduous Forest
FOD9-1- Fresh-moist Oak – Sugar Maple Deciduous Forest
FOD9-4- Fresh-moist Shagbark Hickory Deciduous Forest
FOD9-6*- Fresh-moist Red Oak – Shagbark Hickory Deciduous Forest

Swamp Communities (SW)
SWD1-1- Swamp White Oak Mineral Deciduous Swamp
SWD2-2- Green Ash Mineral Deciduous Swamp
SWD2-3*- Ash – Hardwood Mineral Deciduous Swamp
SWD2-4*- Green Ash – Red Maple Mineral Deciduous Swamp
SWD3-1- Red Maple Mineral Deciduous Swamp
SWD3-2- Silver Maple Mineral Deciduous Swamp
SWD3-5*- Swamp Maple - Green Ash Mineral Deciduous Swamp
SWD4-1- Willow Mineral Deciduous Swamp
SWD4-2- White Elm Mineral Deciduous Swamp
SWD4-3- Swamp Maple Mineral Deciduous Swamp
SWD4-6*- Green Ash – Swamp Maple Mineral Deciduous Swamp
SWT- Thicket Swamp
SWT2-4- Buttonbush Mineral Thicket Swamp
SWT2-5- Red Osier Dogwood Mineral Thicket Swamp
SWT2-8- Silky Dogwood Mineral Thicket Swamp
SWT2-9- Gray Dogwood Mineral Thicket Swamp
SWT2-13*- Willow – Dogwood Mineral Thicket Swamp
SWT2-14*- Winterberry – Buttonbush Mineral Thicket Swamp
SWT2-15*- Red Maple Mineral Thicket Swamp
SWT3-7- Winterberry Organic Thicket Swamp

Marsh Communities (MA)
MAM2-2- Reed Canary Grass Mineral Meadow Marsh
MAM2-10- Forb Mineral Meadow Marsh
MAM2-11*- Forb – Graminoid Mineral Meadow Marsh
MAS2-1- Cattail Mineral Shallow Marsh
MAS2-8- Rice Cut-grass Mineral Shallow Marsh

Cultural Communities (CU)
CUM1- Mineral Cultural Meadow
CUT1-7- European Buckthorn – Sweet Cherry Cultural thicket
CUW1-3*- Ash – Sumac Mineral Cultural Woodland
CUW1-4*- Green Ash Mineral Cultural Woodland
CUW1-5*- Maple-Ash Cultural Woodland
CUW1-6*- Green Ash Cultural Woodland
CUW1-7*- Red maple Mineral Cultural Woodland
CUP3-12*- White Pine – White/Norway Spruce Coniferous Plantation
CUP3-13*- White Spruce Coniferous Plantation

D- Disturbed
R- Residential



Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Data Sources: Ontario Ministry of Natural Resources © Queens Printer Ontario, 2009; © Samsung, 2010.
3. Image Source: © Grand River Conservation Authority. 2010 - Imagery Date: Spring 2005; **LIDAR IMAGERY SOURCE???**
4. Produced using the Version 5 site plan produced by Stantec updated on Dec 13.

Client/Project
SAMSUNG C&T
GRAND RENEWABLE ENERGY PARK

Figure No.
TILE 3

DRAFT

Title
ELC VEGETATION COMMUNITIES

Stantec

Feature 16 + 17

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

STAND DESCRIPTION:

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

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

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

STAND COMPOSITION:					BA:
SIZE CLASS ANALYSIS:	☐ < 10	☐ 10 - 24	☐ 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: Fresh-moist Shagbark Hickory Dec. Forest	CODE: FOD9-4
☐ INCLUSION	CODE:
☐ COMPLEX	CODE:

Notes:

ELC — PLANT SPECIES LIST

SITE:	Samsung
POLYGON:	3-3
DATE:	22-Dec-2010
SURVEYOR(S):	M. Straus

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
FRAPENN	O	O	—		
CAROVAT	O	O	—		
QUEALBA	R	—	—		
FAGGRAN	R	O	O	—	
Cornus sp			O		

SPECIES CODE	LAYER 1	2	3	4	COLL.

Feature 16

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

STAND DESCRIPTION:

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

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

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

STAND COMPOSITION:		BA:

SIZE CLASS ANALYSIS:	O	< 10	N	10 - 24	N	25 - 50	N	> 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 GRDWTH

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: Mixed Meadow Marsh	CODE: MAM2
INCLUSION	CODE:
COMPLEX	CODE:

Notes: Sp. all dead - cannot tell MAM type.

ELC
PLANT SPECIES LIST

SITE: Samsung
POLYGON: 3-4
DATE: 22-Dec-2010
SURVEYOR(S): M. Straus

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
Cornus sp.			O		

SPECIES CODE	LAYER 1	2	3	4	COLL.

Feature 16

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

SITE
☐ OPEN WATER
☐ SHALLOW WATER
☐ SURFICIAL DEP.
☐ BEDROCK

COVER
☐ OPEN
☐ SHRUB
☐ TREED

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	1	4	ULMAMER >QUE (MACR+ALBA) >CARO/AT
2	SUB-CANOPY	2	4	ULMAMER
3	UNDERSTOREY			
4	GRD. LAYER			

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

STAND COMPOSITION:							BA:	
SIZE CLASS ANALYSIS:		< 10		10 - 24		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: Fresh-moist White Elm Lowland Dec. Forest	CODE: FOD7-1
☐ INCLUSION	CODE:
☐ COMPLEX	CODE:

Notes: Creek feature running through

ELC — PLANT SPECIES LIST

SITE: Samsung
POLYGON: 3-5
DATE: 22-Dec-2010
SURVEYOR(S): M. Straus

LAYERS: 1 = CANOPY > 10m 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
ULMAMER	D				
QUEMACR	O				
QUEALBA	O				
CAROVAT	O				

SPECIES CODE	LAYER 1	2	3	4	COLL.

No feature

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

SITE

☐ OPEN WATER
☐ SHALLOW WATER
☐ SURFICIAL DEP.
☐ BEDROCK

COVER

☐ OPEN
☐ SHRUB
☐ TREED

STAND DESCRIPTION:

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

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

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

STAND COMPOSITION:	BA:

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

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

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

SOIL ANALYSIS:

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

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE: Reed canary Grass Meadow Marsh	CODE: MAM2-2
INCLUSION	CODE:
COMPLEX	CODE:

Notes:

ELC — PLANT SPECIES LIST

SITE: Samsung
POLYGON: 3-5
DATE: 22-Dec-2010
SURVEYOR(S): M. Straus

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.

SPECIES CODE	LAYER 1	2	3	4	COLL.
RC grass				D	

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December 2010
160960577

Legend

- Proposed Turbine Location
- 120m Zone of Investigation
- ROW Installation Zone
- ELC Communities
- Access Road
- Overhead Collector Line
- Underground Collector Line
- Substation Property
- Road
- Transmission Line (OBM)
- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Watercourse (OBM)
- Waterbody

Forest Communities (FO)
FOM2-2- Dry-fresh White Pine – Sugar Maple Mixed Forest
FOD- Deciduous Forest
FOD2-1- Dry-fresh Oak – Red Maple Deciduous Forest
FOD2-2- Dry-fresh Oak – Hickory Deciduous Forest
FOD2-4- Dry-fresh Oak – Hardwood Deciduous Forest
FOD3-1- Dry-fresh Poplar Deciduous Forest
FOD4-1- Dry-fresh Beech Deciduous Forest
FOD4-2- Dry-fresh White Ash Deciduous Forest
FOD5-1- Dry-fresh Sugar Maple Deciduous Forest
FOD5-2- Dry-fresh Sugar Maple – Beech Deciduous Forest
FOD5-3- Dry-fresh Sugar Maple – Oak Deciduous Forest
FOD5-8- Dry-fresh Sugar Maple – White Ash Deciduous Forest
FOD5-11*- Dry-fresh Sugar Maple – Oak – Beech Deciduous Forest
FOD5-12*- Dry-fresh Sugar Maple – Hickory – Beech Deciduous Forest
FOD6-1- Fresh-moist Sugar Maple – Lowland Ash Deciduous Forest
FOD6-5- Fresh-moist Sugar Maple – Hardwood Deciduous Forest
FOD6-6*- Fresh-moist Sugar Maple – Hickory Deciduous Forest
FOD7-1- Fresh-moist White Elm Lowklnd Deciduous Forest
FOD7-2- Fresh-moist Ash Lowland Deciduous Forest
FOD9-1- Fresh-moist Oak – Sugar Maple Deciduous Forest
FOD9-4- Fresh-moist Shagbark Hickory Deciduous Forest
FOD9-6*- Fresh-moist Red Oak – Shagbark Hickory Deciduous Forest

Swamp Communities (SW)
SWD1-1- Swamp White Oak Mineral Deciduous Swamp
SWD2-2- Green Ash Mineral Deciduous Swamp
SWD2-3*- Ash – Hardwood Mineral Deciduous Swamp
SWD2-4*- Green Ash – Red Maple Mineral Deciduous Swamp
SWD3-1- Red Maple Mineral Deciduous Swamp
SWD3-2- Silver Maple Mineral Deciduous Swamp
SWD3-5*- Swamp Maple - Green Ash Mineral Deciduous Swamp
SWD4-1- Willow Mineral Deciduous Swamp
SWD4-2- White Elm Mineral Deciduous Swamp
SWD3-3- Swamp Maple Mineral Deciduous Swamp
SWD4-6*- Green Ash – Swamp Maple Mineral Deciduous Swamp
SWT- Thicket Swamp
SWT2-4- Buttonbush Mineral Thicket Swamp
SWT2-5- Red Osier Dogwood Mineral Thicket Swamp
SWT2-8- Silky Dogwood Mineral Thicket Swamp
SWT2-9- Gray Dogwood Mineral Thicket Swamp
SWT2-13*- Willow – Dogwood Mineral Thicket Swamp
SWT2-14*- Winterberry – Buttonbush Mineral Thicket Swamp
SWT2-15*- Red Maple Mineral Thicket Swamp
SWT3-7- Winterberry Organic Thicket Swamp

Marsh Communities (MA)
MAM2-2- Reed Canary Grass Mineral Meadow Marsh
MAM2-10- Forb Mineral Meadow Marsh
MAM2-11*- Forb – Graminoid Mineral Meadow Marsh
MAS2-1- Cattail Mineral Shallow Marsh
MAS2-8- Rice Cut-grass Mineral Shallow Marsh

Cultural Communities (CU)
CUM1- Mineral Cultural Meadow
CUT1-7- European Buckthorn – Sweet Cherry Cultural thicket
CUW1-3*- Ash – Sumac Mineral Cultural Woodland
CUW1-4*- Green Ash Mineral Cultural Woodland
CUW1-5*- Maple-Ash Cultural Woodland
CUW1-6*- Green Ash Cultural Woodland
CUW1-7*- Red maple Mineral Cultural Woodland
CUP3-12*- White Pine – White/Norway Spruce Coniferous Plantation
CUP3-13*- White Spruce Coniferous Plantation

D- Disturbed
R- Residential

Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Data Sources: Ontario Ministry of Natural Resources © Queens Printer Ontario, 2009; © Samsung, 2010.
3. Image Source: © Grand River Conservation Authority, 2010 - Imagery Date: Spring 2006; LIDAR IMAGERY SOURCE???
4. Produced using the Version 5 site plan produced by Stantec updated on Dec 13.

Client/Project
SAMSUNG C&T
GRAND RENEWABLE ENERGY PARK

Figure No.
TILE 5

DRAFT

Title
ELC VEGETATION COMMUNITIES

Stantec

No Feature

ELC COMMUNITY DESCRIPTION & CLASSIFICATION

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

POLYGON DESCRIPTION

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

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

STAND DESCRIPTION:

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

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

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

STAND COMPOSITION:							BA:	
SIZE CLASS ANALYSIS:	O	< 10	R	10 - 24	N	25 - 50	N	> 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:	X	PIONEER		YOUNG		MID-AGE		MATURE		OLD GROWTH

SOIL ANALYSIS:

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

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE: Reed-canary grass Meadow Marsh	CODE: MAMA-2
INCLUSION	CODE:
COMPLEX	CODE:

Notes:

ELC PLANT SPECIES LIST

SITE:	Samsung
POLYGON:	5-3
DATE:	22-Dec-2010
SURVEYOR(S):	M. Straus

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
FRAPENN	R				
Cornus			R		
Reed-canary grass				D	

Page .... of ....

Feature 27

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	1	4	QUERUBR > CAROVAT > FRAPENN
2	SUB-CANOPY	2	4	CAROVAT = FRAPENN
3	UNDERSTOREY	3	4	FAGGRAN
4	GRD. LAYER	4		Cornus sp

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

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

STAND COMPOSITION:	BA:

SIZE CLASS ANALYSIS:	< 10	10 - 24	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:

		CODE:
COMMUNITY CLASS:		
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE:	Fresh-moist Red Oak - Shagbark	CODE: FOD9-6
INCLUSION	Hickory Deciduous	CODE:
COMPLEX	Forest	CODE:

Notes:

4b - Cattle grazed - no-little groundcover
some Ag dominant parts.
→ Feature 25

ELC — PLANT SPECIES LIST

SITE: Samsung
POLYGON: 5-4
DATE: 22-Dec-2010
SURVEYOR(S): M. Straus.

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
CAROVAT	O	O			
QUERUBR	O	—			
FAGGRAN	—	O	O	-	
FRAPENN	O	O	—		
Cornus			O		

SPECIES CODE	LAYER 1	2	3	4	COLL.
Asters				O	

Feature 17/24

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

STAND DESCRIPTION:

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

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

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

STAND COMPOSITION:						BA:	
SIZE CLASS ANALYSIS:	O	< 10	O	10 - 24	O	25 - 50	N	> 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	X	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)

COMMUNITYCLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE: Fresh-moist Shagbark Hickory Decid. Forest	FOD9-4	CODE:
INCLUSION		CODE:
COMPLEX		CODE:

Notes:

ELC — PLANT SPECIES LIST

SITE:	Samsung
POLYGON:	5-5
DATE:	22-Dec-2010
SURVEYOR(S):	M. Straus

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
CAROVAT	O	O	—		
QUEVELBR	O	—	—		
FAGGRAN	R	O	—		
FRAPENN	O	—	—		

SPECIES CODE	LAYER 1	2	3	4	COLL.

Feature 24

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

SITE

☐ OPEN WATER
☐ SHALLOW WATER
☐ SURFICIAL DEP.
☐ BEDROCK

COVER

☐ OPEN
☐ SHRUB
☐ TREED

STAND DESCRIPTION:

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

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

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

STAND COMPOSITION:			BA:
SIZE CLASS ANALYSIS:	A < 10	10 - 24	N 25 - 50	N > 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: Gray Dogwood Mineral Thicket Swamp	CODE: SWT 2-9
☐ INCLUSION	CODE:
☐ COMPLEX	CODE:

Notes:

ELC PLANT SPECIES LIST

SITE: Samsung
POLYGON: 5-6
DATE: 22-Dec-2010
SURVEYOR(S): M. Straus

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
CORRACE			D		

SPECIES CODE	LAYER 1	2	3	4	COLL.

W:\active\160960577\drawing\GIS\MXD\NaturalHeritageAssessment\160960577_DRAFT_ELCoV5_WindFarm_20101214_PW.mxd - 12/15/2010 @ 11:17:08 AM

December 2010
160960577

Legend

- Proposed Turbine Location
- 120m Zone of Investigation
- ROW Installation Zone
- ELC Communities
- Access Road
- Overhead Collector Line
- Underground Collector Line
- Substation Property
- Road
- Transmission Line (OBM)
- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Watercourse (OBM)
- Waterbody

Forest Communities (FO)
FOM2-2- Dry-fresh White Pine – Sugar Maple Mixed Forest
FOD- Deciduous Forest
FOD2-1- Dry-fresh Oak – Red Maple Deciduous Forest
FOD2-2- Dry-fresh Oak – Hickory Deciduous Forest
FOD2-4- Dry-fresh Oak – Hardwood Deciduous Forest
FOD3-1- Dry-fresh Poplar Deciduous Forest
FOD4-1- Dry-fresh Beech Deciduous Forest
FOD4-2- Dry-fresh White Ash Deciduous Forest
FOD5-1- Dry-fresh Sugar Maple Deciduous Forest
FOD5-2- Dry-fresh Sugar Maple – Beech Deciduous Forest
FOD5-3- Dry-fresh Sugar Maple – Oak Deciduous Forest
FOD5-6- Dry-fresh Sugar Maple – White Ash Deciduous Forest
FOD5-11*- Dry-fresh Sugar Maple – Oak – Beech Deciduous Forest
FOD5-12*- Dry-fresh Sugar Maple – Hickory – Beech Deciduous Forest
FOD6-1- Fresh-moist Sugar Maple – Lowland Ash Deciduous Forest
FOD6-5- Fresh-moist Sugar Maple – Hardwood Deciduous Forest
FOD6-6*- Fresh-moist Suger Maple – Hickory Deciduous Forest
FOD7-1- Fresh-moist White Elm Lowkind Deciduous Forest
FOD7-2- Fresh-moist Ash Lowland Deciduous Forest
FOD9-1- Fresh-moist Oak – Sugar Maple Deciduous Forest
FOD9-4- Fresh-moist Shagbark Hickory Deciduous Forest
FOD9-6*- Fresh-moist Red Oak – Shagbark Hickory Deciduous Forest

Swamp Communities (SW)
SWD1-1- Swamp White Oak Mineral Deciduous Swamp
SWD2-2- Green Ash Mineral Deciduous Swamp
SWD2-3*- Ash – Hardwood Mineral Deciduous Swamp
SWD2-4*- Green Ash – Red Maple Mineral Deciduous Swamp
SWD3-1- Red Maple Mineral Deciduous Swamp
SWD3-2- Silver Maple Mineral Deciduous Swamp
SWD3-5*- Swamp Maple - Green Ash Mineral Deciduous Swamp
SWD4-1- Willow Mineral Deciduous Swamp
SWD4-2- White Elm Mineral Deciduous Swamp
SWD3-3- Swamp Maple Mineral Deciduous Swamp
SWD4-8*- Green Ash – Swamp Maple Mineral Deciduous Swamp
SWT- Thicket Swamp
SWT2-4- Buttonbush Mineral Thicket Swamp
SWT2-5- Red Osier Dogwood Mineral Thicket Swamp
SWT2-8- Silky Dogwood Mineral Thicket Swamp
SWT2-9- Gray Dogwood Mineral Thicket Swamp
SWT2-13*- Willow – Dogwood Mineral Thicket Swamp
SWT2-14*- Winterberry – Buttonbush Mineral Thicket Swamp
SWT2-15*- Red Maple Mineral Thicket Swamp
SWT3-7- Winterberry Organic Thicket Swamp

Marsh Communities (MA)
MAM2-2- Reed Canary Grass Mineral Meadow Marsh
MAM2-10- Forb Mineral Meadow Marsh
MAM2-11*- Forb – Graminoid Mineral Meadow Marsh
MAS2-1- Cattail Mineral Shallow Marsh
MAS2-8- Rice Cut-grass Mineral Shallow Marsh

Cultural Communities (CU)
CUM1- Mineral Cultural Meadow
CUT1-7- European Buckthorn – Sweet Cherry Cultural thicket
CUW1-3*- Ash – Sumac Mineral Cultural Woodland
CUW1-4*- Green Ash Mineral Cultural Woodland
CUW1-5*- Maple-Ash Cultural Woodland
CUW1-6*- Green Ash Cultural Woodland
CUW1-7*- Red maple Mineral Cultural Woodland
CUP3-12*- White Pine – White/Norway Spruce Coniferous Plantation
CUP3-13*- White Spruce Coniferous Plantation

D- Disturbed
R- Residential

Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Data Sources: Ontario Ministry of Natural Resources © Queens Printer Ontario, 2009; © Samsung, 2010.
3. Image Source: © Grand River Conservation Authority, 2010 - Imagery Date: Spring 2006; **LIDAR IMAGERY SOURCE???**
4. Produced using the Version 5 site plan produced by Stantec updated on Dec 13.

Client/Project
SAMSUNG C&T
GRAND RENEWABLE ENERGY PARK

Figure No.
TILE 3

DRAFT

Title
ELC VEGETATION COMMUNITIES

Stantec

Feature 16 + (17)

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

STAND DESCRIPTION:

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

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

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

STAND COMPOSITION:							BA:	
SIZE CLASS ANALYSIS:		< 10		10 - 24		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	X	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: Fresh-moist Shagbark Hickory Dec.		CODE: FOD9-4
INCLUSION	O FOREST	CODE:
COMPLEX		CODE:

Notes:

ELC — PLANT SPECIES LIST

SITE:	Samsung
POLYGON:	3-3
DATE:	22-Dec-2010
SURVEYOR(S):	M. Straus

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
FRAPENN	O	O	—		
CARLOVAT	O	O	—		
QUEALBA	R	—			
FAGGRAN	R	O	O	—	
Cornus sp					

SPECIES CODE	LAYER 1	2	3	4	COLL.

Feature 16

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			
2	SUB-CANOPY			
3	UNDERSTOREY	4	2	Cornus ?
4	GRD. LAYER			

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

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

STAND COMPOSITION:							BA:
SIZE CLASS ANALYSIS:	O	< 10	N	10 - 24	N	25 - 50	N	> 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: Mineral Meadow Marsh		CODE: MAM2
INCLUSION		CODE:
COMPLEX		CODE:

Notes: Sp. all dead - cannot tell MAM type.

ELC — PLANT SPECIES LIST

SITE: Samsung	
POLYGON: 3-4	
DATE: 22-Dec-2010	
SURVEYOR(S): M. Straus	

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
Cornus sp.			O		

SPECIES CODE	LAYER 1	2	3	4	COLL.

feature H

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

POLYGON DESCRIPTION

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

SITE
☐ OPEN WATER ☐ SHALLOW WATER ☐ SURFICIAL DEP. ☐ BEDROCK

COVERAGE
☐ OPEN ☐ SHRUB ☐ TREED

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	1	4	FRAPENN >> ACEPRE
2	SUB-CANOPY	2	4	"
3	UNDERSTOREY	3		—
4	GRD. LAYER	5-7	4	Reedcanary grass (2b)

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

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

STAND COMPOSITION:	BA:

SIZE CLASS ANALYSIS:	< 10	10 - 24	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
		X	X		

2b

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: Green Ash Mineral Deciduous		CODE: SWD2-2
INCLUSION	Swamp	CODE:
COMPLEX		CODE:

Notes:

2b - and sp is QUEMAC instead of ACEPRE
+ has some MAM2-2 bits. 23
- 50% moist in some parts

ELC	SITE: Samsung
	POLYGON: 3-2
	DATE: 22-Dec-2010
	SURVEYOR(S): M. Straus

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

FRAPENN	D	D										
ACEPRE	O	O										
ACESACS	R				2b							
FAGGRAN	R				1							
Poplar	R				1							

Page ..... of .....

Feature 7

ELC ECOSITE 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
SITE			COVER		☐ PLANTATION
☐ 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	1	4	QUEALBA, CARGVAT, FRAPENN, ACESACS
2	SUB-CANOPY	2	4	FAGGRAN, FRAPENN
3	UNDERSTOREY	3	4	FAGGRAN
4	GRD. LAYER			

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

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

STAND COMPOSITION:		BA:

SIZE CLASS ANALYSIS:	C	< 10	O	10 - 24	O	25 - 50	R	> 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	X	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: Fresh-Moist Sugar Maple-Hardwood		CODE: FOD6-5
INCLUSION	Deciduous Forest	CODE:
COMPLEX		CODE:

Notes: From edge - Mix mash

ELC ECOSITE PLANT SPECIES	SITE: Samsung
	POLYGON: 3-1
	DATE: 22-Dec-2010
	SURVEYOR(S): M. Straus

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

PLANT SPECIES	LAYER						PLANT SPECIES	LAYER					
PINSTRO	O												
QUEALBA	O												
CARGVAT	O	O											
FRAPENN	O	O											
FAGGRAN	R	O	O										

W:\active\160960577\drawing\GIS\MXD\NatureHeritageAssessment\FieldMaps\160960577_FIELDMAP1_ProjectLocation_20100920_PW.mxd - 9/20/2010 @ 1:17:14 PM

September 2010
160960577

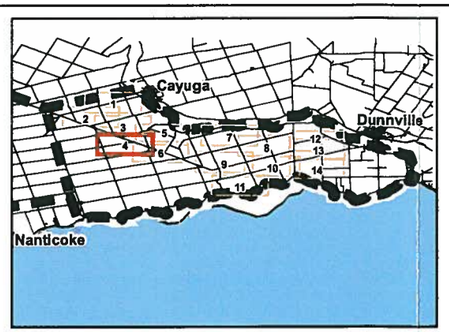
Legend

- Project Location
- Proposed Turbine Location
- Proposed Collector Line
- Proposed Access Road
- Road
- Railway
- Abandoned Railway
- Transmission Line (OBM)
- Deer Wintering Area
- MEI
- Elexco Aquired Agreements
- ROW Study Area
- Crane Pad Study Area
- ROW Installation Zone
- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Watercourse (OBM)
- Waterbody

Area of Natural and Scientific Interest (ANSI)

- Life Science, Provincially Significant
- Earth Science, Provincially Significant
- Earth Science, Regionally Significant

Stantec



Original:
Don't Throw
Out

Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Data Sources: Ontario Ministry of Natural Resources © Queens Printer Ontario, 2009; © GREP, 2010; © Samsung, 2010.
3. Image Source: © First Base Solutions, 2010 - Imagery Date: Spring 2006.

Client/Project
SAMSUNG C&T
GRAND RENEWABLE ENERGY PARK

Figure No.
FIELD MAP 4

Title
PROJECT LOCATION MAP

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 161010646		POLYGON: 1	
SURVEYOR(S): GAW	DATE: Sept. 21. 2010	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
SITE		☒ ROLL. UPLAND	COVER	☐ BRYOPHYTE	☐ FEN
☐ OPEN WATER		☐ CLIFF		☒ DECIDUOUS	☐ BOG
☐ SHALLOW WATER		☐ TALUS	☐ OPEN	☐ CONIFEROUS	☐ BARREN
☒ SURFICIAL DEP.		☐ CREVICE / CAVE	☐ SHRUB	☐ MIXED	☐ MEADOW
☐ BEDROCK		☐ ALVAR	☒ TREED		☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☒ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	ACESASA = Shagbark = FAGGRAN > Quercus
2	SUB-CANOPY	3	4	" " " > FRAAMER
3	UNDERSTOREY	4-5	4	" " " "
4	GRD. LAYER	6-7	4	EUOBOV, RHURA.NE, GERBICK, CIRLEUT, FRAVESC

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

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

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

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

COMM. AGE:		PIONEER		YOUNG		MID-AGE	X	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: Forest		CODE: FO
COMMUNITY SERIES: Deciduous Forest		CODE: FOD
ECOSITE: D-F Sugar Maple Dec Forest		CODE: FOD5
VEGETATION TYPE: Dry-fresh Sugar Maple - Hickory - Beech Dec. Forest		CODE: FOD5-12*
INCLUSION		CODE:
COMPLEX		CODE:

Notes:
Crop - Soy beans

ELC — PLANT SPECIES LIST

PLANT SPECIES LIST	SITE: Turbine 1 (581827) + access rd.
	POLYGON: Feature 19
	DATE:
	SURVEYOR(S):

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
FRAAMER	O	O	O	O	
ACESASA	A	A	A	O	
Shagbark	A	A	A	O	
FAGGRAN	A	A	A	O	
QUERUBR	O	O			
Blue Beech			A		
QUEALBA	O	O			
OSTVIRG		O			
TILAMER	O	O			
FRAPENN		R	R		
PRUSERO	R	R			
PRUVIV			O	O	
VIBACER			R		
LONDIOI				O	x
blackberry				O	
RUBIDAE				O	
RIBCYNO				O	
CORFORA				O	
witchhazel				O	
downy arrowwood				O	
Crataegus sp			O		x
RHACATH			O		
VITRIPA			O		
ACERUBR	R	O	O		

SPECIES CODE	LAYER 1	2	3	4	COLL.
CIRLEUT				O	
EUOOBOV				O	
RHURA.NE				A	
DRYCART				R	
GERROBE				O	
GEUAPPEL				O	
FRAVESC				O	
GERMACU				O	
OXASTRI				O	
SOLCANA				O	
ASTNOVA				O	
Viola sp				O	
imb. p. ivy				O	
ASTLATE				O	
Gm. st. J. wort				O	
EUTGRAM				O	
EPIHELL				O	
GLYSTRI				O	
beech drops				O	
AGRGRYP				O	
mitrewort				O	
l.l. aster				O	
PREALBA				R	
ARANUDI				R	
VEROFFI				O	

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

STAND DESCRIPTION:

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

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

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

STAND COMPOSITION:	BA:

SIZE CLASS ANALYSIS:		< 10		10 - 24		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)

COMMUNITYCLASSIFICATION:

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

	INCLUSION		CODE:
	COMPLEX		CODE:

Notes:

ELC PLANT SPECIES LIST	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

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

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 16101064	POLYGON: (2) - inclusion	
SURVEYOR(S): GAW	DATE: Sept. 21. 2010	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
SITE	☐ BASIC BEDRK.	☐ VALLEY SLOPE	**COVER**	☐ FORB	☒ MARSH
☐ OPEN WATER	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☐ SWAMP
☐ SHALLOW WATER		☒ ROLL. UPLAND	☒ OPEN	☐ BRYOPHYTE	☐ FEN
☒ SURFICIAL DEP.		☐ CLIFF	☐ SHRUB	☐ DECIDUOUS	☐ BOG
☐ BEDROCK		☐ TALUS	☐ TREED	☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	4	3	FRAPENN, ACERUBR
2	SUB-CANOPY	5	4	IMPCAPE, st.nettle
3	UNDERSTOREY	6	4	GLYSTRI, ONOSENS
4	GRD. LAYER	7	4	"

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

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

STAND COMPOSITION:		BA:

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

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

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

SOIL ANALYSIS:

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

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS: Marsh	CODE: MA	
COMMUNITY SERIES: Meadow Marsh	CODE: MAM	
ECOSITE: Mineral Meadow Marsh	CODE: MAM2	
VEGETATION TYPE: forb-graminoid Min. meadow Marsh	CODE: MAM2-11*	
INCLUSION	CODE:	
COMPLEX	CODE:	

Notes:

ELC — PLANT SPECIES LIST

SITE: Turbine 1 + access rd. (581827)	
POLYGON: Feature 19	
DATE:	
SURVEYOR(S):	

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
IMPCAPE		A	A		
SOLDULC		O	O		
St. nettle		O	O		
St. nettle short stature				O	X
GLYSTRI			O	O	
BIDFRON		O			
ASTLATE		O			
1.1. avens				O	
reed canary	R				
turtlehead				O	
SAMCANA		O	O		
CORRACE	O	O			
PARINSE	R				
ONOSENS			O		
ACERUBR	O				
VIBCASS	O				X brown buds

SPECIES CODE	LAYER 1	2	3	4	COLL.

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

STAND DESCRIPTION:

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

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

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

STAND COMPOSITION:									BA:
SIZE CLASS ANALYSIS:		< 10		10 - 24		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)

COMMUNITYCLASSIFICATION:

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

Notes:

ELC PLANT SPECIES LIST	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

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

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 16101064 6		POLYGON: Edge	
SURVEYOR(S): GAW	DATE: Sept. 21, 2010	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
SITE	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
☐ OPEN WATER	☐ CARB. BEDRK.	☐ TABLELAND	COVER	☐ LICHEN	☐ SWAMP
☐ SHALLOW WATER		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
☐ SURFICIAL DEP.		☐ CLIFF	☐ OPEN	☐ DECIDUOUS	☐ BOG
☐ BEDROCK		☐ TALUS	☐ SHRUB	☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE	☐ TREED	☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	4	4	Amaranth, bull thistle, Crataegus, RHACATH
2	SUB-CANOPY	5	4	DAUCARO, SOLCANA
3	UNDERSTOREY	6	4	Green foxtail, lady thumb
4	GRD. LAYER	7	4	alsike clover, Plantago

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

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

STAND COMPOSITION:					BA:
SIZE CLASS ANALYSIS:	R < 10	☐ 10 - 24	☐ 25 - 50	☐ > 50	
STANDING SNAGS:	☐ < 10	☐ 10 - 24	☐ 25 - 50	☐ > 50	
DEADFALL / LOGS:	O < 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: Edge
☐ INCLUSION	CODE:
☐ COMPLEX	CODE:

Notes:

ELC — PLANT SPECIES LIST

	SITE: Turbine 1 (581827) + access rd.
	POLYGON: Feature 19
	DATE:
	SURVEYOR(S):

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.	SPECIES CODE	LAYER 1	2	3	4	COLL.
Green foxtail			A								
" amaranth	O										
DAUCARO		O									
VITRIPA	O										
Teasle	O										
SOLCANA	O										
hairy willherb		O									
ragweed		O									
bull thistle	O										
elecampagne	O										
RHACATH	O										
Crataegus sp.	O										
ERIPH.PH		O									
IMPCAPE		R									
ROSMULTI			R								
RIDFRON		O									
l.l. aster			O	O							
Com burdock			O								
lady thumb			O								
barnyard grass		O									
PLAMAJO				O							
lamb's quarters				O							
alsike clover				O							
ASCSYRI			R								
TAROFFI				O							
wht. spruce	R				planted						
N. spruce	R				"						

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

STAND DESCRIPTION:

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

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

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

STAND COMPOSITION:							BA:	
SIZE CLASS ANALYSIS:		< 10		10 - 24		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)

COMMUNITYCLASSIFICATION:

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

Notes:

ELC PLANT SPECIES LIST

SITE:	
POLYGON:	
DATE:	
SURVEYOR(S):	

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

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

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

Wildlife Habitat Assessment

Feature 19
Turbine # 7 581827

Project Number 161010646

Project Name: Samsung

Date / Time: Sept. 21. 2010

Field Personnel: GAW

Weather Conditions:	Temp:	Wind:	Cloud:	PPT:	PPT in last 24 hrs:
	22°	3	100%	ø	ø

Reptile Hibernacula Features 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)

Does the site contain potential reptile hibernacula features? ☐ Yes ☒ No (if yes, describe details in Table 1).

Bat Hibernacula Features i.e. karst topography, abandoned mines or caves

Does the site contain potential bat hibernacula features? ☐ Yes ☒ No (if yes, describe details in Table 1).

Table 1: Potential bat/reptile hibernacula features identified on site

UTM	Feature type	Photo #	Description	Species observed using feature

Species Observations

List species and type of observation: (**TK** = track, **SC** = scat, **VO** = vocalization, **OB** = observed, **DP** = distinctive parts, **FE** = feeding evidence, **CA** = carcass, **FY** = eggs, nest, **HO** = house/den, **SI** = other sign)

Birds	Mammals	Herps	Butterflies / Dragonflies	Other
i.e. AMRO/VO BLJA BCCH	Red Squirrel - VO deer - TK	AMTO Garter snake	cabbage wht	

Woodland Assessment- *complete 1 assessment for each woodland*

Woodlot # (indicate on map) : 1

Approximate age of stand Mature

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☒ Yes ☐ No
If yes, approximate # present or % of stand 20%
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc,.) throughout

Are snags present? ☒ Yes ☐ No
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark. very few, mostly beech, little/no loose bark

Trees with cavities present? ☐ No ☒ Rare ☐ Occasional ☐ Abundant
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)
	6m - 20m	30-40 cm	4m - 15m	~ 20 cm

Bat Mat Roost? No

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☒ No
If yes, UTM and describe tree type, height and position in tree, size of nest, species present

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☒ Yes ☐ No
If yes, describe minor evidence of past logging, edge dist (bee-keeping).

Seeps/ springs present? ☐ Yes ☒ No If yes,

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? ☒ Yes ☐ No If yes,

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shrubs, logs at pond edge
1	30m from edge (see map)	∅ mud	5m x 10m	Y - graminoid	Y

W:\active\160960577\drawing\GIS\MXD\NaturalHeritageAssessment\FieldMaps\60960577_FIELDMAP_ProjectLocation_Mapbook_20100821_PW.mxd - 9/27/2010 @ 5:35:56 PM

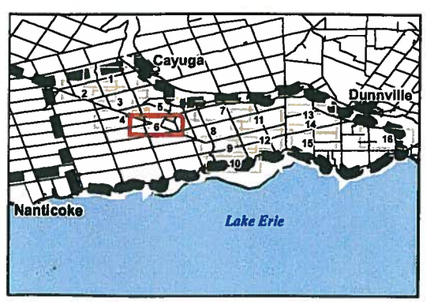
September 2010
160960577

Legend

- Project Location
- Proposed Turbine Location
- Proposed Access Road
- Proposed Collector Line
- ROW Installation Zone
- 120m Investigation Zone
- Elexco Aquired Agreements
- Government Lands
- UDI Lands
- Road
- Railway
- Abandoned Railway
- Transmission Line (OBM)
- Deer Wintering Area
- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Watercourse (OBM)
- Waterbody

Area of Natural and Scientific Interest (ANSI)

- Life Science, Provincially Significant
- Earth Science, Provincially Significant
- Earth Science, Regionally Significant



Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Data Sources: Ontario Ministry of Natural Resources © Queens Printer Ontario, 2009; © GREP, 2010; © Samsung, 2010.
3. Image Source: © First Base Solutions, 2010 - Imagery Date: Spring 2006; **LIDAR IMAGERY SOURCE???**

Client/Project

SAMSUNG C&T
GRAND RENEWABLE ENERGY PARK

Figure No.

FIELD MAP 6

Title

PROJECT LOCATION MAP

Stantec

Feature 20

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: 16096057?		POLYGON: (9)	
	SURVEYOR(S):	DATE:		UTME:
	START: 16:15	END 16:30	UTMZ:	UTMN:

POLYGON DESCRIPTION

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

STAND DESCRIPTION:

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

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

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

STAND COMPOSITION:	BA:

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

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

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

SOIL ANALYSIS:

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

COMMUNITYCLASSIFICATION:

COMMUNITY CLASS: Forest	CODE: FO
COMMUNITY SERIES: Deciduous Forest	CODE: FOD
ECOSITE: F-m Oak-maple-Hickory Dec. Forest	CODE: FOD9
VEGETATION TYPE: F-m Shagbark Hickory Decid. Forest	CODE: FOD9-4
INCLUSION	CODE:
COMPLEX	CODE:

Notes: From road (Hw 20) Pic 1671

ELC PLANT SPECIES LIST	SITE: Samsung
	POLYGON: 9
	DATE: 13-Oct-2010
	SURVEYOR(S): M. Strauss

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

[illegible]	1	2	3	4	[illegible]
CAROVAT	O	O	O	O	
FAGGRAN	N	R	O	O	
FRAPENN	O	R	R	R	
QUEMACR	O	R	R	R	
OSTVIRG		–	O	O	
ACERUBR	R	R	R	R	
CARCARD		–	O	–	

[illegible]	1	2	3	4	[illegible]
ASTLATE				R	

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: 16096057		POLYGON: (10)
	SURVEYOR(S):	DATE:	UTME:
	START 16:30	END 16:45	UTMZ:	UTMN:

POLYGON DESCRIPTION

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

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY			
2	SUB-CANOPY			
3	UNDERSTOREY	4	3	CORNUS (Silky > Red Osier)
4	GRD. LAYER	5-7	4	Reed Canary Grass

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

STAND COMPOSITION:	BA:

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

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

COMM. AGE :	X	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:	Marsh	CODE:	MA
COMMUNITY SERIES:	Meadow Marsh	CODE:	MAM
ECOSITE:	Mineral Meadow Marsh	CODE:	MAM2
VEGETATION TYPE:	Reed-canary Grass Min Meadow Marsh	CODE:	MAM2-2
INCLUSION		CODE:	
COMPLEX		CODE:	

Notes: Pic 1669 - From road. + Pic 1673 (other side)
10b - + Typha latifolia @ road edge

Feature 20

ELC PLANT SPECIES LIST	SITE: Samsung
	POLYGON: 10
	DATE: 13 Oct 2010
	SURVEYOR(S): M. Straus

LAYERS: 1 = CANOPY > 10m 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

species code	1	2	3	4	coll.
ULMAMER	Snags!				R in 3
Silky Dogwood			O		
CORSTOL			O		

species code	1	2	3	4	coll.
Reed Canary Grass				A	
Spotted T.M.Nots				O	

ELC COMMUNITY DESCRIPTION CLASSIFICATION

SITE: 16096 0577	POLYGON: (11)	
SURVEYOR(S):	DATE:	UTME:
START: 16:45 END 17:15	UTMZ:	UTMN:

POLYGON DESCRIPTION

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

STAND DESCRIPTION:

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

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

STAND COMPOSITION:	BA:

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

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

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

SOIL ANALYSIS:

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

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS: Forest	CODE: FO
COMMUNITY SERIES: Deciduous Forest	CODE: FOD
ECOSITE: Dry-Fresh Deciduous Forest	CODE: FOD4
VEGETATION TYPE: D-F Beech Deciduous Forest	CODE: FOD4-1
INCLUSION	CODE:
COMPLEX	CODE:

Notes: Pic 1670 - From road

Feature 20

ELC PLANT SPECIES LIST

SITE:	Samsung
POLYGON:	11
DATE:	13-Oct-2010
SURVEYOR(S):	M. Straus

LAYERS: 1 = CANOPY > 10m 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	1	2	3	4	COLL.
FAGGRAN	O	O	A	O	
ACESACS	R	O	O	O	
CAROVAT	O	R	R	O	
FRAPENN	O	R	R	O	
TILAMER	R	R	R	R	
OSTVIRG		—	O		
ACERUBR	R	R	R	O	
m.l. viburnum				R	
CARCARO			R		
Spinulose Wood Fern				R	
Beech Drops				R	

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

STAND DESCRIPTION:

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

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

STAND COMPOSITION:	BA:

SIZE CLASS ANALYSIS:		< 10		10 - 24		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:
☐ INCLUSION	CODE:
☐ COMPLEX	CODE:

Notes:

ELC PLANT SPECIES LIST	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

LAYERS: 1 = CANOPY > 10m 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

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

Feature 20

Woodland Assessment- *complete 1 assessment for each woodland*

13-Oct-2010 **Woodlot # (indicate on map) :** C

Approximate age of stand 50-60 years

From road

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☐ Yes ☒ No
If yes, approximate # present or % of stand 1% in Feature 2
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc..)

Are snags present? ☒ Yes ☐ No Quite a few Beech snags
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark. Ea in #10 habitat, loose bark - 3@ 20cm ⇡18m
9 snags/ha. Snags - 20-45cm DBH ⇡2-3m, no to loose bark

Trees with cavities present? ☐ No ☐ Rare ☑ Occasional ☐ Abundant
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)
snag → 1	4.5m	25cm	4m	medium
Be 1	15m	30cm	0	hollow
Sng Be	4m	30cm	2m	med-hollow
Snag Be	4m	30cm	3m	Large

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☒ No
If yes, UTM and describe tree type, height and position in tree, size of nest, species present

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☐ Yes ☒ No
If yes, describe

Seeps/ springs present? ☐ Yes ☒ No If yes,

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? ☒ Yes ☐ No If yes,

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shrubs logs at pond edge
	Habitat #10				

Woodland Assessment- *complete 1 assessment for each woodland*

Woodlot # (indicate on map) : _____

Approximate age of stand _____

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☐ Yes ☐ No
If yes, approximate # present or % of stand _____
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc..) _____

Are snags present? ☐ Yes ☐ No
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark.

Trees with cavities present? ☐ No ☐ Rare ☐ Occasional ☐ Abundant
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☐ No
If yes, UTM and describe tree type, height and position in tree, size of nest, species present

_____

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☐ Yes ☐ No
If yes, describe _____

Seeps/ springs present? ☐ Yes ☐ No If yes,

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? ☐ Yes ☐ No If yes,

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shrubs logs at pond edge

591802 592802 593802 594802 595802

4749887 4748887

581831 581827 581822 581816

HALDIMAND ROAD 20 CONCESSION 6 KOHLER ROAD RICHERT ROAD MEADOWS ROAD MOUNTJOUVET ROAD CONCESSION 4

N

0 200 400 m
1:12,000

W:\active\160960577\drawing\GIS\MXD\NaturalHeritageAssessment\FieldMaps\60960577_FIELDMAP_ProjectLocation_Mapbook_20100921_PW.mxd - 9/27/2010 @ 5:35:58 PM

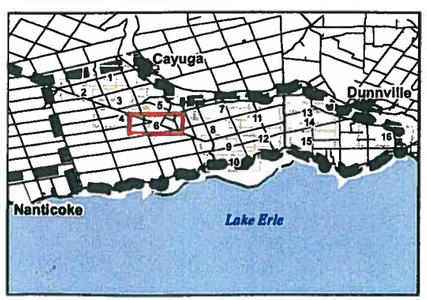
September 2010
160960577

Legend

- Project Location
- Proposed Turbine Location
- Proposed Access Road
- Proposed Collector Line
- ROW Installation Zone
- 120m Investigation Zone
- Elexco Aquired Agreements
- Government Lands
- UDI Lands
- Road
- Railway
- Abandoned Railway
- Transmission Line (OBM)
- Deer Wintering Area
- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Watercourse (OBM)
- Waterbody

Area of Natural and Scientific Interest (ANSI)

- Life Science, Provincially Significant
- Earth Science, Provincially Significant
- Earth Science, Regionally Significant



Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Data Sources: Ontario Ministry of Natural Resources © Queens Printer Ontario, 2009; © GREP, 2010; © Samsung, 2010.
3. Image Source: © First Base Solutions, 2010 - Imagery Date: Spring 2006; **LIDAR IMAGERY SOURCE???**

Client/Project

SAMSUNG C&T
GRAND RENEWABLE ENERGY PARK

Figure No.

FIELD MAP 6

Title

PROJECT LOCATION MAP

Stantec

Feature 19

ELC COMMUNITY DESCRIPTION / CLASSIFICATION

SITE: 1608160577 POLYGON: (12)

SURVEYOR(S): DATE: UTME:

START: END UTMZ: UTMN:

POLYGON DESCRIPTION

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

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

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY			
2	SUB-CANOPY	2	3	FRAPENN = POPTREM > ALERUBR
3	UNDERSTOREY	3-4	4	Hawthorn > OSTVIRG > CORSTO
4	GRD. LAYER	5-7	4	Goldenrod sp. > ASTMACR

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

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

STAND COMPOSITION: BA:

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

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

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

SOIL ANALYSIS:

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

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	Forest	CODE: FOR
COMMUNITY SERIES:	Deciduous Forest	CODE: FOD
ECOSITE:	Dry-Fresh Poplar-White Birch	CODE: FOD3
VEGETATION TYPE:	Dry-Fresh Poplar Decid. Forest	CODE: FOD3-1
INCLUSION		CODE:
COMPLEX		CODE:

Notes:

Pic 1672 (from road)

Mid slope early successional

ELC COMMUNITY DESCRIPTION / PLANT SPECIES LIST

SITE: Samsung

POLYGON: 12

DATE: 14-Oct-2010

SURVEYOR(S): M Straus

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES	1	2	3	4	
POPTREM		O	O	R	
DIERIBR			R		
ALERUBR		O	O	O	
FRAPENN		O	—		
PRUSERO.		—	R	R	
OSTVIRG		—	O	O	
TILAMER		—	R	R	
CARLVAT	R	—	—		
CORSTOL			O		
Hawthorn			O		

SPECIES	1	2	3	4	
P.S. Aster				R	
ASTMACR				O	
ASTLATE				O	
Goldenrod sp.				O	

Feature 19

ELC COMMUNITY DESCRIPTION FORM	SITE: 160960577		POLYGON: 13	
	SURVEYOR(S):	DATE:		UTME:
	START:	END	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	HYDROGRAPHIC FEATURE	HISTORY	ANTHROPIC	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	1	1	FRAPENN
2	SUB-CANOPY	2	4	FRAPENN > ULMAMER
3	UNDERSTOREY	3-4	3	Cornus
4	GRD. LAYER	5-7	4	?

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

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

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

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

COMM. AGE :		PIONEER	X	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: Green Ash Mineral Dec. Swamp		CODE: SWD2-2
INCLUSION		CODE:
COMPLEX		CODE:

Notes: Pic 1674 From Edge

ELC COMMUNITY DESCRIPTION FORM	SITE: Samsung
	POLYGON: 13
	DATE: 14-Oct-2010
	SURVEYOR(S): M. Straus

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

FRAPENN	RD	+										
ULMAMER	R											
RHURADI			O									
CORSTOL		R										
RUBIDEA		O										

ELC COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 160960577		POLYGON: (14)	
SURVEYOR(S):	DATE:		UTME:
START:	END	UTMZ:	UTMN:

POLYGON DESCRIPTION

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

STAND DESCRIPTION:

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

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

STAND COMPOSITION:							BA:	
SIZE CLASS ANALYSIS:	A	< 10	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 :	X	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: Swamp	CODE: SW
COMMUNITY SERIES: Thicket Swamp	CODE: SWT
ECOSITE: Mineral Thicket Swamp	CODE: SWT2
VEGETATION TYPE: Gray Dogwood Mineral Thicket Swamp	CODE: SWT2-9
INCLUSION	CODE:
COMPLEX	CODE:

Notes: Pic # 1675
Off property - hard to see from edge

Feature 14

ELC PLANT SPECIES LIST

SITE:	Samsung
POLYGON:	14
DATE:	14-Oct-2010
SURVEYOR(S):	M. Straus

LAYERS: 1 = CANOPY > 10m 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	1	2	3	4	COLL.
FRAPENN	O	R			
ACEFREE	-	R			
POPTREM	-	R	R		
Grey Dogwood			D		

SPECIES CODE	1	2	3	4	COLL.
Goldenrod sp.				O	

Feature 19

ELC COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 160960577		POLYGON: 15	
SURVEYOR(S):	DATE:		UTME:
START:	END	UTMZ:	UTMN:

POLYGON DESCRIPTION

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

STAND DESCRIPTION:

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

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

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

STAND COMPOSITION:	BA:

SIZE CLASS ANALYSIS:	A	< 10	O	10 - 24	O	25 - 50	R	> 50
STANDING SNAGS:	N	< 10	A	10 - 24	R	25 - 50	R	> 50
DEADFALL / LOGS:	R	< 10	O	10 - 24	O	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:	DEPTH TO MOTTLES / GLEY	g =	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITYCLASSIFICATION:

COMMUNITY CLASS:	Forest	CODE: FO
COMMUNITY SERIES:	Deciduous Forest	CODE: FOD
ECOSITE:	[illegible]	CODE: [illegible]
VEGETATION TYPE:	D-F Sugar Maple-Hickory-Beech Dec. Forest	CODE: FOD5-12*
INCLUSION	Silky Dogwood Swamp Thicket	CODE: SWT2-8
COMPLEX		CODE:

Notes: Dense Be understory - on top of hill Pic 1676 (more dense than 15a)
15b - not logged so no dense Be layer but same canopy sp. uniform order

ELC PLANT SPECIES LIST

SITE:	Samsung
POLYGON:	15
DATE:	14-Oct-2010
SURVEYOR(S):	McStrauss

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	1	2	3	4	COLL.
QUEALBA	R	R	R	R	
ACESACS	O	R	O	O	
CAROVAT	O	O	O	O	
ACERUBR	R	R	R	R	
OSTVIRG	—		O	O	
FAGGRAN	O	O	A	O	
FRAPENN	R/O	—	—		
QUEMACR	R	—	—		
PINSTRO	-	R	R	-	
PRUSERO	-		R	-	
RUBIDKA				R	
CARCARO			R	R	
FRAVIRG				O	
Silky Dogwood			R	R	INC
PRUVIRG				O	
ML Viburnum				R	
RUBPUBE				O	

SPECIES CODE	1	2	3	4	COLL.
Beech Drops				R	
ASTMACR				O	
ASTLATEI				R	
Viola sp.				O	
Buttercup Sp.				O	

Feature 19

Woodland Assessment- *complete 1 assessment for each woodland*

14-Oct-2010

Woodlot # (indicate on map) : D Map 6

Approximate age of stand 20years western - 50-60 years

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☒ Yes ☐ No
If yes, approximate # present or % of stand 1%
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc..) Eastern 1/2

Are snags present? ☒ Yes ☐ No
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark. Elms (typically) ~ 20-35cm DBH, 2 @ 15m; some have loose bark mostly in SWT
1. 60cm Oak - loose bark - 15m @ lash@ 45cm DBH @ 10m, many Beech in 15 3@ 35cm DBH - short < 3m, no loose bark

Trees with cavities present? ☐ No ☒ Rare ☐ Occasional ☐ Abundant
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)
	4m	20cm	3.5	small

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☒ No
If yes, UTM and describe tree type, height and position in tree, size of nest, species present

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☒ Yes ☐ No
If yes, describe Old logging on top of hill - Hence the dense Be understory (mid on E side)

Seeps/ springs present? ☐ Yes ☒ No If yes,

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? ☒ Yes ☐ No If yes,

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shrubs, logs at pond edge
✓ 1	592437.474970	<5cm	2m	no	no
✗ 2	Inclusion	none @ present	10m	Yes - Silky Dogwood	no

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

Wildlife Habitat Assessment

Project Number: 160960577

Project Name: Samsung

Date / Time: 14-Oct-2010 @ 11:15AM

Field Personnel: M. Straus

Weather Conditions:	Temp:	Wind:	Cloud:	PPT:	PPT in last 24 hrs:
	10°	3	100%	light rain - none	5-10mm

Reptile Hibernacula Features 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)

Does the site contain potential reptile hibernacula features? ☐ Yes ☒ No (if yes, describe details in Table 1).

Bat Hibernacula Features i.e. karst topography, abandoned mines or caves

Does the site contain potential bat hibernacula features? ☐ Yes ☒ No (if yes, describe details in Table 1).

Table 1: Potential bat/reptile hibernacula features identified on site

UTM	Feature type	Photo #	Description	Species observed using feature

Species Observations

List species and type of observation: (**TK** = track, **SC** = scat, **VO** = vocalization, **OB** = observed, **DP** = distinctive parts, **FE** = feeding evidence, **CA** = carcass, **FY** = eggs, nest, **HO** = house/den, **SI** = other sign)

Birds	Mammals	Herps	Butterflies / Dragonflies	Other
i.e. AMRO/VO AMRO/OB NFOLA/OB BCCH/OB SOSP/VO WTSP/OB BLJA-OB RB WO-VO	Eastern Cottontail. OB Deer - TK.			

W:\active\160960577\drawing\GIS\MXD\NaturalHeritageAssessment\FieldMaps\60960577_FIELDMAP1_ProjectLocation_20100920_PW.mxd - 9/20/2010 @ 1:17:14 PM

593000 594000 595000 596000

4752000 4751000 4750000

GIBSON ROAD
RIVER ROAD
LINK ROAD
WILSON ROAD
KOHLER ROAD
RICHERT ROAD
MEADOWS ROAD
HALDIMAND ROAD 20

Bare Soil
Hay/ Pasture
Pond
Fallow
Pasture

581855
2= FOD5-2

N

0 200 400 m
1:12,000

September 2010
160960577

Legend

- Project Location
- Proposed Turbine Location
- Proposed Collector Line
- Proposed Access Road
- Road
- Railway
- Abandoned Railway
- Transmission Line (OBM)
- Deer Wintering Area
- MEI
- Elexco Aquired Agreements
- ROW Study Area
- Crane Pad Study Area
- ROW Installation Zone
- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Watercourse (OBM)
- Waterbody

Area of Natural and Scientific Interest (ANSI)

- Life Science, Provincially Significant
- Earth Science, Provincially Significant
- Earth Science, Regionally Significant

Original: Don't Throw Out

Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Data Sources: Ontario Ministry of Natural Resources © Queens Printer Ontario, 2009; © GREP, 2010; © Samsung, 2010.
3. Image Source: © First Base Solutions, 2010 - Imagery Date: Spring 2006.

Client/Project
SAMSUNG C&T
GRAND RENEWABLE ENERGY PARK

Figure No.
FIELD MAP 5

Title
PROJECT LOCATION MAP

Stantec

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

Wildlife Habitat Assessment

Feature 22
Turbine #3
581855

Project Number: 161010646

Project Name: Samsung

Date / Time: Sept. 21. 2010

Field Personnel: GAW

Weather Conditions:	Temp:	Wind:	Cloud:	PPT:	PPT in last 24 hrs:
	24°	4	25%	Ø	Ø

Reptile Hibernacula Features 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)

Does the site contain potential reptile hibernacula features? ☐ Yes ☒ No (if yes, describe details in Table 1).

Bat Hibernacula Features i.e. karst topography, abandoned mines or caves

Does the site contain potential bat hibernacula features? ☐ Yes ☒ No (if yes, describe details in Table 1).

Table 1: Potential bat/reptile hibernacula features identified on site

UTM	Feature type	Photo #	Description	Species observed using feature

Species Observations

List species and type of observation: (**TK** = track, **SC** = scat, **VO** = vocalization, **OB** = observed, **DP** = distinctive parts, **FE** = feeding evidence, **CA** = carcass, **FY** = eggs, nest, **HO** = house/den, **SI** = other sign)

Birds	Mammals	Herps	Butterflies / Dragonflies	Other
i.e. AMRO/VO HOFI TUVU AMCR AMKE BLJA RTHA	Grey squirrel	AMTO	monarch sulphur Cabbage	

Woodland Assessment- *complete 1 assessment for each woodland*

Woodlot # (indicate on map) : Only one

Approximate age of stand mature

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☒ Yes ☐ No
If yes, approximate # present or % of stand 10%
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc,.) throughout

Are snags present? ☒ Yes ☐ No
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark. Few, Usually ≤ 20 cm DBH

Trees with cavities present? ☒ No ☐ Rare ☐ Occasional ☐ Abundant None seen
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)

Bat Mat Roost? No.

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☒ No
If yes, UTM and describe tree type, height and position in tree, size of nest, species present

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☒ Yes ☐ No
If yes, describe logging (recent), 2 logging trails

Seeps/ springs present? ☐ Yes ☒ No If yes,

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? ☒ Yes ☐ No If yes,

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shrubs, logs at pond edge
1	throughout	dry, likely very shallow	Variable. Small + shallow	No	Yes

ELC
COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 161010646 | POLYGON: (1)
SURVEYOR(S): GAW | DATE: Sept. 21. 2010 | UTME:
START: | END: | UTMZ: | UTMN:

POLYGON DESCRIPTION

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

STAND DESCRIPTION:

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

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

STAND COMPOSITION: | BA:

SIZE CLASS ANALYSIS:	☐	< 10	☐	10 - 24	☐	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: Pasture/fallow
☐ INCLUSION	CODE:
☐ COMPLEX	CODE:

Notes:

ELC
PLANT SPECIES LIST

581855

SITE: Turbine #3 + access Road
POLYGON: Feature 22
DATE:
SURVEYOR(S):

LAYERS: 1 = CANOPY > 10m 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
Ragweed					
BROINER					
ASCSYRI					
C. burdock					
alsike clover					
TAROFFI					
SOLCANA					
ERIPHPH					
ASTNOVA					
DAUCARO					
bull thistle					
RUMCRIS					
teasle					
lamb's quarters					
reed Canary					
lady's thumb					
VICCRACC					
chamomile					
wormwood					
Canada thistle					
green foxtail					
red clover					
PLANMAJO					
blk bindweed					
chicory					
HYPPERF					
b.f. trefoil					

SPECIES CODE	LAYER 1	2	3	4	COLL.
barnyard grass					
woolgrass					
Juncus sp					
hairy w. herb					
green foxtail					
blue vervain					
alfalfa					
AGRSTOL					
Grass sp.					

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 161010646 | POLYGON: (2)
SURVEYOR(S): GAW | DATE: Sept. 21. 2010 | 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
SITE	☐ BASIC BEDRK.	☐ VALLEY SLOPE	COVER	☐ FORB	☐ MARSH
☐ OPEN WATER	☐ CARB. BEDRK.	■ TABLELAND	☐ OPEN	☐ LICHEN	☐ SWAMP
☐ SHALLOW WATER		■ ROLL. UPLAND	☐ SHRUB	☐ BRYOPHYTE	☐ FEN
■ SURFICIAL DEP.		☐ CLIFF	■ TREED	■ DECIDUOUS	☐ BOG
☐ BEDROCK		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			■ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	ACESASA = FAGGRAN > Quercus > thickory
2	SUB-CANOPY	3	4	" " " "
3	UNDERSTOREY	4-5	4	" " > FRAAMER
4	GRD. LAYER	6-7	4	EUCOBOV, RHURA.NE, GERROBE, CIRLEUT

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

STAND COMPOSITION: | BA:

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

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

COMM. AGE:		PIONEER		YOUNG		MID-AGE	X	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: Forest	CODE: FO
COMMUNITY SERIES: Deciduous Forest	CODE: FOD
ECOSITE: Dry-fresh Sugar Maple Dec. Forest	CODE: FOD5
VEGETATION TYPE: Dry-fresh Sugar Maple-Beech Dec. Forest	CODE: FOD5-2
INCLUSION	CODE:
COMPLEX	CODE:

Notes:

ELC — PLANT SPECIES LIST

SITE: Turbine #3 + Access Road
POLYGON: Feature 22
DATE:
SURVEYOR(S):

LAYERS: 1 = CANOPY > 10m 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
POPTREM			R		
bitternut hick.	O	O	O	O	
FRAAMER	O	O	O	O	
ACESASA	A	A	A	A	
Shagbark	O	O	O	O	
ACERUBR	O	O	O	O	
FAGGRAN	A	A	4	O	
blue beech			A		
QUEALBA	O	O			
OSTVIRG		O			
TILAMER	O	O			
FRAPENN		O	O		
PRUSERO		D			
PRUVIVI			A	O	
LONDIOI				O	
blackberry			O	O	
RIBCYNO			O		
Witchhazel			R		
downy arrow.				O	
Crataegus sp.			O		
RHIACATH			O		

SPECIES CODE	LAYER 1	2	3	4	COLL.
sp. dogbane				O	
barren strawberry				O	
TRIEREC				O	
CIRLEUT				O	
EUCOBOV				O	
RHURA.NE				A	
DRYCART				R	
GERROBE				O	
GEUAPPEL				O	
FRAVESC				O	
GERMACU				O	
SOLCANA				O	
ASTNOVA				O	
Viola sp.				O	
ASTLATE				O	
GLYSTRI				O	
beechdrops				O	
AGRGRYP				O	
l.l. aster				O	
VEROFFI				O	

592000 593000 594000 595000 596000

4750000 4749000 4748000

HALDIMAND ROAD 20
CONCESSION 5
KOHLER ROAD
RICHERT ROAD
MEADOWS ROAD
MOUNTAINVIEW ROAD
CONCESSION 4

Soy
Soy
Soy
Corn
4

581822
1= FOD5-3
2= FOD2-2
3= FOD9-4
4= CUM1

N

0 200 400 m
1:12,000

W:\active\160960577\drawing\GIS\MXD\NaturalHeritageAssessment\FieldMaps\60960577_FIELDMAP1_ProjectLocation_20100820_PW.mxd - 9/20/2010 @ 1:17:14 PM

September 2010
160960577

Legend

- Project Location
- Proposed Turbine Location
- Proposed Collector Line
- Proposed Access Road
- Road
- Railway
- Abandoned Railway
- Transmission Line (OBM)
- Deer Wintering Area
- MEI
- Elexco Aquired Agreements
- ROW Study Area
- Crane Pad Study Area
- ROW Installation Zone
- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Watercourse (OBM)
- Waterbody

Area of Natural and Scientific Interest (ANSI)

- Life Science, Provincially Significant
- Earth Science, Provincially Significant
- Earth Science, Regionally Significant

Original:
Don't Throw
Out

Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Data Sources: Ontario Ministry of Natural Resources © Queens Printer Ontario, 2009; © GREP, 2010; © Samsung, 2010.
3. Image Source: © First Base Solutions, 2010 - Imagery Date: Spring 2006.

Client/Project
SAMSUNG C&T
GRAND RENEWABLE ENERGY PARK

Figure No.
FIELD MAP 6

Title
PROJECT LOCATION MAP

Stantec

Stantec	Stantec Consulting Ltd. 70-1 Southgate Drive Guelph, Ontario, Canada N1G 4P5 Tel: (519) 836-6050 Fax: (519) 836-2493	**Wildlife Habitat Assessment** Feature 22 Turbine #4 + Access Rd 581822

Project Number	161010646	Project Name:	Samsung
Date / Time:	Sept. 21. 2010	Field Personnel:	GAW

Weather Conditions:	Temp:	Wind:	Cloud:	PPT:	PPT in last 24 hrs:
	24°	4	25%	ø	ø

Reptile Hibernacula Features 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)

Does the site contain potential reptile hibernacula features? ☐ Yes ☒ No (if yes, describe details in Table 1).

Bat Hibernacula Features i.e. karst topography, abandoned mines or caves

Does the site contain potential bat hibernacula features? ☐ Yes ☒ No (if yes, describe details in Table 1).

Table 1: Potential bat/reptile hibernacula features identified on site

UTM	Feature type	Photo #	Description	Species observed using feature

Species Observations

List species and type of observation: (**TK** = track, **SC** = scat, **VO** = vocalization, **OB** = observed, **DP** = distinctive parts, **FE** = feeding evidence, **CA** = carcass, **FY** = eggs, nest, **HO** = house/den, **SI** = other sign)

Birds	Mammals	Herps	Butterflies / Dragonflies	Other
i.e. AMRO/VO TUVU MODO	/	/	monarch Sulphur yellow	

Woodland Assessment- *complete 1 assessment for each woodland*

Woodlot # (indicate on map) : A

Approximate age of stand mature

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☒ Yes ☐ No
If yes, approximate # present or % of stand 10%
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc,.) throughout

Are snags present? ☒ Yes ☐ No
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark. very few due to logging. Most under 20cm DBH. No loose bark seen.

Trees with cavities present? ☒ No ☐ Rare ☐ Occasional ☐ Abundant None seen
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)

Bat Mat Roost? No

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☒ No
If yes, UTM and describe tree type, height and position in tree, size of nest, species present

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☒ Yes ☐ No
If yes, describe logging + logging trails.

Seeps/ springs present? ☐ Yes ☒ No If yes,

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? ☐ Yes ☒ No If yes,

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shrubs, logs at pond edge

→ outside study area toward north edge of woodlot.

Sept. 21. 2010

Turbine 4 - access rd
Feature 22

Woodland Assessment- *complete 1 assessment for each woodland*

Woodlot # (indicate on map) : B

Approximate age of stand Mature

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☒ Yes ☐ No
If yes, approximate # present or % of stand < 5%
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc..) throughout E + W ends of woodlot.

Are snags present? ☒ Yes ☐ No
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark. very few, all under 25cm DBH, no loose bark.

Trees with cavities present? ☒ No ☐ Rare ☐ Occasional ☐ Abundant None Seen
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)

Bat Mat Roost? No.

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☒ No
If yes, UTM and describe tree type, height and position in tree, size of nest, species present

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☒ Yes ☐ No
If yes, describe road through centre. Evidence of logging, dumping.

Seeps/ springs present? ☐ Yes ☒ No If yes,

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? ☐ Yes ☒ No If yes,

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shrubs, logs at pond edge

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

Project Number			Project Name:		
Date / Time:			Field Personnel:		
Weather Conditions:	Temp:	Wind:	Cloud:	PPT:	PPT in last 24 hrs:

Reptile Hibernacula Features 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)

Does the site contain potential reptile hibernacula features? ☐ Yes ☐ No (if yes, describe details in Table 1).

Bat Hibernacula Features i.e. karst topography, abandoned mines or caves

Does the site contain potential bat hibernacula features? ☐ Yes ☐ No (if yes, describe details in Table 1).

Table 1: Potential bat/reptile hibernacula features identified on site

UTM	Feature type	Photo #	Description	Species observed using feature

Species Observations

List species and type of observation: (**TK** = track, **SC** = scat, **VO** = vocalization, **OB** = observed, **DP** = distinctive parts, **FE** = feeding evidence, **CA** = carcass, **FY** = eggs, nest, **HO** = house/den, **SI** = other sign)

Birds	Mammals	Herps	Butterflies / Dragonflies	Other
i.e. AMRO/VO				

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 161010646 | POLYGON: (1)
SURVEYOR(S): GAW | DATE: Sept. 21, 2016 | 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
SITE	☐ BASIC BEDRK.	☐ VALLEY SLOPE	COVER	☐ FORB	☐ MARSH
☐ OPEN WATER	☐ CARB. BEDRK.	☐ TABLELAND	☐ OPEN	☐ LICHEN	☐ SWAMP
☐ SHALLOW WATER		■ ROLL. UPLAND	☐ SHRUB	☐ BRYOPHYTE	☐ FEN
■ SURFICIAL DEP.		☐ CLIFF	■ TREED	■ DECIDUOUS	☐ BOG
☐ BEDROCK		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			■ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	ACESASA >> QUERUBR > TILAMER = Hickories
2	SUB-CANOPY	3	4	// >>> FAGGRAN
3	UNDERSTOREY	4-5	4	// >> PRUVIVI = FAGGRAN
4	GRD. LAYER	6-7	3	CIRLEUT, Saplings

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

STAND COMPOSITION: | BA:

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

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

COMM. AGE:		PIONEER		YOUNG		MID-AGE	X	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: Forest	CODE: FO
COMMUNITY SERIES: Deciduous Forest	CODE: FOD
ECOSITE: Dry-fresh Sugar Maple Dec. Forest	CODE: FOD5
VEGETATION TYPE: Dry-fresh Sugar Maple – Oak Dec. Forest	CODE: FOD5-3
INCLUSION	CODE:
COMPLEX	CODE:

Notes:

581822

ELC — PLANT SPECIES LIST

SITE: Turbine 4 + Access Road
POLYGON: Feature 22
DATE:
SURVEYOR(S):

LAYERS: 1 = CANOPY > 10m 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
Butternut	O	O			
ACESASA	D	D	D	D	
Shagbark	O	O	O		
TILAMER	A	O	O		
QUERUBR	A	O	O		
FAGGRAN	R	O	O		
OSTVIRG		O	O		
PRUSERO		R	R		
ACERUBR		O			
ULMAMER			R		
FRAPENN		R			
FRAAMER	R	O	O		

SPECIES CODE	LAYER 1	2	3	4	COLL.
LONDIOI				O	
CIRLEUT				O	
EUOOBOV				O	
RHURA.NE				O	

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE:		POLYGON: (2)	
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
SITE	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND	COVER	☐ LICHEN	☐ SWAMP
☐ OPEN WATER		☒ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
☐ SHALLOW WATER		☐ CLIFF	☐ OPEN	☒ DECIDUOUS	☐ BOG
☒ SURFICIAL DEP.		☐ TALUS	☐ SHRUB	☐ CONIFEROUS	☐ BARREN
☐ BEDROCK		☐ CREVICE / CAVE	☒ TREED	☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☒ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	QUERUBR
2	SUB-CANOPY	3	4	" > Hickories > ACESASA
3	UNDERSTOREY	4-5	4	ACESASA = Hickories > FAGGRAN
4	GRD. LAYER	6-7	4	RHURA·NE, I.l.aster, VEROFFI

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

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

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

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

COMM. AGE :		PIONEER		YOUNG		MID-AGE	X	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: Forest		CODE: FO
COMMUNITY SERIES: Deciduous Forest		CODE: FOD
ECOSITE: Dry-fresh Oak-Maple-Hickory Dec. For.		CODE: FOD2
VEGETATION TYPE: Dry-fresh Oak-Hickory Deciduous Forest		CODE: FOD2-2
INCLUSION		CODE:
COMPLEX		CODE:

Notes:

ELC — PLANT SPECIES LIST

SITE: Turbine #4 + Access Road

POLYGON:

DATE:

SURVEYOR(S):

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
QUERUBR	D	A	O	O	
ACESASA		O	O	O	
Bitternut	O	O	O		
Shagbark	O	O	O		
TILAMER	O	O			
FRAAMER	R	O	O		
OSTVIRG		O			
FAGGRAN		O	O		
blue beech			O		
PRUVIVI			A		
LONDIOI				O	
blackberry			O		
BIBCYNO			O		
CORFORA			O		
witchhazel			O		
d. arrowwood			R		
RHACATH			O		
Crataegus sp			O		

SPECIES CODE	LAYER 1	2	3	4	COLL.
VEROFFI				O	
I.l.aster				O	
AGRGRYP				O	
beech drops				O	
GLYSTRI				O	
EPIHELL				R	
Viola sp				O	
ASTNOVA				O	
SOLCANA				O	
GERMACU				O	
FRAVESC				O	
GEUAPPE				O	
GERROBE				O	
DRYCART				R	
RHURA·NE				A	
EUOOBOV				O	
CIRLEUT				O	

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 16101064b	POLYGON: (3)	
SURVEYOR(S): GAW	DATE: Sept. 21. 2010	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
SITE	☐ BASIC BEDRK.	☐ VALLEY SLOPE	**COVER**	☐ FORB	☐ MARSH
☐ OPEN WATER	☐ CARB. BEDRK.	☐ TABLELAND	☐ OPEN	☐ LICHEN	☐ SWAMP
☐ SHALLOW WATER		■ ROLL. UPLAND	☐ SHRUB	☐ BRYOPHYTE	☐ FEN
■ SURFICIAL DEP.		☐ CLIFF	■ TREED	■ DECIDUOUS	☐ BOG
☐ BEDROCK		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☑ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	Shagbark >> QUERUBR
2	SUB-CANOPY	3	4	"
3	UNDERSTOREY	4-5	4	CORFO·RA > Saplings
4	GRD. LAYER	6-7	4	RHURA·NE, FRAVESC, GEUAPPE

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

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

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

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

COMM. AGE:		PIONEER		YOUNG	X	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: Forest	CODE: FO
COMMUNITY SERIES: Deciduous Forest	CODE: FOD
ECOSITE: F-M oak Maple - Hickory Dec. Forest	CODE: FOD9
VEGETATION TYPE: Fresh-moist Shagbark Hickory Dec. Forest	CODE: FOD9-4
INCLUSION	CODE:
COMPLEX	CODE:

Notes: likely due to logging of other species.

581822

ELC — PLANT SPECIES LIST

SITE: Turbine 4 - Access Road	
POLYGON: Feature 22	
DATE:	
SURVEYOR(S):	

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
Shagbark	D	D	A	A	
PINSTRO			R		
PINSYLV		R			
QUEMACR		O			
ACESASA	O	O	O		
ACERUBR		R			
CORFO·RA			A	O	
PRUVI·VI			O		
RUBIDAE			O		
blackberry			O		
RHACATH			O		
Crataegus			O		

SPECIES CODE	LAYER 1	2	3	4	COLL.
CIRLEUT				O	
RHURA·NE				O	
EUOOBOV				O	
SOLCANA				O	
ASTNOVA				O	
GEUAPPE				O	
ASTLATE				O	
AGRGRYP				O	
VEROFFI				O	

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE:	POLYGON: (4)	
SURVEYOR(S):	DATE:	UTME:
START: / END	UTMZ:	UTMN:

POLYGON DESCRIPTION

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

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	4	4	Amaranth, DAUCARO, teasle
2	SUB-CANOPY	5	4	Solidago spp + asters
3	UNDERSTOREY	6	4	lady-thumb, ragweed, grasses
4	GRD. LAYER	7	4	clovers, plantago

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

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

STAND COMPOSITION:					BA:
SIZE CLASS ANALYSIS:	/ < 10	/ 10 - 24	/ 25 - 50	/ > 50	
STANDING SNAGS:	/ < 10	/ 10 - 24	/ 25 - 50	/ > 50	
DEADFALL / LOGS:	O < 10	/ 10 - 24	/ 25 - 50	/ > 50	

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

COMM. AGE :		PIONEER	X	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: Cultural	CODE:	CU
COMMUNITY SERIES: Cultural Meadow	CODE:	CUM
ECOSITE: Mineral Cultural Meadow	CODE:	CUMI
VEGETATION TYPE: old-field Mineral Cultural Meadow	CODE:	CUMI-1
INCLUSION	CODE:	
COMPLEX	CODE:	

Notes:

ELC — PLANT SPECIES LIST

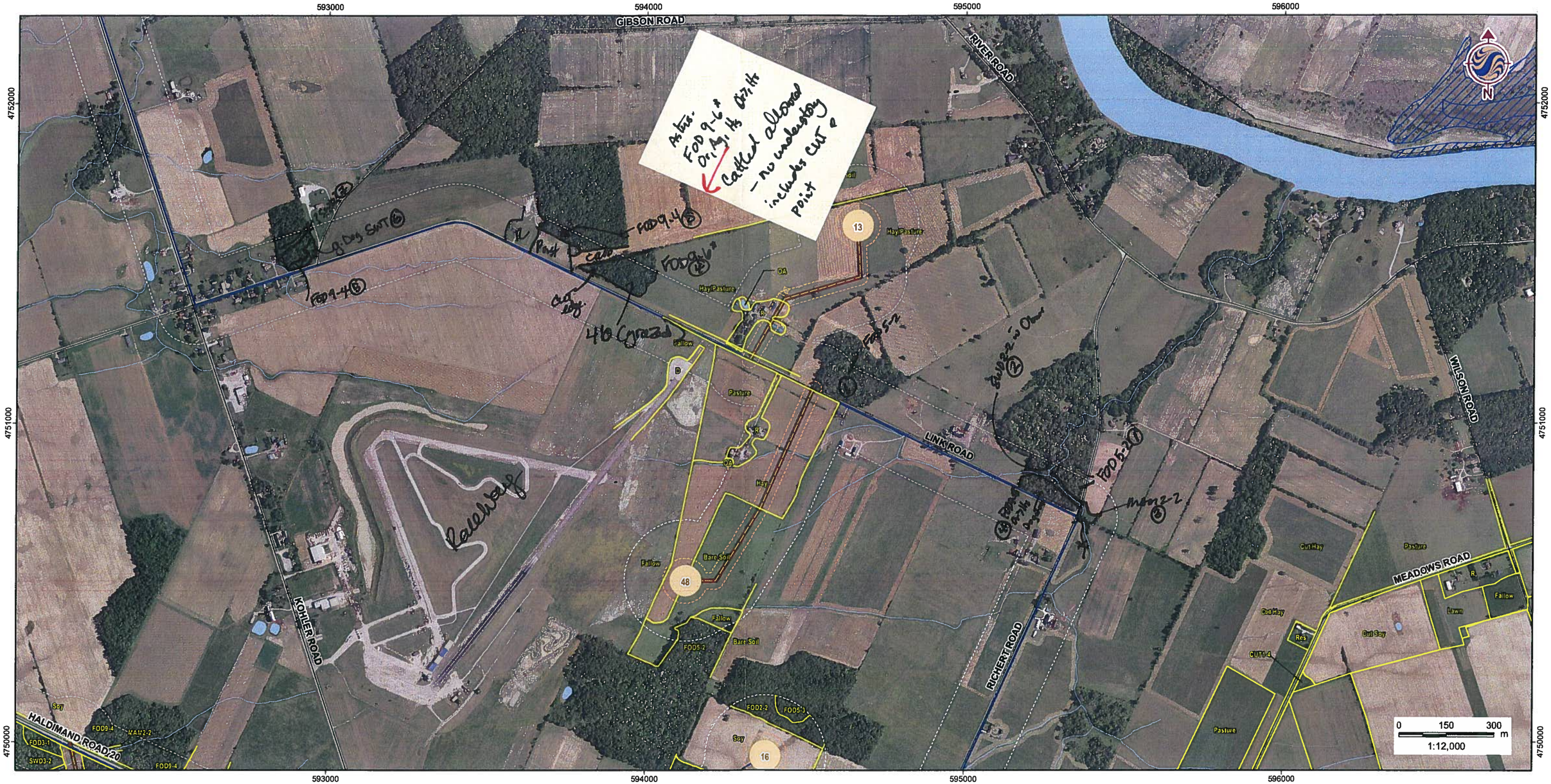
SITE:	
POLYGON:	
DATE:	
SURVEYOR(S):	

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
lamb's quarters				O	
Green foxtail			O		
teasle	O				
VITRIPA	O				
DAUCARO		O			
SOLCANA		A			
SOLALTI		A			
ragweed			A		
bull thistle	O				
RHACATH	O				
ERIPH. PH		O			
Com. burdock			O		
lady thumb			O		
barnyard grass	O				
PLAMAJO				O	
alsike clover				O	
red clover				O	
ASCSYRI		O			
TAROFFI				A	
chickory		O			
C. burdock			O		
RUMCRIS			O		
HYPPERF			O		
AGRSTOL		O			
BROINER		O			
ASTNOVA		O			

SPECIES CODE	LAYER 1	2	3	4	COLL.



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December 2010
160960577

Legend

- Proposed Turbine Location
- 120m Zone of Investigation
- ROW Installation Zone
- ELC Communities
- Access Road
- Overhead Collector Line
- Underground Collector Line
- Substation Property
- Road
- Transmission Line (OBM)
- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Watercourse (OBM)
- Waterbody

Forest Communities (FO)
FOM2-2- Dry-fresh White Pine – Sugar Maple Mixed Forest
FOD- Deciduous Forest
FOD2-1- Dry-fresh Oak – Red Maple Deciduous Forest
FOD2-2- Dry-fresh Oak – Hickory Deciduous Forest
FOD2-4- Dry-fresh Oak – Hardwood Deciduous Forest
FOD3-1- Dry-fresh Poplar Deciduous Forest
FOD4-1- Dry-fresh Beech Deciduous Forest
FOD4-2- Dry-fresh White Ash Deciduous Forest
FOD5-1- Dry-fresh Sugar Maple Deciduous Forest
FOD5-2- Dry-fresh Sugar Maple – Beech Deciduous Forest
FOD5-3- Dry-fresh Sugar Maple – Oak Deciduous Forest
FOD5-8- Dry-fresh Sugar Maple – White Ash Deciduous Forest
FOD5-11*- Dry-fresh Sugar Maple – Oak – Beech Deciduous Forest
FOD5-12*- Dry-fresh Sugar Maple – Hickory – Beech Deciduous Forest
FOD6-1- Fresh-moist Sugar Maple – Lowland Ash Deciduous Forest
FOD6-5- Fresh-moist Sugar Maple – Hardwood Deciduous Forest
FOD6-6*- Fresh-moist Sugar Maple – Hickory Deciduous Forest
FOD7-1- Fresh-moist White Elm Lowkind Deciduous Forest
FOD7-2- Fresh-moist Ash Lowland Deciduous Forest
FOD9-1- Fresh-moist Oak – Sugar Maple Deciduous Forest
FOD9-4- Fresh-moist Shagbark Hickory Deciduous Forest
FOD9-6*- Fresh-moist Red Oak – Shagbark Hickory Deciduous Forest

Swamp Communities (SW)
SWD1-1- Swamp White Oak Mineral Deciduous Swamp
SWD2-2- Green Ash Mineral Deciduous Swamp
SWD2-3*- Ash – Hardwood Mineral Deciduous Swamp
SWD2-4*- Green Ash – Red Maple Mineral Deciduous Swamp
SWD3-1- Red Maple Mineral Deciduous Swamp
SWD3-2- Silver Maple Mineral Deciduous Swamp
SWD3-5*- Swamp Maple - Green Ash Mineral Deciduous Swamp
SWD4-1- Willow Mineral Deciduous Swamp
SWD4-2- White Elm Mineral Deciduous Swamp
SWD3-3- Swamp Maple Mineral Deciduous Swamp
SWD4-6*- Green Ash – Swamp Maple Mineral Deciduous Swamp
SWT- Thicket Swamp
SWT2-4- Buttonbush Mineral Thicket Swamp
SWT2-5- Red Osier Dogwood Mineral Thicket Swamp
SWT2-8- Silky Dogwood Mineral Thicket Swamp
SWT2-9- Gray Dogwood Mineral Thicket Swamp
SWT2-13*- Willow – Dogwood Mineral Thicket Swamp
SWT2-14*- Winterberry – Buttonbush Mineral Thicket Swamp
SWT2-15*- Red Maple Mineral Thicket Swamp
SWT3-7- Winterberry Organic Thicket Swamp

Marsh Communities (MA)
MAM2-2- Reed Canary Grass Mineral Meadow Marsh
MAM2-10- Forb Mineral Meadow Marsh
MAM2-11*- Forb – Graminoid Mineral Meadow Marsh
MAS2-1- Cattail Mineral Shallow Marsh
MAS2-8- Rice Cut-grass Mineral Shallow Marsh

Cultural Communities (CU)
CUM1- Mineral Cultural Meadow
CUT1-7- European Buckthorn – Sweet Cherry Cultural thicket
CUW1-3*- Ash – Sumac Mineral Cultural Woodland
CUW1-4*- Green Ash Mineral Cultural Woodland
CUW1-5*- Maple-Ash Cultural Woodland
CUW1-6*- Green Ash Cultural Woodland
CUW1-7*- Red maple Mineral Cultural Woodland
CUP3-12*- White Pine – White/Norway Spruce Coniferous Plantation
CUP3-13*- White Spruce Coniferous Plantation

D- Disturbed
R- Residential

Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Data Sources: Ontario Ministry of Natural Resources © Queens Printer Ontario, 2009; © Samsung, 2010.
3. Image Source: © Grand River Conservation Authority, 2010 - imagery Date: Spring 2006; **LIDAR IMAGERY SOURCE???**
4. Produced using the Version 5 site plan produced by Stantec updated on Dec 13.

Client/Project
SAMSUNG C&T
GRAND RENEWABLE ENERGY PARK

Figure No.
TILE 5 *DRAFT*

Title
ELC VEGETATION COMMUNITIES

Stantec

Feature 17/24

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

SITE

☐ OPEN WATER
☐ SHALLOW WATER
☐ SURFICIAL DEP.
☐ BEDROCK

COVER

☐ OPEN
☐ SHRUB
☐ TREED

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	1	4	CAROVAT > FRAPENN > QUERUBR2
2	SUB-CANOPY	2	4	
3	UNDERSTOREY	3	4	FAGGRAN
4	GRD. LAYER			

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

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

STAND COMPOSITION:						BA:	
SIZE CLASS ANALYSIS:	O	< 10	O	10 - 24	O	25 - 50	N	> 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	X	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: Fresh-moist Shagbark Hickory Decid. Forest		CODE: FOD9-4
INCLUSION		CODE:
COMPLEX		CODE:

Notes:

ELC — PLANT SPECIES LIST

SITE:	Samsung
POLYGON:	5-5
DATE:	22-Dec-2010
SURVEYOR(S):	M. Straus

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
CAROVAT	O	O	—		
QUERUBR	O	—	—		
FAGGRAN	O	—	—		
FRAPENN	O	—	—		

SPECIES CODE	LAYER 1	2	3	4	COLL.

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

STAND DESCRIPTION:

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

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

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

STAND COMPOSITION:					BA:
SIZE CLASS ANALYSIS:	< 10	10 - 24	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)

COMMUNITYCLASSIFICATION:

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

Notes: Unable to see well from road.
- Part air photo interp.

Feature 24

ELC PLANT SPECIES LIST	
SITE:	Samsung
POLYGON:	5-7
DATE:	22-Dec-2010
SURVEYOR(S):	M. Straus

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

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

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

STAND DESCRIPTION:

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

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

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

STAND COMPOSITION:	BA:

SIZE CLASS ANALYSIS:		< 10		10 - 24		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)

COMMUNITYCLASSIFICATION:

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

Notes:

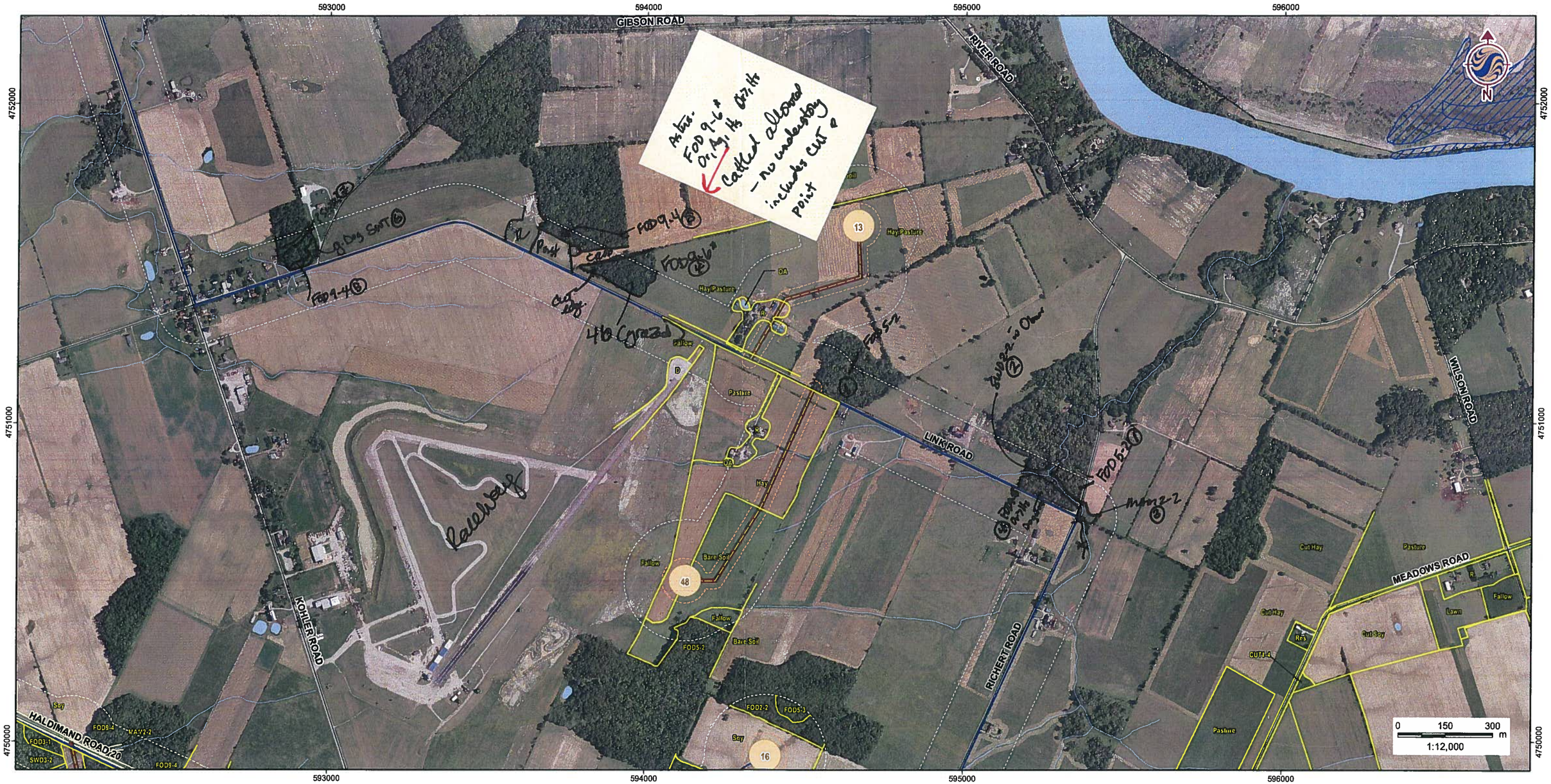
ELC PLANT SPECIES LIST	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

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

Page .... of ....



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December 2010
160960577

Legend

- Proposed Turbine Location
- 120m Zone of Investigation
- ROW Installation Zone
- ELC Communities
- Access Road
- Overhead Collector Line
- Underground Collector Line
- Substation Property
- Road
- Transmission Line (OBM)
- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Watercourse (OBM)
- Waterbody

Forest Communities (FO)
FOM2-2- Dry-fresh White Pine – Sugar Maple Mixed Forest
FOD- Deciduous Forest
FOD2-1- Dry-fresh Oak – Red Maple Deciduous Forest
FOD2-2- Dry-fresh Oak – Hickory Deciduous Forest
FOD2-4- Dry-fresh Oak – Hardwood Deciduous Forest
FOD3-1- Dry-fresh Poplar Deciduous Forest
FOD4-1- Dry-fresh Beech Deciduous Forest
FOD4-2- Dry-fresh White Ash Deciduous Forest
FOD5-1- Dry-fresh Sugar Maple Deciduous Forest
FOD5-2- Dry-fresh Sugar Maple – Beech Deciduous Forest
FOD5-3- Dry-fresh Sugar Maple – Oak Deciduous Forest
FOD5-8- Dry-fresh Sugar Maple – White Ash Deciduous Forest
FOD5-11*- Dry-fresh Sugar Maple – Oak – Beech Deciduous Forest
FOD5-12*- Dry-fresh Sugar Maple – Hickory – Beech Deciduous Forest
FOD6-1- Fresh-moist Sugar Maple – Lowland Ash Deciduous Forest
FOD6-5- Fresh-moist Sugar Maple – Hardwood Deciduous Forest
FOD6-6*- Fresh-moist Sugar Maple – Hickory Deciduous Forest
FOD7-1- Fresh-moist White Elm Lowkind Deciduous Forest
FOD7-2- Fresh-moist Ash Lowland Deciduous Forest
FOD9-1- Fresh-moist Oak – Sugar Maple Deciduous Forest
FOD9-4- Fresh-moist Shagbark Hickory Deciduous Forest
FOD9-6*- Fresh-moist Red Oak – Shagbark Hickory Deciduous Forest

Swamp Communities (SW)
SWD1-1- Swamp White Oak Mineral Deciduous Swamp
SWD2-2- Green Ash Mineral Deciduous Swamp
SWD2-3*- Ash – Hardwood Mineral Deciduous Swamp
SWD2-4*- Green Ash – Red Maple Mineral Deciduous Swamp
SWD3-1- Red Maple Mineral Deciduous Swamp
SWD3-2- Silver Maple Mineral Deciduous Swamp
SWD3-5*- Swamp Maple - Green Ash Mineral Deciduous Swamp
SWD4-1- Willow Mineral Deciduous Swamp
SWD4-2- White Elm Mineral Deciduous Swamp
SWD3-3- Swamp Maple Mineral Deciduous Swamp
SWD4-8*- Green Ash – Swamp Maple Mineral Deciduous Swamp
SWT- Thicket Swamp
SWT2-4- Buttonbush Mineral Thicket Swamp
SWT2-5- Red Osier Dogwood Mineral Thicket Swamp
SWT2-8- Silky Dogwood Mineral Thicket Swamp
SWT2-9- Gray Dogwood Mineral Thicket Swamp
SWT2-13*- Willow – Dogwood Mineral Thicket Swamp
SWT2-14*- Winterberry – Buttonbush Mineral Thicket Swamp
SWT2-15*- Red Maple Mineral Thicket Swamp
SWT3-7- Winterberry Organic Thicket Swamp

Marsh Communities (MA)
MAM2-2- Reed Canary Grass Mineral Meadow Marsh
MAM2-10- Forb Mineral Meadow Marsh
MAM2-11*- Forb – Graminoid Mineral Meadow Marsh
MAS2-1- Cattail Mineral Shallow Marsh
MAS2-6- Rice Cut-grass Mineral Shallow Marsh

Cultural Communities (CU)
CUM1- Mineral Cultural Meadow
CUT1-7- European Buckthorn – Sweet Cherry Cultural thicket
CUW1-3*- Ash – Sumac Mineral Cultural Woodland
CUW1-4*- Green Ash Mineral Cultural Woodland
CUW1-5*- Maple-Ash Cultural Woodland
CUW1-6*- Green Ash Cultural Woodland
CUW1-7*- Red maple Mineral Cultural Woodland
CUP3-12*- White Pine – White/Norway Spruce Coniferous Plantation
CUP3-13*- White Spruce Coniferous Plantation

D- Disturbed
R- Residential

Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Data Sources: Ontario Ministry of Natural Resources © Queens Printer Ontario, 2009; © Samsung, 2010.
3. Image Source: © Grand River Conservation Authority, 2010 - Imagery Date: Spring 2006; **LIDAR IMAGERY SOURCE???**
4. Produced using the Version 5 site plan produced by Stantec updated on Dec 13.

Client/Project
SAMSUNG C&T
GRAND RENEWABLE ENERGY PARK

Figure No.
TILE 5 DRAFT

Title
ELC VEGETATION COMMUNITIES

Stantec

Feature 27/26

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

STAND DESCRIPTION:

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

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

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

STAND COMPOSITION:							BA:	
SIZE CLASS ANALYSIS:	O	< 10	O	10 - 24	O	25 - 50	R	> 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	X	MATURE		OLD GROWTH

SOIL ANALYSIS:

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

COMMUNITYCLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE: Dry-fresh Sugar Maple-Beech		CODE: FODS-2
INCLUSION	Deciduous Forest	CODE:
COMPLEX		CODE:

Notes:

ELC PLANT SPECIES LIST

SITE: Samsung

POLYGON: 5-1

DATE: 20-Dec-2010

SURVEYOR(S): M. Straus

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
ACESACS	O	O	—		
FAGGRAN	O	O	O	—	
QUERUBR	O	—	—		
CARCOVAT	R	O	—		

SPECIES CODE	LAYER 1	2	3	4	COLL.

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December 2010
160960577

Legend

- Proposed Turbine Location
- 120m Zone of Investigation
- ROW Installation Zone
- ELC Communities
- Access Road
- Overhead Collector Line
- Underground Collector Line
- Substation Property
- Road
- Transmission Line (OBM)
- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Watercourse (OBM)
- Waterbody

Forest Communities (FO)
FOM2-2- Dry-fresh White Pine – Sugar Maple Mixed Forest
FOD- Deciduous Forest
FOD2-1- Dry-fresh Oak – Red Maple Deciduous Forest
FOD2-2- Dry-fresh Oak – Hickory Deciduous Forest
FOD2-4- Dry-fresh Oak – Hardwood Deciduous Forest
FOD3-1- Dry-fresh Poplar Deciduous Forest
FOD4-1- Dry-fresh Beech Deciduous Forest
FOD4-2- Dry-fresh White Ash Deciduous Forest
FOD5-1- Dry-fresh Sugar Maple Deciduous Forest
FOD5-2- Dry-fresh Sugar Maple – Beech Deciduous Forest
FOD5-3- Dry-fresh Sugar Maple – Oak Deciduous Forest
FOD5-8- Dry-fresh Sugar Maple – White Ash Deciduous Forest
FOD5-11*- Dry-fresh Sugar Maple – Oak – Beech Deciduous Forest
FOD5-12*- Dry-fresh Sugar Maple – Hickory – Beech Deciduous Forest
FOD6-1- Fresh-moist Sugar Maple – Lowland Ash Deciduous Forest
FOD6-5- Fresh-moist Sugar Maple – Hardwood Deciduous Forest
FOD6-6*- Fresh-moist Sugar Maple – Hickory Deciduous Forest
FOD7-1- Fresh-moist White Elm Lowkind Deciduous Forest
FOD7-2- Fresh-moist Ash Lowland Deciduous Forest
FOD9-1- Fresh-moist Oak – Sugar Maple Deciduous Forest
FOD9-4- Fresh-moist Shagbark Hickory Deciduous Forest
FOD9-6*- Fresh-moist Red Oak – Shagbark Hickory Deciduous Forest

Swamp Communities (SW)
SWD1-1- Swamp White Oak Mineral Deciduous Swamp
SWD2-2- Green Ash Mineral Deciduous Swamp
SWD2-3*- Ash – Hardwood Mineral Deciduous Swamp
SWD2-4*- Green Ash – Red Maple Mineral Deciduous Swamp
SWD3-1- Red Maple Mineral Deciduous Swamp
SWD3-2- Silver Maple Mineral Deciduous Swamp
SWD3-5*- Swamp Maple - Green Ash Mineral Deciduous Swamp
SWD4-1- Willow Mineral Deciduous Swamp
SWD4-2- White Elm Mineral Deciduous Swamp
SWD3-3- Swamp Maple Mineral Deciduous Swamp
SWD4-6*- Green Ash – Swamp Maple Mineral Deciduous Swamp
SWT- Thicket Swamp
SWT2-4- Buttonbush Mineral Thicket Swamp
SWT2-5- Red Osier Dogwood Mineral Thicket Swamp
SWT2-8- Silky Dogwood Mineral Thicket Swamp
SWT2-9- Gray Dogwood Mineral Thicket Swamp
SWT2-13*- Willow – Dogwood Mineral Thicket Swamp
SWT2-14*- Winterberry – Buttonbush Mineral Thicket Swamp
SWT2-15*- Red Maple Mineral Thicket Swamp
SWT3-7- Winterberry Organic Thicket Swamp

Marsh Communities (MA)
MAM2-2- Reed Canary Grass Mineral Meadow Marsh
MAM2-10- Forb Mineral Meadow Marsh
MAM2-11*- Forb – Graminoid Mineral Meadow Marsh
MAS2-1- Cattail Mineral Shallow Marsh
MAS2-8- Rice Cut-grass Mineral Shallow Marsh

Cultural Communities (CU)
CUM1- Mineral Cultural Meadow
CUT1-7- European Buckthorn – Sweet Cherry Cultural thicket
CUW1-3*- Ash – Sumac Mineral Cultural Woodland
CUW1-4*- Green Ash Mineral Cultural Woodland
CUW1-5*- Maple-Ash Cultural Woodland
CUW1-6*- Green Ash Cultural Woodland
CUW1-7*- Red maple Mineral Cultural Woodland
CUP3-12*- White Pine – White/Norway Spruce Coniferous Plantation
CUP3-13*- White Spruce Coniferous Plantation

D- Disturbed
R- Residential

Stantec

Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Data Sources: Ontario Ministry of Natural Resources © Queens Printer Ontario, 2009; © Samsung, 2010.
3. Image Source: © Grand River Conservation Authority, 2010 - Imagery Date: Spring 2006; **LIDAR IMAGERY SOURCE???**
4. Produced using the Version 5 site plan produced by Stantec updated on Dec 13.

Client/Project
SAMSUNG C&T
GRAND RENEWABLE ENERGY PARK

Figure No.
TILE 5 DRAFT

Title
ELC VEGETATION COMMUNITIES

Feature 27/26

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

SITE

☐ OPEN WATER
☐ SHALLOW WATER
☐ SURFICIAL DEP.
☐ BEDROCK

COVER

☐ OPEN
☐ SHRUB
☐ TREED

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	1	4	ACESACS > FAGGRAN >> QUERUBR > CARGVAT
2	SUB-CANOPY	2	0	
3	UNDERSTOREY	3	4	FAGGRAN
4	GRD. LAYER			

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

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

STAND COMPOSITION: BA:

SIZE CLASS ANALYSIS:	O	< 10	O	10 - 24	O	25 - 50	R	> 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	X	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:	Dry-fresh Sugar Maple-Beech Deciduous Forest	CODE: FODS-2
INCLUSION		CODE:
COMPLEX		CODE:

Notes:

ELC — PLANT SPECIES LIST

SITE:	Samsung
POLYGON:	5-1
DATE:	22-Dec-2010
SURVEYOR(S):	M. Strauss

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
ACESACS	O	O	—		
FAGGRAN	O	O	O	—	
QUERUBR	O	—	—		
CARGVAT	R	O	—		

SPECIES CODE	LAYER 1	2	3	4	COLL.

Feature 27

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

STAND DESCRIPTION:

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

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

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

STAND COMPOSITION:		BA:

SIZE CLASS ANALYSIS:		< 10		10 - 24		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	X	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: Green Ash Mineral Deciduous Swamp	CODE: SWD2-2
INCLUSION	CODE:
COMPLEX	CODE:

Notes:

ELC — PLANT SPECIES LIST

SITE: Samsung
POLYGON: 5-2
DATE: 22-Dec-2010
SURVEYOR(S): M. Straus

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
FRAPENN	O	O	—		
QUEMAKER	O		—		
Cornus sp.			O		

SPECIES CODE	LAYER 1	2	3	4	COLL.

591802 592802 593802 594802 595802

4749887 4748887

581831 581827 581822 581816

HALDIMAND ROAD 20

CONCESSION 5

KOHLER ROAD

RICHERT ROAD

MEADOWS ROAD

MOUNTOLIVET ROAD

CONCESSION 4

N

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1:12,000

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September 2010
160960577

Legend

- Project Location
- Proposed Turbine Location
- Proposed Access Road
- Proposed Collector Line
- ROW Installation Zone
- 120m Investigation Zone
- Elexco Aquired Agreements
- Government Lands
- UDI Lands
- Road
- Railway
- Abandoned Railway
- Transmission Line (OBM)
- Deer Wintering Area
- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Watercourse (OBM)
- Waterbody

Area of Natural and Scientific Interest (ANSI)

- Life Science, Provincially Significant
- Earth Science, Provincially Significant
- Earth Science, Regionally Significant

Pond = Pic 1667

Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Data Sources: Ontario Ministry of Natural Resources © Queens Printer Ontario, 2009; © GREP, 2010; © Samsung, 2010.
3. Image Source: © First Base Solutions, 2010 - Imagery Date: Spring 2006; LIDAR IMAGERY SOURCE???

Client/Project

SAMSUNG C&T
GRAND RENEWABLE ENERGY PARK

Figure No.

FIELD MAP 6

Title

PROJECT LOCATION MAP

Stantec

13-Oct-2010 - Feature 28

Woodland Assessment- *complete 1 assessment for each woodland*

Woodlot # (indicate on map) : B → from edge of field

Approximate age of stand 50-60 years

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☐ Yes ☒ No
If yes, approximate # present or % of stand rare visible from edge
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc..) _____

Are snags present? ☒ Yes ☐ No
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark. 1 visible - 15cm DBH; ~3m
other - yes loose bark ~25cm ~18m

Trees with cavities present? ☒ No ☐ Rare ☐ Occasional ☐ Abundant (from edge)
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☒ No
If yes, UTM and describe tree type, height and position in tree, size of nest, species present

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☒ Yes ☐ No
If yes, describe Trails

Seeps/ springs present? ☐ Yes ☒ No If yes,

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? ☐ Yes ☒ No If yes,

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shrubs, logs at pond edge

Woodland Assessment- *complete 1 assessment for each woodland*

Woodlot # (indicate on map) : _____

Approximate age of stand _____

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☐ Yes ☐ No
If yes, approximate # present or % of stand _____
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc..) _____

Are snags present? ☐ Yes ☐ No
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark.

Trees with cavities present? ☐ No ☐ Rare ☐ Occasional ☐ Abundant
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☐ No
If yes, UTM and describe tree type, height and position in tree, size of nest, species present
_____

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☐ Yes ☐ No
If yes, describe _____

Seeps/ springs present? ☐ Yes ☐ No If yes,

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? ☐ Yes ☐ No If yes,

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shrubs, logs at pond edge

Feature 28

ELC COMMUNITY CLASSIFICATION

SITE: 16096057 | POLYGON: (8)
SURVEYOR(S): | DATE: | UTME:
START: 15:30 | END: 16:00 | UTMZ: | UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	VEGETATION FEATURE	HISTORY	PLANKTON FEATURE	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
SITE	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
☐ OPEN WATER	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☐ SWAMP
☐ SHALLOW WATER		☐ ROLL UPLAND		☐ BRYOPHYTE	☐ FEN
☐ SURFICIAL DEP.		☐ CLIFF		☐ DECIDUOUS	☐ BOG
☐ BEDROCK		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☒ FOREST
					☐ PLANTATION
			☐ OPEN		
			☐ SHRUB		
			☒ TREED		

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	1	4	CARLVAT > QUEMAGR > FRAPENN
2	SUB-CANOPY	2	4	CARLVAT > ACESACS
3	UNDERSTOREY	3.4	4	ACESACS > OSTVIRG > FRAPENN
4	GRD. LAYER	5-9	3	TILAMER > OSTVIRG > FRAVIRG

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

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

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

COMM. AGE :		PIONEER		YOUNG	X	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:	Forest	CODE: FO
COMMUNITY SERIES:	Deciduous Forest	CODE: FOD
ECOSITE:	Fresh-Moist Oak-Maple-Hickory De	CODE: FOD9
VEGETATION TYPE:	F-M Shagbark Hickory Decid. Forest	CODE: FOD9-4
INCLUSION		CODE:
COMPLEX		CODE:

Notes: From edge Pic# 16608

ELC COMMUNITY SERIES LIST

SITE: Samsung
POLYGON: 8
DATE: 13-Oct-2010
SURVEYOR(S): M. Straus

LAYERS: 1 = CANOPY > 10m 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

CARLVAT	D	D	O	O	
QUERUBR	R	R	R	R	
ACERUBR	R	R	R	R	
QUEMAGR	O	R	R	R	
TILAMER	R	—	—	O	
LUMPARNER	—	—	R	R	
ACESACS	R	O	O	R	
FRAPENN	O	R	R	D	
OSTVIRG	—	O	O	O	
Willow	R	—	—		
Running S. Bush				O	
RUBIDEA				R	
Honeysuckle				R	
Riverbirch				R	
Silky Dogwood			O		
FRAVIRG				O	

tartarian

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

STAND DESCRIPTION:

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

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

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

STAND COMPOSITION:	BA:

SIZE CLASS ANALYSIS:		< 10		10 - 24		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)

COMMUNITYCLASSIFICATION:

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

Notes:

ELC PLANT SPECIES LIST

SITE:	
POLYGON:	
DATE:	
SURVEYOR(S):	

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

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

Page .... of ....

598000 599000 600000 601000 602000

4752000 4751000 4750000

MEADOWS ROAD

SUTOR ROAD

YARENVIROAD

HALDIMAND ROAD 20

581823 581832 581864 581836 581849 581829 581838

581864
A=FOD5-3
1=FOD5-2
2=SWT2-14*

581832
1=FOD5-8
2=FOD5-11*
3=FOD2-
4=FOD5-3

581823
1=FOD5-3
2=SWT2-4
3=MAS2-1
4=SWT2-13*

581829
1=MAM2-11*
2=FOD5-3

581849
1=FOD5-3
2=MAS2-1
3=SWT2-13*
4=SWT3-7

581838
1=FOD5-3

Original: Don't Throw out

0 200 400 m
1:12,000

September 2010
160960577

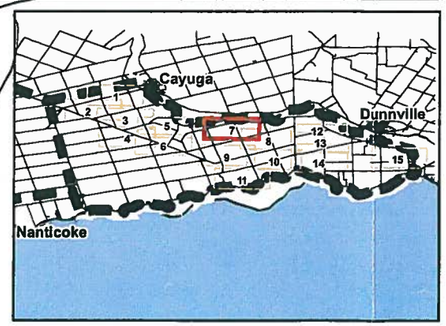
W:\active\160960577\drawing\GIS\MXD\NaturalHeritageAssessment\FieldMaps\60960577_FIELDMAP_ProjectLocation_Mapbook_20100921_PW.mxd - 9/22/2010 @ 12:15:19 PM

Legend

- Project Location
- Proposed Turbine Location
- Proposed Access Road
- Proposed Collector Line
- ROW Installation Zone
- 120m Investigation Zone
- Elexco Aquired Agreements
- Government Lands
- UDI Lands
- Road
- Railway
- Abandoned Railway
- Transmission Line (OBM)
- Deer Wintering Area
- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Watercourse (OBM)
- Waterbody

Area of Natural and Scientific Interest (ANSI)

- Life Science, Provincially Significant
- Earth Science, Provincially Significant
- Earth Science, Regionally Significant



Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Data Sources: Ontario Ministry of Natural Resources © Queens Printer Ontario, 2009; © GREP, 2010; © Samsung, 2010.
3. Image Source: © First Base Solutions, 2010 - Imagery Date: Spring 2006; **LIDAR IMAGERY SOURCE???**

1:12

Client/Project
SAMSUNG C&T
GRAND RENEWABLE ENERGY PARK

Figure No.
FIELD MAP 7

Title
PROJECT LOCATION MAP

Stantec

No Access

581864

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

Turbine 19

Wildlife Habitat Assessment

Feature 31

Project Number: 161010646

Project Name: Samsung

Date / Time: Sept. 29. 2010

Field Personnel: GAW

Weather Conditions:	Temp:	Wind:	Cloud:	PPT:	PPT in last 24 hrs:
	20°	2-3	25%	Ø	RAIN

Reptile Hibernacula Features 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)

Does the site contain potential reptile hibernacula features? ☐ Yes ☐ No (if yes, describe details in Table 1).

None Seen

Bat Hibernacula Features i.e. karst topography, abandoned mines or caves

Does the site contain potential bat hibernacula features? ☐ Yes ☐ No (if yes, describe details in Table 1).

None Seen

Table 1: Potential bat/reptile hibernacula features identified on site

UTM	Feature type	Photo #	Description	Species observed usi feature

Species Observations

List species and type of observation: (**TK** = track, **SC** = scat, **VO** = vocalization, **OB** = observed, **OP** = distinctive parts, **FE** = feeding evidence, **CA** = carcass, **FY** = eggs, nest, **HO** = house/den, **SI** = other sign)

Birds	Mammals	Herps	Butterflies / Dragonflies	Other
i.e. AMRO/VO				
/	/	/	/	/

Woodland Assessment- *complete 1 assessment for each woodland*

Woodlot # (indicate on map) : Only One

Approximate age of stand Mature

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☒ Yes ☐ No
If yes, approximate # present or % of stand _____ No Access
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc..) _____

Are snags present? ☐ Yes ☐ No None seen
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark.

Trees with cavities present? ☐ No ☐ Rare ☐ Occasional ☐ Abundant None Seen
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)

Bat Mat Roost? None Seen

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☐ No None Seen
If yes, UTM and describe tree type, height and position in tree, size of nest, species present

_____

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☒ Yes ☐ No
If yes, describe Trail

Seeps/ springs present? ☐ Yes ☐ No If yes, None Seen

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? ☒ Yes ☐ No If yes,

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shru logs at pond edg
	edge	dry	10 x 10 m	yes	yes

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 1610106 46		POLYGON: (A)	
SURVEYOR(S): GAW	DATE: Sept. 29, 2010	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
SITE	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
☐ OPEN WATER	☐ CARB. BEDRK.	☐ TABLELAND	COVER	☐ LICHEN	☐ SWAMP
☐ SHALLOW WATER		☒ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
☒ SURFICIAL DEP.		☐ CLIFF	☐ OPEN	☒ DECIDUOUS	☐ BOG
☐ BEDROCK		☐ TALUS	☐ SHRUB	☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE	☒ TREED	☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☒ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY			No Access
2	SUB-CANOPY			
3	UNDERSTOREY			
4	GRD. LAYER			

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

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

STAND COMPOSITION:		BA:

SIZE CLASS ANALYSIS:	☐ < 10	☐ 10 - 24	☐ 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: Forest	CODE:	FO
COMMUNITY SERIES: Deciduous Forest	CODE:	FOD
ECOSITE: D-F Sugar Maple Deciduous Forest	CODE:	FOD5
VEGETATION TYPE: Dry-fresh Sugar Maple - Oak Deciduous Forest	CODE:	TOD5-3
☐ INCLUSION	CODE:	
☐ COMPLEX	CODE:	

Notes: No access - from edge only
one V.P. visible from edge!

ELC — PLANT SPECIES LIST

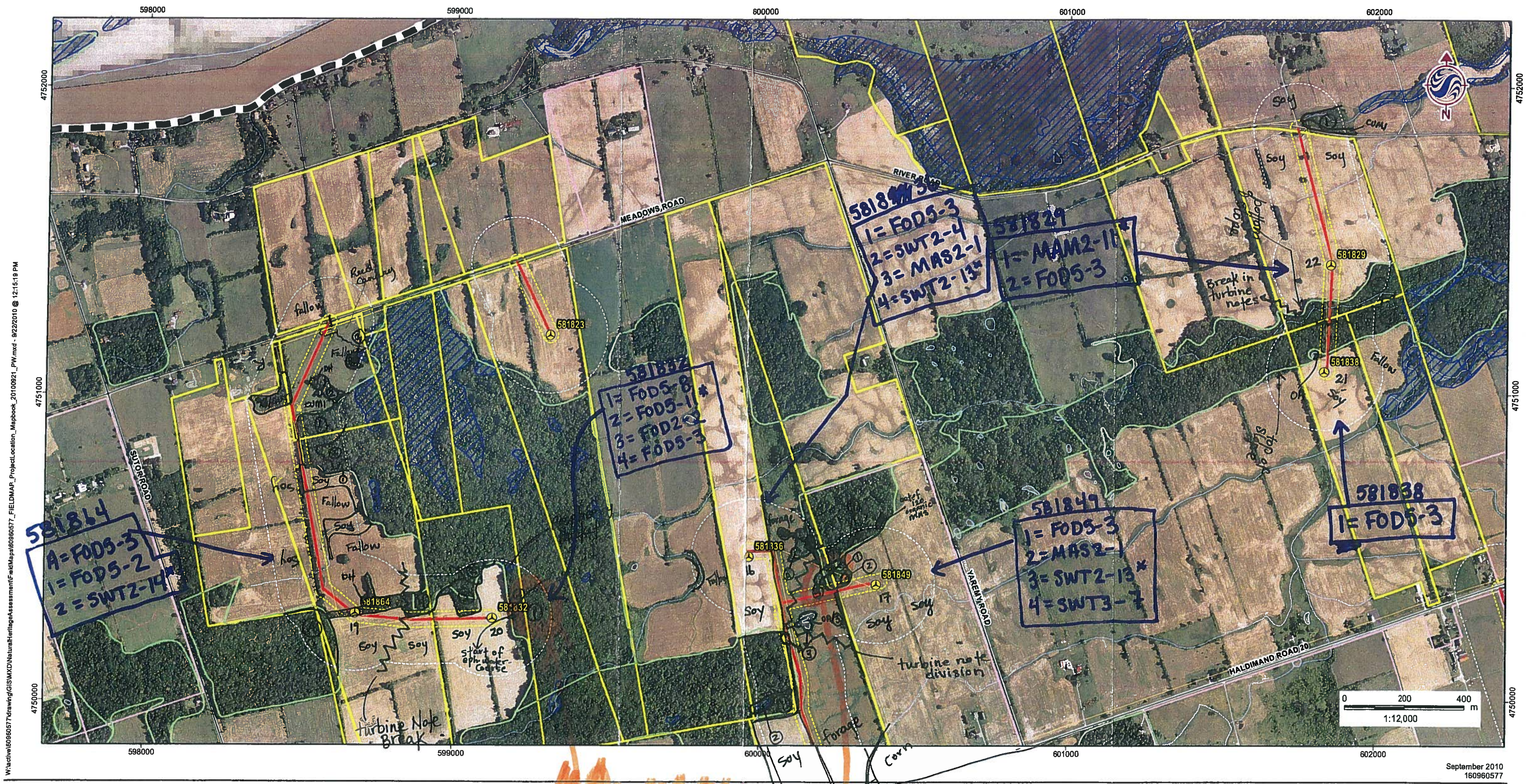
SITE: Turbine 19 + Access Rd	301067
POLYGON: Feature 31	
DATE:	
SURVEYOR(S):	

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
ULMAMER					
QUERUBR					
TILAMER					
ACESASA					
Shagbark					
bitternut					
OSTVIRG					
FAGGRAN					
PRUVIRI					
ROSPALU					
RHACATH					
Crataegus sp					

SPECIES CODE	LAYER 1	2	3	4	COLL.
[illegible]					
GEUMACU					
SOLCAES					
Sut. erecta					
Viola sp.					
GEUROSE					
ELYHYST					
Stellaria					
SANMARI					
GLYSTRI					

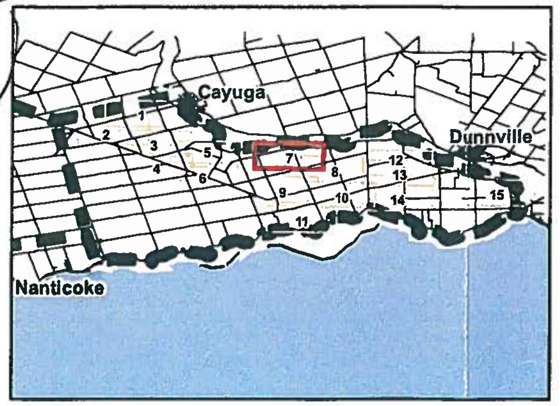


Legend

- Project Location
- Proposed Turbine Location
- Proposed Access Road
- Proposed Collector Line
- ROW Installation Zone
- 120m Investigation Zone
- Elexco Aquired Agreements
- Government Lands
- UDI Lands
- Road
- Railway
- Abandoned Railway
- Transmission Line (OBM)
- Deer Wintering Area
- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Watercourse (OBM)
- Waterbody

Area of Natural and Scientific Interest (ANSI)

- Life Science, Provincially Significant
- Earth Science, Provincially Significant
- Earth Science, Regionally Significant



Notes

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3. Image Source: © First Base Solutions, 2010 - Imagery Date: Spring 2006; **LIDAR IMAGERY SOURCE???**

1-2

Stantec

Client/Project

SAMSUNG C&T
GRAND RENEWABLE ENERGY PARK

Figure No.

FIELD MAP 7

Title

PROJECT LOCATION MAP

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

Wildlife Habitat Assessment

Feature 32
Turbine #5 + Access Rd
581823

Project Number 161010646

Project Name: Samsung

Date / Time: Sept. 22. 2010

Field Personnel: GAW

Weather Conditions:	Temp:	Wind:	Cloud:	PPT:	PPT in last 24 hrs:
	20°	1	100%	Showers	Rain

Reptile Hibernacula Features 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)

Does the site contain potential reptile hibernacula features? ☐ Yes ☒ No (if yes, describe details in Table 1).

Bat Hibernacula Features i.e. karst topography, abandoned mines or caves

Does the site contain potential bat hibernacula features? ☐ Yes ☒ No (if yes, describe details in Table 1).

Table 1: Potential bat/reptile hibernacula features identified on site

UTM	Feature type	Photo #	Description	Species observed using feature

Species Observations

List species and type of observation: (**TK** = track, **SC** = scat, **VO** = vocalization, **OB** = observed, **DP** = distinctive parts, **FE** = feeding evidence, **CA** = carcass, **FY** = eggs, nest, **HO** = house/den, **SI** = other sign)

Birds	Mammals	Herps	Butterflies / Dragonflies	Other
i.e. AMRO/VO NoFL AMRO GRCA RWBB	deer	NOLF SPPE GRTR		

Woodland Assessment- *complete 1 assessment for each woodland*

Woodlot # (indicate on map) : Only One

Approximate age of stand Mature

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☒ Yes ☐ No
If yes, approximate # present or % of stand <5%
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc,.) at rear of 120m setback

Are snags present? ☒ Yes ☐ No
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark. Very few, less than 20cm DBH. No loose bark

Trees with cavities present? ☒ No ☐ Rare ☐ Occasional ☐ Abundant
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)

Bat Mat Roost? No

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☒ No
If yes, UTM and describe tree type, height and position in tree, size of nest, species present

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☒ Yes ☐ No
If yes, describe One old road, some dumping.

Seeps/ springs present? ☐ Yes ☒ No If yes,

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? ☐ Yes ☒ No If yes,

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shrubs, logs at pond edge

→ Swamp thicket

Sept. 29. 2010

Woodland Assessment- *complete 1 assessment for each woodland*

Woodlot # (indicate on map) : Polygons 3+4

Approximate age of stand Mature

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☒ Yes ☐ No
If yes, approximate # present or % of stand <5%
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc..) throughout

Are snags present? ☒ Yes ☐ No
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark.
BAT MAT ROOST? No.

Trees with cavities present? ☐ No ☒ Rare ☐ Occasional ☐ Abundant
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☒ No
If yes, UTM and describe tree type, height and position in tree, size of nest, species present

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☒ Yes ☐ No
If yes, describe trail (ATV)

Seeps/ springs present? ☐ Yes ☒ No If yes,

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? ☒ Yes ☐ No If yes,

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shrub logs at pond edge
	in poly 4 Nice.	dry	10~15m	no	yes

Woodland Assessment- *complete 1 assessment for each woodland*

Woodlot # (indicate on map) : _____

Approximate age of stand _____

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☐ Yes ☐ No
If yes, approximate # present or % of stand _____
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc..) _____

Are snags present? ☐ Yes ☐ No
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark.

Trees with cavities present? ☐ No ☐ Rare ☐ Occasional ☐ Abundant
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☐ No
If yes, UTM and describe tree type, height and position in tree, size of nest, species present
_____

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☐ Yes ☐ No
If yes, describe _____

Seeps/ springs present? ☐ Yes ☐ No If yes,

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? ☐ Yes ☐ No If yes,

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shrubs logs at pond edge

Woodland Assessment- *complete 1 assessment for each woodland*

Woodlot # (indicate on map) : Polygons 1-2

Approximate age of stand Mature

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☒ Yes ☐ No
If yes, approximate # present or % of stand > 10%
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc..) throughout

Are snags present? ☒ Yes ☐ No
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark. Very few. Some w loose bark. 15-25cm DBH
BAT MAT ROOST: No

Trees with cavities present? ☐ No ☒ Rare ☐ Occasional ☐ Abundant
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☒ No
If yes, UTM and describe tree type, height and position in tree, size of nest, species present

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☒ Yes ☐ No
If yes, describe One trail

Seeps/ springs present? ☐ Yes ☒ No If yes,

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? ☒ Yes ☐ No If yes,

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shrubs, logs at pond edge
	few throughout	dry	10-15m	yes	yes

→ ephemeral stream in Poly 1

Stantec

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

Wildlife Habitat Assessment

Feature 32
Turbine 20 + Access Rd
581832

Project Number 161010646

Project Name: Samsung

Date / Time: Sept. 29, 2010

Field Personnel: GAW

Weather Conditions:	Temp:	Wind:	Cloud:	PPT:	PPT in last 24 hrs:
	20°	2-3	25%	0	RAIN

Reptile Hibernacula Features 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)

Does the site contain potential reptile hibernacula features? ☐ Yes ☒ No (if yes, describe details in Table 1).

Bat Hibernacula Features i.e. karst topography, abandoned mines or caves

Does the site contain potential bat hibernacula features? ☐ Yes ☒ No (if yes, describe details in Table 1).

Table 1: Potential bat/reptile hibernacula features identified on site

UTM	Feature type	Photo #	Description	Species observed using feature

Species Observations

List species and type of observation: (**TK** = track, **SC** = scat, **VO** = vocalization, **OB** = observed, **DP** = distinctive parts, **FE** = feeding evidence, **CA** = carcass, **FY** = eggs, nest, **HO** = house/den, **SI** = other sign)

Birds	Mammals	Herps	Butterflies / Dragonflies	Other
i.e. AMRO/VO AMCR BLJA SOSP AMRO BCCH	Deer Raccoon			

TURBINE DROPPED?

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 16101064b | POLYGON: (1)
SURVEYOR(S): GAW | DATE: Sept. 22. 2010 | UTME:
START: | END | UTMZ: | UTMN:

POLYGON DESCRIPTION

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

STAND DESCRIPTION:

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

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

STAND COMPOSITION: | BA:

SIZE CLASS ANALYSIS:	< 10	10 - 24	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)

COMMUNITYCLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE: Hedgerows + field Edges	CODE:
INCLUSION	CODE:
COMPLEX	CODE:

Notes:

ELC — PLANT SPECIES LIST

SITE: Turbine #5 + Access Road → 581823
POLYGON: Feature 32
DATE:
SURVEYOR(S):

LAYERS: 1 = CANOPY > 10m 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
Green foxtail					
velvet leaf					
ragweed					
TARAOFFI					
ASTNOVA					
SOLCANA					
SOLALTI					
DAUCARO					
red clover					
ASTLATE					
VITRIPA					
RHACATH					
lady-thumb					
lamb's quarters					
PLAMAJO					
barnyard grass					
AGRSTOL					
HYPPERF					
EUPPERF					
FRAVESC					
CHRLEUC					
alsike clover					
CORFO.RA					
ASCSYRI					
Rough avens					
EUTGRAM					
EQUARVE					

SPECIES CODE	LAYER 1	2	3	4	COLL.
BIDFRON					
Carex sp.					
TYPLATI					
VICCRAC					
willow-herb					
buffalo grass					
amaranth					
teasle					
marigold flower					
C. ev. primrose					
QUEALBA					

ELC
COMMUNITY DESCRIPTION & CLASSIFICATION

SITE:		POLYGON: (2)	
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
SITE	☐ BASIC BEDRK.	☐ VALLEY SLOPE	COVER	☐ FORB	☐ MARSH
☐ OPEN WATER	☐ CARB. BEDRK.	☐ TABLELAND	☐ OPEN	☐ LICHEN	☐ SWAMP
☐ SHALLOW WATER		■ ROLL. UPLAND	☐ SHRUB	☐ BRYOPHYTE	☐ FEN
■ SURFICIAL DEP.		☐ CLIFF	■ TREED	■ DECIDUOUS	☐ BOG
☐ BEDROCK		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			■ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	ACESASA >> FRAPENN > TILAMER = Quercus
2	SUB-CANOPY	3	4	〃 〃
3	UNDERSTOREY	4-5	4	〃 〃 CORFORA, PRUVIVI
4	GRD. LAYER	6-7	4	EUOBOV, Viola sp, MAICANA

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

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

STAND COMPOSITION:							BA:	
SIZE CLASS ANALYSIS:	A	< 10	A	10 - 24	A	25 - 50	✗	> 50
STANDING SNAGS:	O	< 10	R	10 - 24	R	25 - 50	/	> 50
DEADFALL / LOGS:	A	< 10	O	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: Forest	CODE: FO
COMMUNITY SERIES: Deciduous Forest	CODE: FOD
ECOSITE: F-M Sugar Maple Dec. Forest	CODE: FOD6
VEGETATION TYPE: Fresh-moist Sugar Maple-low. ash Dec. Forest	CODE: FOD6-1
☐ INCLUSION	CODE:
☐ COMPLEX	CODE:

Notes:

ELC
PLANT SPECIES LIST

SITE:	
POLYGON:	
DATE:	
SURVEYOR(S):	

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
ACESASA	D	D	A	A	
ACERUBR		O	O		
Shagbark	O	O	O		
ULMAMER		R			
FRAPENN	A	A	A	A	
QUERUBR	O	O	O		
TILAMER	O	O			
blue beech			O		
OSTVIRG		O	O		
FAGGRAN		R			
PRUSERO	R				
QUEMACR	R				
CORFORA			A		
PRUVIVI			A		
RIBCYNO				O	
PARINSE				O	
Crataegus sp			O		
VITRIPA				O	
buffonbush			R		
ROSBLAN			O		
highbush cran			R		
witchhazel			O		
d. arrowwood				O	
blkberry			O		
nanny berry			R		
LONOIOI				O	
Rose			R		X

SPECIES CODE	LAYER 1	2	3	4	COLL.
EUOBOV				O	
GEUCANA				O	
Viola sp				A	
GALCIRC				O	X
FRAVESC				O	
IMPCAPE				O	
MAICANA				O	
false sol. seal				O	
AGRGRYP				O	
Carex sp				O	
GERMACU				O	
DRYCART				O	
GLYSTRI				O	
OXASTRI				O	
RUBIDAE				O	

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE:	POLYGON: (2)	
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
SITE	☐ BASIC BEDRK.	☐ VALLEY SLOPE	**COVER**	☐ FORB	☐ MARSH
☐ OPEN WATER	☐ CARB. BEDRK.	☐ TABLELAND	☐ OPEN	☐ LICHEN	☐ SWAMP
☐ SHALLOW WATER		☒ ROLL. UPLAND	☐ SHRUB	☐ BRYOPHYTE	☐ FEN
☒ SURFICIAL DEP.		☐ CLIFF	☒ TREED	☒ DECIDUOUS	☐ BOG
☐ BEDROCK		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☒ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	ACESASA > FAGGRAN = QUERUBR
2	SUB-CANOPY	3	4	" "
3	UNDERSTOREY	4-5	4	FAGGRAN > ACESASA
4	GRD. LAYER	6-7	4	Seedlings, SOLCAES

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

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

STAND COMPOSITION: BA:

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

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

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

SOIL ANALYSIS:

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

COMMUNITY CLASSIFICATION:

		CODE:
COMMUNITY CLASS:	Forest	FO
COMMUNITY SERIES:	Deciduous Forest	FOD
ECOSITE:	D-M Sugar Maple Deciduous Forest	FOD5
VEGETATION TYPE:	Dry-fresh Sugar Maple-Oak-Beech Dec. Forest	FOD5-1d*
INCLUSION		CODE:
COMPLEX		CODE:

Notes: ~~0599232~~ 4259391

ELC — PLANT SPECIES LIST

SITE:
POLYGON:
DATE:
SURVEYOR(S):

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
QUERUBR	A	O			
OSTVIRG		O	O		
Shagbark	O	O	O		
ACESASA	A	A	A	A	
FRAPENN	O	O	O	O	
FAGGRAN	A	A	A	A	
blue beech		O	O		
bitternut	O	O	O	O	
PRUSERO	R	O			
TILAMER	O	O	O		
POPTREM	R				
Witchhazel			O		
RUBIDAE			O		
RIBCYNO			O		
PRUVIVI			O		
Amelanch.			O		

SPECIES CODE	LAYER 1	2	3	4	COLL.	
LIGVULG				O	X	
Mitreword				R	X	Photo
GLYSTRI				O		
SOLCAES				O		
sh. lobe hepat				O		
l.l. aster				O		
Carex sp.				O		
EVOOBOV				O		
sweet cecily				O		
CIRLUT				O		
SANCANA A				O	X	
SANMARI B				O	X	
SOLFLEX				O		
grapefern				O	X	
Viola sp.				O		
blue cohosh				O		
early m.rue				O		
CRYCANA				O	X	
DRYCART				O		
Xmas fern				O		
licorice				O		
beech drops				O		

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 161010646		POLYGON: 1	
SURVEYOR(S): GAW	DATE: Sept. 29 2010	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
SITE	☐ BASIC BEDRK.	☐ VALLEY SLOPE	COVER	☐ FORB	☐ MARSH
☐ OPEN WATER	☐ CARB. BEDRK.	☐ TABLELAND	☐ OPEN	☐ LICHEN	☐ SWAMP
☐ SHALLOW WATER		☑ ROLL. UPLAND	☐ SHRUB	☐ BRYOPHYTE	☐ FEN
☑ SURFICIAL DEP.		☐ CLIFF	☑ TREED	☑ DECIDUOUS	☐ BOG
☐ BEDROCK		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☑ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	ACESASA >> FRAAMER > FAGGRAN
2	SUB-CANOPY	3	4	" " "
3	UNDERSTOREY	4.5	4	" > FAGGRAN > PRUSERO
4	GRD. LAYER	6-7	4	Saplings, l.l.aster, SOLCAES, grapefern, SOLFLEX

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

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

STAND COMPOSITION:			BA:
SIZE CLASS ANALYSIS:	A < 10	A 10 - 24	A 25 - 50 / > 50
STANDING SNAGS:	O < 10	O 10 - 24	O 25 - 50 / > 50
DEADFALL / LOGS:	A < 10	A 10 - 24	O 25 - 50 / > 50

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

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

SOIL ANALYSIS:

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

COMMUNITY CLASSIFICATION:

		CODE:
COMMUNITY CLASS: Forest		CODE: FO
COMMUNITY SERIES: Deciduous Forest		CODE: FOD
ECOSITE: D-F Sugar Maple Dec. Forest		CODE: FOD5
VEGETATION TYPE: D-F Sugar Maple - Ash Dec. Forest		CODE: FOD5-8
INCLUSION		CODE:
COMPLEX		CODE:

Notes:

ELC — PLANT SPECIES LIST

SITE: Turbine 20 + Access Rd	
POLYGON: 581832	
DATE: Feature 32	
SURVEYOR(S):	

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
QUERUBR	O	O			
OSTVIRG		O			
Shagbark	O	O			
ACESASA	D	D	A	O	
FRAAMER	A	A	O	O	
FAGGRAN	O	A	A	O	
blue beech			O		
TILAMER	O	O	O		
bittternut		O	O		
POPTREM	O				
PRUSERO	R				
ACENIGR	O				
beak. hazel			R		
RUBIDAE			O		
Amelanchier sp			O		
PRUVIJ			O		
RIBCYNO			O		
VIBACER			O		X
LONCANA				R	X
OXASTRI				R	
wild licorice				R	
GEUCANA				O	
X-mas fern				R	
TRIEREC				R	
beech drops				O	

SPECIES CODE	LAYER 1	2	3	4	COLL.	
SOLCAES				A		
sh. lobe hepatica				O		
l.l.aster				A		
Carex sp.				O		
EUOOBOV				O		
Sweet cecily				O		
CIRLEUT				O		
SANMARI				O	X	
false sol. seal				O		
SOLFLEX				A		
Virg waterleaf				O		
grapefern				O	X	Photo
wht. baneberry				R		
branch sol. seal				O	X	
Viola sp.				O		
SANCANA				O	X	
GERROBE				O		
rattlesnake fern				O	X	Photo
blue cohosh				O		
early rue.				O		
LARCANA				R	X	Photos
GERMACU				O		
ELYHYST				O		
ARANUDI				R		
RHURA·NE				O		
AGRGRYP				R		
DRYCART				R		

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 161010646		POLYGON: (3)	
SURVEYOR(S): GAW	DATE: Sept. 22. 2010	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
SITE	☐ BASIC BEDRK.	☐ VALLEY SLOPE	COVER	☐ FORB	☐ MARSH
☐ OPEN WATER	☐ CARB. BEDRK.	☐ TABLELAND	☐ OPEN	☐ LICHEN	■ SWAMP
☐ SHALLOW WATER		■ ROLL. UPLAND	■ SHRUB	☐ BRYOPHYTE	☐ FEN
■ SURFICIAL DEP.		☐ CLIFF	☐ TREED	■ DECIDUOUS	☐ BOG
☐ BEDROCK		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	3	1	FRAPENN > ULMAMER
2	SUB-CANOPY	4	4	Cornus >> SPIALBA > ULNINCA
3	UNDERSTOREY	5	4	IMPCAPE = Carex sp
4	GRD. LAYER	6-7	4	nettle, ONOSENS, tearthumb

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

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

STAND COMPOSITION:						BA:	
SIZE CLASS ANALYSIS:	D	< 10	O	10 - 24	/	25 - 50	/ > 50
STANDING SNAGS:	O	< 10	/	10 - 24	/	25 - 50	/ > 50
DEADFALL / LOGS:	O	< 10	/	10 - 24	/	25 - 50	/ > 50

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

COMM. AGE:		PIONEER	X	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: Swamp	CODE: SW
COMMUNITY SERIES: Thicket Swamp	CODE: SWT
ECOSITE: Mineral Thicket Swamp	CODE: SWT2
VEGETATION TYPE: Red Osier Dogwood Min. Thicket Swamp	CODE: SWT2-5
INCLUSION	CODE:
COMPLEX	CODE:

Notes:

ELC — PLANT SPECIES LIST

	SITE: Turbine 5 + Access Road (581823)
	POLYGON: Feature 32
	DATE:
	SURVEYOR(S):

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
VLNINCA		O			
SPIALBA		O	O		
CORFO·RA		A	A		
CORSTOL		A	A		
buttonbush		O			
FRAPENN	R				
ULMAMER	R				

SPECIES CODE	LAYER 1	2	3	4	COLL.
IMPCAPE				A	
Carex sp				A	
blue vervain				R	
ONOSENS				O	
Polygonum sp				O	
SOLDULC				O	
BIDFRON				O	
giant ragweed			O		
EUPPERF				O	
P. loosestrife			O		
arrow tearthumb				O	
SIUSUAV				O	
LEMMINO				O	
LYCUNIF				O	
St. nettle				O	
willowherb				O	
Sp. H₂O Hemlock				O	

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE:		POLYGON: (4)	
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	2	4	ACESASA > QUERUBR > Shagbark
2	SUB-CANOPY	3	4	" > "
3	UNDERSTOREY	4-5	4	PRUVIVI, ACESASA
4	GRD. LAYER	6-7	4	Seedlings, EUOOBOV, SOLCAES, SOLFLEX, l.l.aster

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

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

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

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

COMM. AGE:		PIONEER		YOUNG		MID-AGE	X	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: Forest		CODE: FO
COMMUNITY SERIES: Deciduous Forest		CODE: FOD
ECOSITE: Dry-fresh Sugar Maple Dec. Forest		CODE: FOD5
VEGETATION TYPE: Dry-fresh Sugar Maple-oak Deciduous Forest		CODE: FOD5-3
INCLUSION		CODE:
COMPLEX		CODE:

Notes:

ELC — PLANT SPECIES LIST

SITE:
POLYGON:
DATE:
SURVEYOR(S):

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
PINSTRO	R				
ULMAMER			O		
ACESASA	A	A	A	A	
QUERUBR	A	O	O	O	
TILAMER	O	O			
FRAPENN	O	O	O	O	
Shagbark	A	O	O		
PRUVIVI			O		
witchhazel			O		
RIBCYNO			O		
d. arrowwood			O		
RHACATH			O		
VITRIPA			R		

SPECIES CODE	LAYER 1	2	3	4	COLL.
EUOOBOV				A	
Sng Karoot				O	
Sweet cecily				O	
SOLCAES				A	
SOLFLEX				A	
STRAMPL				O	x
Viola sp.				O	
CIRLEUT				O	
false s. seal				O	
GERROBE				O	
l.l.aster				A	
wht. baneberry				O	
hog peanut				O	
GLYSTR1				O	
meadow rue				O	
CRYCANA				R	x
st. nettle				O	

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 161010646		POLYGON: (3)	
SURVEYOR(S): GAW	DATE: Sept. 29, 2010	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
SITE	☐ BASIC BEDRK.	☐ VALLEY SLOPE	COVER	☐ FORB	☐ MARSH
☐ OPEN WATER	☐ CARB. BEDRK.	☐ TABLELAND	☐ OPEN	☐ LICHEN	☐ SWAMP
☐ SHALLOW WATER		☒ ROLL. UPLAND	☐ SHRUB	☐ BRYOPHYTE	☐ FEN
☒ SURFICIAL DEP.		☐ CLIFF	☒ TREED	☒ DECIDUOUS	☐ BOG
☐ BEDROCK		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☒ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	QUERUBR ≥ Shagbark
2	SUB-CANOPY	3	4	Shagbark
3	UNDERSTOREY	4-5	4	Amelanchier,
4	GRD. LAYER	6-7	4	l.l. aster, POTSIMP, FRAVESC

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

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

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

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

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

SOIL ANALYSIS:

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

COMMUNITYCLASSIFICATION:

COMMUNITY CLASS: Forest		CODE: FO
COMMUNITY SERIES: Deciduous Forest		CODE: FOD
ECOSITE: D-F Oak-Maple-Hickory Dec. Forest		CODE: FOD2
VEGETATION TYPE: Dry-fresh Oak-Hickory Deciduous Forest		CODE: FOD2-2
INCLUSION		CODE:
COMPLEX		CODE:

Notes:

ELC — PLANT SPECIES LIST

SITE: Turbine 20 + Access Rd	
POLYGON: 581832	
DATE: Feature 32	
SURVEYOR(S):	

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
Shagbark	A	A	O		
bitternut	O	O	O	O	
PINSTRO	R				
TILAMER	O	O	O	O	
QUERUBR	A	O	O	O	
QUEALBA	O	O			
ACESASA	O	O	O	O	
FRAPENN	O	O	O	O	
ULMAMER		O	O		
PRUSERO	R				
QUEMACR	R	O			
witchhazel			O		
ROSMULT			O		
blue beech			O		
RUBALLE			O		
Crataegus			O		
d. arrowwood			O		
Amelanchier sp.	O	O			
PRUVIU			O		
CORFO.RA			O		
RUBIDAE			O		
RIBCYNO			O		

SPECIES CODE	LAYER 1	2	3	4	COLL.
l.l. aster				A	
POTSIMP				O	
Galium sp.				O	
FRAVESC				O	
false s. seal				O	
GERMACH				O	
Viola sp.				O	
wht. baneberry				O	
AGRGRYP				O	
SOLCAES				O	
OXASTRI				O	

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 161010646		POLYGON: (1)	
SURVEYOR(S): GAW	DATE: Sept. 29, 2010	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
SITE	☐ BASIC BEDRK.	☐ VALLEY SLOPE	COVER	☐ FORB	☐ MARSH
☐ OPEN WATER	☐ CARB. BEDRK.	☐ TABLELAND	☐ OPEN	☐ LICHEN	☐ SWAMP
☐ SHALLOW WATER		☒ ROLL. UPLAND	☐ SHRUB	☐ BRYOPHYTE	☐ FEN
☒ SURFICIAL DEP.		☐ CLIFF	☒ TREED	☒ DECIDUOUS	☐ BOG
☐ BEDROCK		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☒ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	ACESASA > FAGGRAN ≥ QUERUBR
2	SUB-CANOPY	3	4	" "
3	UNDERSTOREY	4-5	4	FAGGRAN > ACESASA
4	GRD. LAYER	6-7	4	Seedlings, arrowwood

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

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

STAND COMPOSITION: BA:

SIZE CLASS ANALYSIS:	A	< 10	A	10 - 24	O	25 - 50	/	> 50
STANDING SNAGS:	O	< 10	R	10 - 24	R	25 - 50	/	> 50
DEADFALL / LOGS:	A	< 10	O	10 - 24	R	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: Forest	CODE: FO
COMMUNITY SERIES: Deciduous Forest	CODE: FOD
ECOSITE: D-F Sugar Maple Beech Dec. Forest	CODE: FOD5
VEGETATION TYPE: D-F Sugar Maple - Beech Decid. Forest	CODE: FOD5-2
INCLUSION	CODE:
COMPLEX	CODE:

Notes:

ELC — PLANT SPECIES LIST

581864

SITE: Turbine 19	
POLYGON: Feature 32	
DATE:	
SURVEYOR(S):	

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
ACESASA	D	A	A	A	
FAGGRAN	A	A	A	A	
OSTVIRG		O	O		
Shagbark	O				
QUERUBR	A				
FRAPENN	O	O	O	A	
PINSTRO	R				
bitternut					
Crataegus sp			O		
d. arrowood				A	
PRUVIR			O		
witchhazel			O		
LONDIOI				O	
beak hazel			O		
RUBALLE			O		
RIBCYNO			O		
RHACATH			O		

SPECIES CODE	LAYER 1	2	3	4	COLL.
CIRLEUT				6	
false s. seal				O	
licorice				O	
MAICANA				O	
wht. baneberry				O	
EUOBOV				O	
GLYSTRI				O	
l. l. aster				O	
Snakeroot				O	
sweet cicely				O	
bead drops				O	
Viola sp.				O	
Carex sp.				O	
ARANUDI				O	
DRYCART				O	
Partridgeberry				R	
PREALBA				O	
blunt hepatica				O	
hog peanut				O	
POTSIMP				O	
AGRGRYP				O	
VERCEF1				O	
PARINSE				O	
Ranunculus sp				O	

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 161010646		POLYGON: (2)	
SURVEYOR(S): GAW	DATE: Sept. 29, 2010	UTME:	
START:	END	UTMZ:	UTMN:

POLYGON DESCRIPTION

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

SITE

☐ OPEN WATER
☐ SHALLOW WATER
■ SURFICIAL DEP.
☐ BEDROCK

COVER

☐ OPEN
■ SHRUB
☐ TREED

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	2	Fraxinus > ACERUBR > ULMAMER
2	SUB-CANOPY	3	4	ILEVERT > buttonbush
3	UNDERSTOREY	4	4	" "
4	GRD. LAYER	5-7	4	ferns, Bidens, Sedges

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

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

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

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

COMM. AGE:		PIONEER		YOUNG	X	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: Swamp	CODE: SW
COMMUNITY SERIES: Thicket Swamp	CODE: SWT
ECOSITE: Mineral Thicket Swamp	CODE: SWT2
VEGETATION TYPE: Winterberry - buttonbush Mineral Thicket Swamp	CODE: SWT2-14*
INCLUSION	CODE:
COMPLEX	CODE:

Notes: 12 GPS Points

ELC — PLANT SPECIES LIST

581864

SITE:	Turbine 19 + Access Rd
POLYGON:	Feature 32
DATE:	
SURVEYOR(S):	

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
FRAPENN	O				
ACERUBR	O				
FRANIGR	O				
ULMAMER	O				
ULNINCA		O			
buttonbush		A	A		
ILEVERT		A	A		
highbush blueberry		O	O		x
ROSPALU		O	O		

SPECIES CODE	LAYER 1	2	3	4	COLL.
Smilax Hispida				R	x
OSMREGA				O	
dewberry				O	
BIDFRON				A	
ONOSENS				A	
LYCUNIF				O	
st. nettle				A	
Pyrola sp.				O	
Goldthread				O	
IMPCAPE				O	
CARINTU				O	

Stantec

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Wildlife Habitat Assessment

Feature 32
Turbine 19 + Access Rd
581864

Project Number 161010646

Project Name: Samsung

Date / Time: Sept. 29. 2010

Field Personnel: GAW

Weather Conditions:	Temp:	Wind:	Cloud:	PPT:	PPT in last 24 hrs:
	20°	2-3	25%	Ø	RAIN

Reptile Hibernacula Features 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)

Does the site contain potential reptile hibernacula features? ☐ Yes ☒ No (if yes, describe details in Table 1).

Bat Hibernacula Features i.e. karst topography, abandoned mines or caves

Does the site contain potential bat hibernacula features? ☐ Yes ☒ No (if yes, describe details in Table 1).

Table 1: Potential bat/reptile hibernacula features identified on site

UTM	Feature type	Photo #	Description	Species observed using feature

Species Observations

List species and type of observation: (**TK** = track, **SC** = scat, **VO** = vocalization, **OB** = observed, **DP** = distinctive parts, **FE** = feeding evidence, **CA** = carcass, **FY** = eggs, nest, **HO** = house/den, **SI** = other sign)

Birds	Mammals	Herps	Butterflies / Dragonflies	Other
i.e. AMRO/VO BCCH WITU AMRO	Deer Raccoon Gr. Sq. Cat.	SPPE CHFR	Cabbage wht Sulphur yellow	

Woodland Assessment- *complete 1 assessment for each woodland*

Woodlot # (indicate on map) : Only One

Approximate age of stand Mature

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☒ Yes ☐ No
If yes, approximate # present or % of stand < 10%
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc..) mostly @ edges

Are snags present? ☒ Yes ☐ No
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark. Very few, mainly beech 15-25cm DBH, some w loose bark
BAT MAT ROOST? No

Trees with cavities present? ☐ No ☒ Rare ☐ Occasional ☐ Abundant
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)
	4m – 20m	15-25cm	2-10m	small

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☒ No
If yes, UTM and describe tree type, height and position in tree, size of nest, species present

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☒ Yes ☐ No
If yes, describe light dumping @ edge

Seeps/ springs present? ☐ Yes ☒ No If yes,

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? ☒ Yes ☐ No If yes,

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shrubs, logs at pond edge
	SWT	~10cm	entire SWT	yes	yes

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 161010646		POLYGON: (1)	
SURVEYOR(S): GAW	DATE: Sept. 24. 2010	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
SITE		☑ ROLL UPLAND	COVER	☐ BRYOPHYTE	☐ FEN
☐ OPEN WATER		☐ CLIFF		☑ DECIDUOUS	☐ BOG
☐ SHALLOW WATER		☐ TALUS	☐ OPEN	☐ CONIFEROUS	☐ BARREN
☑ SURFICIAL DEP.		☐ CREVICE / CAVE	☐ SHRUB	☐ MIXED	☐ MEADOW
☐ BEDROCK		☐ ALVAR	☑ TREED		☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☑ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	1-2	4	ACESASA > QUERUBR >> FAGGRAN
2	SUB-CANOPY	3	4	" >> FAGGRAN
3	UNDERSTOREY	4-5	4	" > bluebeech
4	GRD. LAYER	6-7	4	Saplings, l.l. aster, SOLCAES

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

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

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

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

COMM. AGE :		PIONEER		YOUNG		MID-AGE	X	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: Forest	CODE: FO
COMMUNITY SERIES: Deciduous Forest	CODE: FOD
ECOSITE: D-F Sugar Maple Dec. Forest	CODE: FOD5
VEGETATION TYPE: Dry-fresh Sugar Maple - Oak Dec. Forest	CODE: FOD5-3
INCLUSION	CODE:
COMPLEX	CODE:

Notes:

581836

ELC — PLANT SPECIES LIST

SITE: Turbine 16 + Access Road	
POLYGON: Feature 32	
DATE:	
SURVEYOR(S):	

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
PINSTRO	R				
ACESASA	D	A	A	A	
QUERUBR	A	A	O	O	
ACERUBR	O	O			
TILAMER	O	O	O		
OSTVIRG		O	O		
FAGGRAN	O	A	A		
PRUSERO			O		
blue beech		D	O		
FRAPENN	R	O	O	O	
QUEMACR	O				
Shagbark	R/O	R/O			
LIGVULG			R		
blackberry			O		
d. arrowwood				O	
LONHIRS				O	X
RUBIDAE			O		
CORFORA			O		
RIBCYNO			O		
SAMCANA			O		
LONDIOI				R	
RHACATH		O	O		
Crataegus		O			
ASTLATE				O	
SOLCAES				A	

SPECIES CODE	LAYER 1	2	3	4	COLL.
low, opp. trailing				R	X
dryCART				O	
barren straw				O	
EVOOBOV				O	
GERMACU				O	
GEUAPPE				O	
GEUCANA				O	
IMPCAPE				O	
ONOSENS				O	
st. nettle				O	
Viola sp				O	
RHURA'NE				O	
GLYSTR.1				O	
FRAVESC				O	
PARINSE				O	
Gallium sp				O	
AGRGRYP				O	
RUBPUBE				O	
l.l. aster				O	
OXASTRI				O	
herb carrion fl.				R	
CIRLEUT				O	
wht. baneberry				R	
hog peanut				O	
PREALBA				O	
beech drops				O	
hairy S. seal				O	

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE:		POLYGON: (2)	
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
SITE	☐ BASIC BEDRK.	☐ VALLEY SLOPE	**COVER**	☐ FORB	☐ MARSH
☐ OPEN WATER	☐ CARB. BEDRK.	☐ TABLELAND	☐ OPEN	☐ LICHEN	☐ SWAMP
☐ SHALLOW WATER		☒ ROLL. UPLAND	☒ SHRUB	☐ BRYOPHYTE	☐ FEN
☒ SURFICIAL DEP.		☐ CLIFF	☐ TREED	☒ DECIDUOUS	☐ BOG
☐ BEDROCK		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☒ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	3	4	buttonbush >> Rosa
2	SUB-CANOPY	4	4	〃 〃
3	UNDERSTOREY	5	4	Rosa > BIDFRO
4	GRD. LAYER	6-7	4	ONOSENS GLYSTRI, BIDFRO

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

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

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

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

COMM. AGE :		PIONEER		YOUNG	X	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: Swamp	CODE: SW
COMMUNITY SERIES: Thicket Swamp	CODE: SWT
ECOSITE: Mineral Thicket Swamp	CODE: SWT2
VEGETATION TYPE: Buttonbush Mineral Thicket Swamp	CODE: SWT2-4
INCLUSION	CODE:
COMPLEX	CODE:

Notes:

ELC — PLANT SPECIES LIST

SITE:	
POLYGON:	
DATE:	
SURVEYOR(S):	

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
buttonbush	A	A			
BIDFRON			A	A	
ONOSENS				A	
GLYSTRI				A	
IMPCAPE				A	
SPIALBA		O	O		
ROSPALU	A	A	O		X
St. nettle			O	O	
SOLDULC			O	O	
Lonicera sp.		R	O		
turtle head				O	
CARLUPI				O	
Highbush blueberry	R				X
Salix	R				
LEEORYZ			O	O	
LYCUNIF				O	
SIUSUAV				O	
Arrow fearthumb				O	
CARINTU			O		X
ILEVERT		O	O		

SPECIES CODE	LAYER 1	2	3	4	COLL.

ELC COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 161010646 | POLYGON: (3)

SURVEYOR(S): | DATE: Sept. 24. 2010 | UTME:

START: | END | UTMZ: | UTMN:

POLYGON DESCRIPTION

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

SITE

☐ OPEN WATER
☐ SHALLOW WATER
☒ SURFICIAL DEP.
☐ BEDROCK

COVER

☒ OPEN
☐ SHRUB
☐ TREED

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	4	4	TYPLATI > Woolgrass
2	SUB-CANOPY	5	4	Woolgrass = Sedges
3	UNDERSTOREY	6	4	Sedges = grasses
4	GRD. LAYER	7	4	LEMMINO

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

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

STAND COMPOSITION: | BA:

SIZE CLASS ANALYSIS:	☐ < 10	☐ 10 - 24	☐ 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: Marsh	CODE:	MA
COMMUNITY SERIES: Shallow Marsh	CODE:	MAS
ECOSITE: Mineral Shallow Marsh	CODE:	MAS2
VEGETATION TYPE: Cattail Mineral Shallow Marsh	CODE:	MAS2-1
☐ INCLUSION	CODE:	
☐ COMPLEX	CODE:	

Notes:

ELC PLANT SPECIES LIST

SITE: Turbine 16 + Access Road 581836

POLYGON: Feature 32

DATE:

SURVEYOR(S):

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
TYPLATI	A	O			
Woolgrass	A	A	O		
LEMMINO				O	
EQUARVE				O	
BIDFRON			A		
IRINERS			O		
Carex sp			A		
IMPCAP=			A		
Stinging Nettle			O		
GLYSTRI			O		
LEEORYZ			O		
SAGLAT2			O		

SPECIES CODE	LAYER 1	2	3	4	COLL.

Stantec	Stantec Consulting Ltd. 70-1 Southgate Drive Guelph, Ontario, Canada N1G 4P5 Tel: (519) 836-6050 Fax: (519) 836-2493	**Wildlife Habitat Assessment** Feature 32 Turbine 16 + Access Rd 581836

Project Number	161010646	Project Name:	Samsung
Date / Time:	Sept. 24. 2010	Field Personnel:	GAW

Weather Conditions:	Temp:	Wind:	Cloud:	PPT:	PPT in last 24 hrs:
	29°	5	75%	Ø	Ø

Reptile Hibernacula Features 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)

Does the site contain potential reptile hibernacula features? ☐ Yes ☒ No (if yes, describe details in Table 1).

Bat Hibernacula Features i.e. karst topography, abandoned mines or caves

Does the site contain potential bat hibernacula features? ☐ Yes ☒ No (if yes, describe details in Table 1).

Table 1: Potential bat/reptile hibernacula features identified on site

UTM	Feature type	Photo #	Description	Species observed using feature

Species Observations

List species and type of observation: (**TK** = track, **SC** = scat, **VO** = vocalization, **OB** = observed, **DP** = distinctive parts, **FE** = feeding evidence, **CA** = carcass, **FY** = eggs, nest, **HO** = house/den, **SI** = other sign)

Birds	Mammals	Herps	Butterflies / Dragonflies	Other
i.e. AMRO/VO	deer		monarch cab. wht sulph. yellow	

Woodland Assessment- *complete 1 assessment for each woodland*

Woodlot # (indicate on map) : Only One

Approximate age of stand Mature

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☒ Yes ☐ No
If yes, approximate # present or % of stand <5%
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc..) at edges

Are snags present? ☒ Yes ☐ No
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark. Few, 10-20m, DBH 20-25cm, some w loose bark

Trees with cavities present? ☒ No ☐ Rare ☐ Occasional ☐ Abundant
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)

Bat Mat Roost? No

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☒ No
If yes, UTM and describe tree type, height and position in tree, size of nest, species present

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☒ Yes ☐ No
If yes, describe old roads, small dump (old)

Seeps/ springs present? ☐ Yes ☒ No If yes,

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? ☒ Yes ☐ No If yes,

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shrubs, logs at pond edge
	mostly in SWT within woods	mud	20 x 80 m	yes	yes

W:\active\60960577\drawing\GIS\MXD\NaturalHeritageAssessment\FieldMaps\60960577_FIELDMAP_ProjectLocation_Mapbook_20100921_PW.mxd - 9/22/2010 @ 12:15:19 PM

September 2010
160960577

Legend

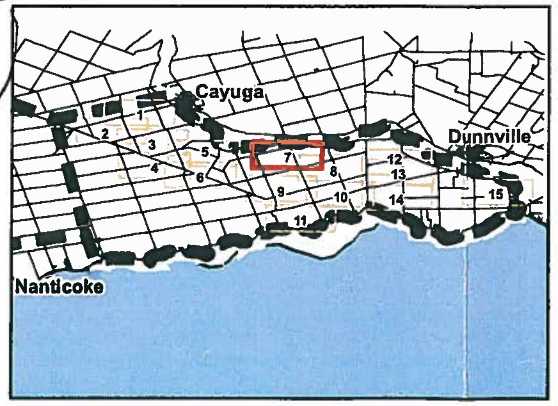
- Project Location
- Proposed Turbine Location
- Proposed Access Road
- Proposed Collector Line
- ROW Installation Zone
- 120m Investigation Zone
- Elexco Aquired Agreements
- Government Lands
- UDI Lands
- Road
- Railway
- Abandoned Railway
- Transmission Line (OBM)
- Deer Wintering Area
- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Watercourse (OBM)
- Waterbody

Area of Natural and Scientific Interest (ANSI)

- Life Science, Provincially Significant
- Earth Science, Provincially Significant
- Earth Science, Regionally Significant

CORN

Original: Don't Throw out



Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Data Sources: Ontario Ministry of Natural Resources © Queens Printer Ontario, 2009; © GREP, 2010; © Samsung, 2010.
3. Image Source: © First Base Solutions, 2010 - Imagery Date: Spring 2006; **LIDAR IMAGERY SOURCE???**

Client/Project

SAMSUNG C&T
GRAND RENEWABLE ENERGY PARK

Figure No.

FIELD MAP 7

Title

PROJECT LOCATION MAP

Stantec

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 161010646		POLYGON: (4)		
SURVEYOR(S): GAW	DATE: Sept. 24. 2010		UTME:	
START:	END		UTMZ:	UTMN:

POLYGON DESCRIPTION

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

SITE

☐ OPEN WATER
☐ SHALLOW WATER
☒ SURFICIAL DEP.
☐ BEDROCK

COVER

☐ OPEN
☒ SHRUB
☐ TREED

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	3	4	Salix > CORNUS >> buttonbush
2	SUB-CANOPY	4	4	ROSA, ILEX
3	UNDERSTOREY	5	4	" , " > IMPCAPE
4	GRD. LAYER	6-7	4	IMPCAPE, SOLRUGO, EUTGRAM

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

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

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

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

COMM. AGE :		PIONEER	X	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: Swamp	CODE: SW
COMMUNITY SERIES: Thicket Swamp	CODE: SWT
ECOSITE: Mineral Thicket Swamp	CODE: SWT2
VEGETATION TYPE: Willow - dogwood Mineral Thicket Swamp	CODE: SWT2-13*
INCLUSION	CODE:
COMPLEX	CODE:

Notes:

ELC — PLANT SPECIES LIST

581836

SITE: TURBINE 16 + Access Rd	
POLYGON: Feature 33	
DATE:	
SURVEYOR(S):	

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
QUEALBA	\				Edge
PINSTRO		\			Edge
QUERUBR			\		"
ACESASA				\	"
QUEMACR				\	"
Salix sp	D	A	A		
Norway Spruce	R				
CORFORA	A	A	A		
CORSTOL	A	A	A		
buttonbush	O	O	O		
ULMAMER	R	O			
ILEVERT		O			
ROSPALU		A	O		X
SPIALBA		A	A		
Mt-Ash sp				/	edge
Meadowsweet			/		"
Carex sp		/			"
RHACATH	/				"

SPECIES CODE	LAYER 1	2	3	4	COLL.
Solidago bicolor				/	X /
SOLCAES					Edge
L. aster					"
POTSIMP		/			
MAICANA	/				
SOLCANA				O	
SOLALTI				O	
ASTNOVA				O	
ASTLATE				O	
SALRUGO				A	
EUTGRAM				A	
SCIATRO				O	
TYPANGU				O	
urticaceae				O	
RIDFRO				O	
GNAOSENS				O	
Carex sp				O	
LYCUNIF				O	
aff. nettle					

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

Wildlife Habitat Assessment

Feature 33
Turbine 17 + Access Rd
581849

Project Number 161010646

Project Name: Samsung

Date / Time: Sept. 24. 2010

Field Personnel: GAW

Weather Conditions:	Temp:	Wind:	Cloud:	PPT:	PPT in last 24 hrs:
	29°	5	75%	ø	ø

Reptile Hibernacula Features 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)

Does the site contain potential reptile hibernacula features? ☐ Yes ☒ No (if yes, describe details in Table 1).

Bat Hibernacula Features i.e. karst topography, abandoned mines or caves

Does the site contain potential bat hibernacula features? ☐ Yes ☒ No (if yes, describe details in Table 1).

Table 1: Potential bat/reptile hibernacula features identified on site

UTM	Feature type	Photo #	Description	Species observed using feature

Species Observations

List species and type of observation: (**TK** = track, **SC** = scat, **VO** = vocalization, **OB** = observed, **DP** = distinctive parts, **FE** = feeding evidence, **CA** = carcass, **FY** = eggs, nest, **HO** = house/den, **SI** = other sign)

Birds	Mammals	Herps	Butterflies / Dragonflies	Other
i.e. AMRO/VO TuVu			monarch Sulph. yellow Sum. azure	

Woodland Assessment- *complete 1 assessment for each woodland*

Woodlot # (indicate on map) : Only One

Approximate age of stand Mature

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☒ Yes ☐ No
If yes, approximate # present or % of stand < 5%
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc..) mostly @ edges

Are snags present? ☒ Yes ☐ No
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark. Few, some large (>35cm DBH), one very good, large, hollow beech with peeling bark. Most 15-20cm DBH. Large snags in FOD5-3.

Trees with cavities present? ☐ No ☒ Rare ☐ Occasional ☐ Abundant
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)
	15-20m	20-35cm	4-10m	5-15cm

Bat Mat Roost? Possible

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☒ No
If yes, UTM and describe tree type, height and position in tree, size of nest, species present

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☒ Yes ☐ No
If yes, describe old roads, old logging, old trash heap

Seeps/ springs present? ☐ Yes ☒ No If yes,

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? ☒ Yes ☐ No If yes,

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shrubs, logs at pond edge
	near edge, SWTs + MASs	mud	10-20m	Yes	Yes

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 161010646		POLYGON: (1)	
SURVEYOR(S): GAW	DATE: Sept. 24. 2010	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
SITE	☐ BASIC BEDRK.	☐ VALLEY SLOPE	**COVER**	☐ FORB	☐ MARSH
☐ OPEN WATER	☐ CARB. BEDRK.	☐ TABLELAND	☐ OPEN	☐ LICHEN	☐ SWAMP
☐ SHALLOW WATER		☒ ROLL UPLAND	☐ SHRUB	☐ BRYOPHYTE	☐ FEN
☒ SURFICIAL DEP.		☐ CLIFF	☒ TREED	☒ DECIDUOUS	☐ BOG
☐ BEDROCK		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☒ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	ACESASA > QUERUBR >> FAGGRAN
2	SUB-CANOPY	3	4	" >> FAGGRAN
3	UNDERSTOREY	4-5	4	" > blue beech
4	GRD. LAYER	6-7	4	Sapling, l.l. aster, SOLCAES

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

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

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

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

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

SOIL ANALYSIS:

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

COMMUNITYCLASSIFICATION:

COMMUNITY CLASS: Forest	CODE: FO
COMMUNITY SERIES: Deciduous Forest	CODE: FOD
ECOSITE: D-F Sugar Maple Dec. Forest	CODE: FOD5
VEGETATION TYPE: Dry-fresh Sugar Maple - Oak Dec. Forest	CODE: FOD5-3
INCLUSION	CODE:
COMPLEX	CODE:

Notes:

581849

ELC — PLANT SPECIES LIST

SITE: Turbine 17 + Access Rd	
POLYGON: Feature 33	
DATE:	
SURVEYOR(S):	

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
ACESASA	D	A	A	A	
QUERUBR	A	A	O	O	
PINSTRO	R				
FAGGRAN	O	A	A		
ACERUBR	O	O			
TILAMER	O	O	O		
OSTVIRG		O	O		
PRUSERO			O		
blue beech		O	O		
FRAPENN	R	O	O	O	
QUEMACR	O				
QUEALBA	R				
Shagbark	O	O			
blackberry			O		
d. arrowwood				O	
RUBIDAE			O		
CORFORA			O		
RIBCYNO			O		
SAMCANA			O		
LONDIOI				O	
RHACATH			O		
Crataegus sp			O		

SPECIES CODE	LAYER 1	2	3	4	COLL.
UVUSESS				O	
SANMARI				O	
wild liquorice				R	
MAICANA				O	
POTSIMP				O	
sp. dogbane				R	
ARITR.TR				R	
RUBHISP				O	
DRYCART				O	
EUOOBOV				O	
GERMACU				O	
GEUAPPE				O	
RHURA.NE				O	
GLYSTRI				O	
PARINSE				O	
l.l. aster				O	
CIRLEUT				O	
PREALBA				O	
hairy S.Seal				O	

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE:		POLYGON: (2)	
SURVEYOR(S):	DATE:		UTME:
START:	END	UTMZ:	UTMN:

POLYGON DESCRIPTION

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

SITE

☐ OPEN WATER
☐ SHALLOW WATER
☒ SURFICIAL DEP.
☐ BEDROCK

COVER

☒ OPEN
☐ SHRUB
☐ TREED

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	4	4	TYPLATI = Woolgrass
2	SUB-CANOPY	5	4	Sedges
3	UNDERSTOREY	6	4	" " = grasses
4	GRD. LAYER	7	4	LEMMINO

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

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

STAND COMPOSITION:					BA:
SIZE CLASS ANALYSIS:	/ < 10	/ 10 - 24	/ 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)

COMMUNITYCLASSIFICATION:

COMMUNITY CLASS: Marsh	CODE: MA
COMMUNITY SERIES: Shallow Marsh	CODE: MAS
ECOSITE: Mineral Shallow Marsh	CODE: MAS2
VEGETATION TYPE: Cattail Mineral Shallow Marsh	CODE: MAS2-1
INCLUSION	CODE:
COMPLEX	CODE:

Notes:

ELC — PLANT SPECIES LIST

SITE:	
POLYGON:	
DATE:	
SURVEYOR(S):	

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
SCIATRO			O		
Woolgrass	A	A	O		
LEMMINO				O	
TYPLATI	A	O			
IRIVERS			O		
BIDFRON			A		
IMPCAPE			A		
sf. nettle			O		
EQUARVE			O		
Carex sp			O		
GLYSTRI			O		
LEEORYZ			O		

SPECIES CODE	LAYER 1	2	3	4	COLL.

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 16101064/6		POLYGON: (3)	
SURVEYOR(S): GAW	DATE: Sept. 24. 2010	UTME:	
START:	END	UTMZ:	UTMN:

POLYGON DESCRIPTION

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

SITE
☐ OPEN WATER ☐ SHALLOW WATER ☒ SURFICIAL DEP. ☐ BEDROCK

COVER
☐ OPEN ☒ SHRUB ☐ TREED

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	3	4	Salix = Cornus >> buttonbush
2	SUB-CANOPY	4	4	Rosa > ILEX
3	UNDERSTOREY	5	4	" " > IMPCAPE
4	GRD. LAYER	6-7	4	IMPCAPE SOLRUGO, EUTGRAM

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

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

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

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

COMM. AGE:		PIONEER	X	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: Swamp		CODE: SW
COMMUNITY SERIES: Thicket Swamp		CODE: SWT
ECOSITE: Mineral Thicket Swamp		CODE: SWT2
VEGETATION TYPE: Willow - Dogwood Mineral Thicket Swamp		CODE: SWT2-13*
	INCLUSION	CODE:
	COMPLEX	CODE:

Notes:

ELC — PLANT SPECIES LIST

SITE: Turbine 17 + Access Road	581849
POLYGON: Feature 33	
DATE:	
SURVEYOR(S):	

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
SPIALBA		O	O		
ROSPALU	O	A	O		X
buttonbush	O	O			
ILEVERT	O	O			
ULMAMER	R				
ACERUBR	R				
CORSTOL	A	A	A		
CORFORA	A	A	A		
Salix sp.	A	A	A		
SOLRUGO				O	
SOLALTI				O	
EUTGRAM				O	
TYPANGU				O	
SCIATRO				O	
BIDFRON				O	
Woolgrass				O	
ONOSENS				O	
Carex sp				O	
LYCUNIF				O	
st. nettle				O	

SPECIES CODE	LAYER 1	2	3	4	COLL.

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE:		POLYGON: 4	
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
SITE	☐ BASIC BEDRK.	☐ VALLEY SLOPE	COVER	☐ FORB	☐ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☑ SWAMP
☐ OPEN WATER		☑ ROLL. UPLAND	☐ OPEN	☐ BRYOPHYTE	☐ FEN
☐ SHALLOW WATER		☐ CLIFF	☑ SHRUB	☑ DECIDUOUS	☐ BOG
☑ SURFICIAL DEP.		☐ TALUS	☐ TREED	☐ CONIFEROUS	☐ BARREN
☐ BEDROCK		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	4	4	ILEVERT ≥ shrubs
2	SUB-CANOPY	5	4	" " >
3	UNDERSTOREY	6	4	Carex sp, ferns
4	GRD. LAYER	7	4	Goldthread, Carex sp

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

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

STAND COMPOSITION:						BA:	
SIZE CLASS ANALYSIS:	D	< 10	/	10 - 24	/	25 - 50	/ > 50
STANDING SNAGS:	/	< 10	/	10 - 24	/	25 - 50	/ > 50
DEADFALL / LOGS:	A	< 10	/	10 - 24	/	25 - 50	/ > 50

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

COMM. AGE :		PIONEER	X	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)

COMMUNITYCLASSIFICATION:

COMMUNITY CLASS: Swamp		CODE: SW
COMMUNITY SERIES: Thicket Swamp		CODE: SWT
ECOSITE: Organic Thicket Swamp		CODE: SWT3
VEGETATION TYPE: Winterberry Organic Thicket Swamp		CODE: SWT3-7
	INCLUSION	CODE:
	COMPLEX	CODE:

Notes:

ELC — PLANT SPECIES LIST

SITE:	
POLYGON:	
DATE:	
SURVEYOR(S):	

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
ILEXVERT	A	O			
Highbush blueberry	R				X
ROSPALU	A	O			X
LONHIRS	O	O			
buttonbush	O				

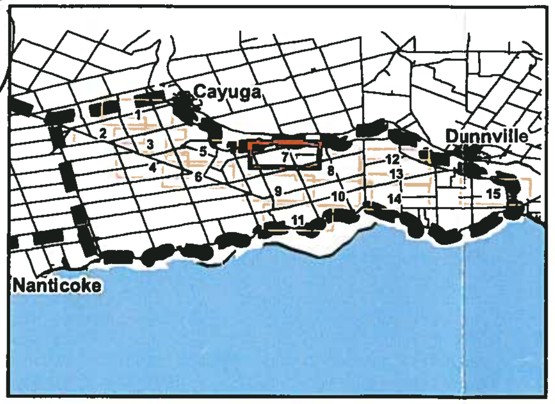
SPECIES CODE	LAYER 1	2	3	4	COLL.
Goldthread				A	
RUBHISP				A	X
Ostrich fern				O	
IMPCAPE				A	
ONOSENS				A	
St. nettle				O	
Viola sp.				O	
Cinnamon fern				O	
Carex sp.				O	
LYCUNIF				O	

Legend

- Project Location
- Proposed Turbine Location
- Proposed Access Road
- Proposed Collector Line
- ROW Installation Zone
- 120m Investigation Zone
- Elexco Aquired Agreements
- Government Lands
- UDI Lands
- Road
- Railway
- Abandoned Railway
- Transmission Line (OBM)
- Deer Wintering Area
- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Watercourse (OBM)
- Waterbody

Area of Natural and Scientific Interest (ANSI)

- Life Science, Provincially Significant
- Earth Science, Provincially Significant
- Earth Science, Regionally Significant



*landowner notes that extensive #546 River Rd. flooding occurs through fields + along all watercourses shown on map.

Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Data Sources: Ontario Ministry of Natural Resources © Queens Printer Ontario, 2009; © GREP, 2010; © Samsung, 2010.
3. Image Source: © First Base Solutions, 2010 - Imagery Date: Spring 2006; LIDAR IMAGERY SOURCE???

Client/Project
SAMSUNG C&T
GRAND RENEWABLE ENERGY PARK

Figure No.
FIELD MAP 7

Title
PROJECT LOCATION MAP

Stantec

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

Wildlife Habitat Assessment

Feature 34
Turbine 71 + Access Rd
581838

Project Number 161010646

Project Name: Samsung

Date / Time: Sept. 29. 2010

Field Personnel: GAW

Weather Conditions:	Temp:	Wind:	Cloud:	PPT:	PPT in last 24 hrs:
	21°	1-3	95%	Ø	RAIN

Reptile Hibernacula Features 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)

Does the site contain potential reptile hibernacula features? ☐ Yes ☒ No (if yes, describe details in Table 1).

Bat Hibernacula Features i.e. karst topography, abandoned mines or caves

Does the site contain potential bat hibernacula features? ☐ Yes ☒ No (if yes, describe details in Table 1).

Table 1: Potential bat/reptile hibernacula features identified on site

UTM	Feature type	Photo #	Description	Species observed using feature

Species Observations

List species and type of observation: (**TK** = track, **SC** = scat, **VO** = vocalization, **OB** = observed, **DP** = distinctive parts, **FE** = feeding evidence, **CA** = carcass, **FY** = eggs, nest, **HO** = house/den, **SI** = other sign)

Birds	Mammals	Herps	Butterflies / Dragonflies	Other
i.e. AMRO/VO				

Woodland Assessment- *complete 1 assessment for each woodland*

Woodlot # (indicate on map) : Only One

Approximate age of stand Mature

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☒ Yes ☐ No
If yes, approximate # present or % of stand < 5%
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc..) throughout

Are snags present? ☒ Yes ☐ No
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark. 7-10, 15-25 cm DBH, Some loose bark
BAT MAT ROOST: NO

Trees with cavities present? ☐ No ☒ Rare ☐ Occasional ☐ Abundant
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)
	5-15m	15-20 cm	4-10m	small + medium

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☒ No
If yes, UTM and describe tree type, height and position in tree, size of nest, species present

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☒ Yes ☐ No
If yes, describe Some logging + trail

Seeps/ springs present? ☐ Yes ☒ No If yes,

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? ☒ Yes ☐ No If yes,

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shrubs, logs at pond edge
	Single OA	>50cm	10x10m	yes	yes

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 161010646		POLYGON: (1)	
SURVEYOR(S): GAW	DATE: Sept. 29. 2010	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
SITE	☐ BASIC BEDRK.	☐ VALLEY SLOPE	COVER	☐ FORB	☐ MARSH
☐ OPEN WATER	☐ CARB. BEDRK.	☐ TABLELAND	☐ OPEN	☐ LICHEN	☐ SWAMP
☐ SHALLOW WATER		☒ ROLL. UPLAND	☐ SHRUB	☐ BRYOPHYTE	☐ FEN
☒ SURFICIAL DEP.		☐ CLIFF	☒ TREED	☒ DECIDUOUS	☐ BOG
☐ BEDROCK		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☒ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	ACESASA > QUERUBR >> hickory = FAGGRAN
2	SUB-CANOPY	3	4	" > FAGGRAN = OSTVIRG
3	UNDERSTOREY	4-5	4	" > ZANAMER
4	GRD. LAYER	6-7	4	Snakeroot

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

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

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

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

COMM. AGE :		PIONEER		YOUNG		MID-AGE	X	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: Forest	CODE: FO
COMMUNITY SERIES: Deciduous Forest	CODE: FOD
ECOSITE: Dry-fresh Sugar Maple Dec. Forest	CODE: FOD5
VEGETATION TYPE: Dry-fresh Sugar Maple - Oak Deciduous Forest	CODE: FOD5-3
INCLUSION	CODE:
COMPLEX	CODE:

Notes:

581838

ELC — PLANT SPECIES LIST

SITE: Turbine 21 + Access Rd	
POLYGON: Feature 34	
DATE:	
SURVEYOR(S):	

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
ACESASA	D	D	D	A	
FRAPENN	O	O	O	O	
QUERUBR	A	O			
Shagbark	O	O			
TILAMER	O	O			
ULMAMER		O			
OSTVIRG		O	O		
PRUSERO	R				
PINSTRO	R				
QUEALBA	O				
FAGGRAN	O	O	O		
PINSYLV	R				
LONDIOI				O	
ZANAMER			A	A	
RHACATH			O	O	
Crataegus			O	O	
CORFO·RA			O		
RUBALLE			O		
RUBOCCI			O		
RUBIDAE			O		
Amelanchier		O	O		
Witchhazel			O		
RIBCYNO			O		
SAMCANA			O		

SPECIES CODE	LAYER 1	2	3	4	COLL.
Wild coffee				R	
SANMARI				A	
SANCANA				A	
I.I. aster				A	
GEUCANA				O	
licorice				O	
VITRIPA				O	
EUOOBOV				O	
GERMACU				O	
Viola sp				O	
early m. rue				O	
false s. seal				O	
blunt hepatica				O	
hog peanut				O	
CIRLEUT				O	
RHURA·NE				O	
PARINSE				O	
barren strawb				O	
PREALBA				O	
VEROFFI				O	
OXASTRI				O	
SW. cecily				O	

Stantec	Stantec Consulting Ltd. 70-1 Southgate Drive Guelph, Ontario, Canada N1G 4P5 Tel: (519) 836-6050 Fax: (519) 836-2493	**Wildlife Habitat Assessment** Feature 34 Turbine 22 + Access Rd 581829

Project Number 161010646 Project Name: Samsung

Date / Time: Sept. 29. 2010 Field Personnel: GAW

Weather Conditions:	Temp: 21°	Wind: 1-3	Cloud: 95%	PPT: Ø	PPT in last 24 hrs: RAIN

Reptile Hibernacula Features 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)

Does the site contain potential reptile hibernacula features? ☐ Yes ☒ No (if yes, describe details in Table 1).

Bat Hibernacula Features i.e. karst topography, abandoned mines or caves

Does the site contain potential bat hibernacula features? ☐ Yes ☒ No (if yes, describe details in Table 1).

Table 1: Potential bat/reptile hibernacula features identified on site

UTM	Feature type	Photo #	Description	Species observed using feature

Species Observations

List species and type of observation: (**TK** = track, **SC** = scat, **VO** = vocalization, **OB** = observed, **DP** = distinctive parts, **FE** = feeding evidence, **CA** = carcass, **FY** = eggs, nest, **HO** = house/den, **SI** = other sign)

Birds	Mammals	Herps	Butterflies / Dragonflies	Other
i.e. AMRO/VO GRCA		NLFR – landowner notes Ambystoma sp. + snapping turtle WOFR SPPE CHFR AMTO		

Woodland Assessment- *complete 1 assessment for each woodland*

Woodlot # (indicate on map) : Only One

Approximate age of stand Mature

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☒ Yes ☐ No
If yes, approximate # present or % of stand <5%
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc..) throughout

Are snags present? ☒ Yes ☐ No
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark. very few, 10-20cm DBH, some loose bark
BAT MAT ROOST? No

Trees with cavities present? ☐ No ☒ Rare ☐ Occasional ☐ Abundant
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)
	5-15m	10-20cm	4-10m	small + medium

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☒ No
If yes, UTM and describe tree type, height and position in tree, size of nest, species present

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☒ Yes ☐ No
If yes, describe Some logging

Seeps/ springs present? ☐ Yes ☒ No. If yes,

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? ☐ Yes ☒ No If yes,

#	Location	Depth of water	Size of pool - (diameter)	Presence of emergent/submergent veg?	Presence of shrubs, logs at pond edge

→ watercourse present.

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 16101064		POLYGON: (2)	
SURVEYOR(S): GAW	DATE: Sept. 29. 2010	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
SITE	☐ BASIC BEDRK.	☐ VALLEY SLOPE	COVER	☐ FORB	☐ MARSH
☐ OPEN WATER	☐ CARB. BEDRK.	☐ TABLELAND	☐ OPEN	☐ LICHEN	☐ SWAMP
☐ SHALLOW WATER		☒ ROLL. UPLAND	☐ SHRUB	☐ BRYOPHYTE	☐ FEN
☒ SURFICIAL DEP.		☐ CLIFF	☒ TREED	☒ DECIDUOUS	☐ BOG
☐ BEDROCK		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☒ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	ACESASA > QUERUBR ≫ hickory = TILAMER
2	SUB-CANOPY	3	4	" > FAGGRAN = OSTVIRG = FRAPENN
3	UNDERSTOREY	4-5	4	" > ZANAMER
4	GRD. LAYER	6-7	4	ZANAMER, Snakeroot, l.l. aster

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

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

STAND COMPOSITION:			BA:
SIZE CLASS ANALYSIS:	A < 10	A 10 - 24	A 25 - 50	● > 50
STANDING SNAGS:	O < 10	R 10 - 24	R 25 - 50	/ > 50
DEADFALL / LOGS:	A < 10	O 10 - 24	R 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: Forest		CODE: FO
COMMUNITY SERIES: Deciduous Forest		CODE: FOD
ECOSITE: Dry-fresh Sugar Maple Decid. Forest		CODE: FOD5
VEGETATION TYPE: Dry-fresh Sugar Maple-Oak Decid. Forest		CODE: FOD5-3
☒ INCLUSION	Riparian Area	CODE:
☐ COMPLEX		CODE:

Notes: Giant ragweed, Plant, stinging nettle, ONESENS, ASTLATE, turtlehead, LEECRYZ, MIPCHPE, skullcap, Ranunculus, ALI-PL-AQ,

Riparian note: * Pot hab for Virg Mallow

ELC — PLANT SPECIES LIST

581829

SITE: Turbine 22 + Access Rd	
POLYGON: FEATURE 34	
DATE:	
SURVEYOR(S):	

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
ACESASA	D	D	D	A	
FRAPENN	O	●	●	●	
QUERUBR	A	O			
shagbark	O	●			
TILAMER	●	●			
ULMAMER		O			
OSTVIRG		O	●		
PRUSER●	R				
PINSTRO	R				
QUEALBA	●				
FAGGRAN	●	●	O		
PINSYLV	R				
ROSPALU			R		
LONDIOI				O	
ZANAMER			A	A	
RHACATH			O		
CORFORA			O		
RUBALLE			O		
Crataegus sp			O		
d. arrowwood			O	O	
RUBIDAE			O		
RUBOCCI			O		
Amelanchier sp		O	O		
witchhazel			O		
RIBCYNO			O		
SAMCANA			R		

SPECIES CODE	LAYER 1	2	3	4	COLL.
SANMARI				A	X
SANCANA				A	X
l.l. aster				A	
GEUCANA				O	
TRAVESC				O	
licorice				O	
AGRGRYP				O	
POTSIMP				O	
VITRIPA				●	
EUOOB●V				O	
GERMACU				O	
Viola sp				O	
early m. rue				O	
false s. seal				O	
blunt hepatica				O	
hog peanut				O	
CIRLEUT				O	
RHURA·NE				R	
PARINSE				O	
barren straw.				O	
PREALBA				O	
VEROFFI				O	
OXASTRI				O	
GLYSTRI				O	
sw. cecily				O	
SOLCAES				O	
beech drops				O	

turk's cap lily (michigan)

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December 2010
160960577

Legend

- Proposed Turbine Location
- 120m Zone of Investigation
- ROW Installation Zone
- ELC Communities
- Access Road
- Overhead Collector Line
- Underground Collector Line
- Substation Property
- Road
- Transmission Line (OBM)
- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Watercourse (OBM)
- Waterbody

Forest Communities (FO)
FOM2-2- Dry-fresh White Pine – Sugar Maple Mixed Forest
FOD- Deciduous Forest
FOD2-1- Dry-fresh Oak – Red Maple Deciduous Forest
FOD2-2- Dry-fresh Oak – Hickory Deciduous Forest
FOD2-4- Dry-fresh Oak – Hardwood Deciduous Forest
FOD3-1- Dry-fresh Poplar Deciduous Forest
FOD4-1- Dry-fresh Beech Deciduous Forest
FOD4-2- Dry-fresh White Ash Deciduous Forest
FOD5-1- Dry-fresh Sugar Maple Deciduous Forest
FOD5-2- Dry-fresh Sugar Maple – Beech Deciduous Forest
FOD5-3- Dry-fresh Sugar Maple – Oak Deciduous Forest
FOD5-8- Dry-fresh Sugar Maple – White Ash Deciduous Forest
FOD5-11*- Dry-fresh Sugar Maple – Oak – Beech Deciduous Forest
FOD5-12*- Dry-fresh Sugar Maple – Hickory – Beech Deciduous Forest
FOD6-1- Fresh-moist Sugar Maple – Lowland Ash Deciduous Forest
FOD6-5- Fresh-moist Sugar Maple – Hardwood Deciduous Forest
FOD6-6*- Fresh-moist Sugar Maple – Hickory Deciduous Forest
FOD7-1- Fresh-moist White Elm Lowkind Deciduous Forest
FOD7-2- Fresh-moist Ash Lowland Deciduous Forest
FOD9-1- Fresh-moist Oak – Sugar Maple Deciduous Forest
FOD9-4- Fresh-moist Shagbark Hickory Deciduous Forest
FOD9-6*- Fresh-moist Red Oak – Shagbark Hickory Deciduous Forest

Swamp Communities (SW)
SWD1-1- Swamp White Oak Mineral Deciduous Swamp
SWD2-2- Green Ash Mineral Deciduous Swamp
SWD2-3*- Ash – Hardwood Mineral Deciduous Swamp
SWD2-4*- Green Ash – Red Maple Mineral Deciduous Swamp
SWD3-1- Red Maple Mineral Deciduous Swamp
SWD3-2- Silver Maple Mineral Deciduous Swamp
SWD3-5*- Swamp Maple - Green Ash Mineral Deciduous Swamp
SWD4-1- Willow Mineral Deciduous Swamp
SWD4-2- White Elm Mineral Deciduous Swamp
SWD3-3- Swamp Maple Mineral Deciduous Swamp
SWD4-6*- Green Ash – Swamp Maple Mineral Deciduous Swamp
SWT- Thicket Swamp
SWT2-4- Buttonbush Mineral Thicket Swamp
SWT2-5- Red Osier Dogwood Mineral Thicket Swamp
SWT2-8- Silky Dogwood Mineral Thicket Swamp
SWT2-9- Gray Dogwood Mineral Thicket Swamp
SWT2-13*- Willow – Dogwood Mineral Thicket Swamp
SWT2-14*- Winterberry – Buttonbush Mineral Thicket Swamp
SWT2-15*- Red Maple Mineral Thicket Swamp
SWT3-7- Winterberry Organic Thicket Swamp

Marsh Communities (MA)
MAM2-2- Reed Canary Grass Mineral Meadow Marsh
MAM2-10- Forb Mineral Meadow Marsh
MAM2-11*- Forb – Graminoid Mineral Meadow Marsh
MAS2-1- Cattail Mineral Shallow Marsh
MAS2-8- Rice Cut-grass Mineral Shallow Marsh

Cultural Communities (CU)
CUM1- Mineral Cultural Meadow
CUT1-7- European Buckthorn – Sweet Cherry Cultural thicket
CUW1-3*- Ash – Sumac Mineral Cultural Woodland
CUW1-4*- Green Ash Mineral Cultural Woodland
CUW1-5*- Maple-Ash Cultural Woodland
CUW1-6*- Green Ash Cultural Woodland
CUW1-7*- Red maple Mineral Cultural Woodland
CUP3-12*- White Pine – White/Norway Spruce Coniferous Plantation
CUP3-13*- White Spruce Coniferous Plantation

D- Disturbed
R- Residential

Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Data Sources: Ontario Ministry of Natural Resources © Queens Printer Ontario, 2009; © Samsung, 2010.
3. Image Source: © Grand River Conservation Authority, 2010 - Imagery Date: Spring 2006; LIDAR IMAGERY SOURCE???
4. Produced using the Version 5 site plan produced by Stantec updated on Dec 13.

Client/Project
SAMSUNG C&T
GRAND RENEWABLE ENERGY PARK

Figure No.
TILE 6 DRAFT

Title
ELC VEGETATION COMMUNITIES

Stantec

Feature 35

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

STAND DESCRIPTION:

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

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

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

STAND COMPOSITION:							BA:	
SIZE CLASS ANALYSIS:		< 10		10 - 24		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)

COMMUNITYCLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE:	Fresh-moist Shagbark Hickory Ae	CODE: FOD9-4
☐ INCLUSION	Frost	CODE:
☐ COMPLEX		CODE:

Notes:

ELC — PLANT SPECIES LIST

SITE:	Samsung
POLYGON:	6-1
DATE:	22-Dec-2010
SURVEYOR(S):	M. Straus

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
CARCOVAT	O	O	–		
FAGGRAN	–	D	A	–	

SPECIES CODE	LAYER 1	2	3	4	COLL.

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December 2010
160960577

Legend

- Solar Lands Study Area
- 120m Zone of Investigation
- ROW Installation Zone
- ELC Communities
- Proposed Turbine Location
- Access Road
- Overhead Collector Line
- Underground Collector Line
- Substation Property
- Road
- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Watercourse (OBM)
- Waterbody

Forest Communities (FO)
FOM2-2- Dry-fresh White Pine – Sugar Maple Mixed Forest
FOD- Deciduous Forest
FOD2-1- Dry-fresh Oak – Red Maple Deciduous Forest
FOD2-2- Dry-fresh Oak – Hickory Deciduous Forest
FOD2-4- Dry-fresh Oak – Hardwood Deciduous Forest
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FOD4-1- Dry-fresh Beech Deciduous Forest
FOD4-2- Dry-fresh White Ash Deciduous Forest
FOD5-1- Dry-fresh Sugar Maple Deciduous Forest
FOD5-2- Dry-fresh Sugar Maple – Beech Deciduous Forest
FOD5-3- Dry-fresh Sugar Maple – Oak Deciduous Forest
FOD5-8- Dry-fresh Sugar Maple – White Ash Deciduous Forest
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FOD5-12*- Dry-fresh Sugar Maple – Hickory – Beech Deciduous Forest
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FOD9-4- Fresh-moist Shagbark Hickory Deciduous Forest
FOD9-6*- Fresh-moist Red Oak – Shagbark Hickory Deciduous Forest

Swamp Communities (SW)
SWD1-1- Swamp White Oak Mineral Deciduous Swamp
SWD2-2- Green Ash Mineral Deciduous Swamp
SWD2-3*- Ash – Hardwood Mineral Deciduous Swamp
SWD2-4*- Green Ash – Red Maple Mineral Deciduous Swamp
SWD3-1- Red Maple Mineral Deciduous Swamp
SWD3-2- Silver Maple Mineral Deciduous Swamp
SWD3-5*- Swamp Maple - Green Ash Mineral Deciduous Swamp
SWD4-1- Willow Mineral Deciduous Swamp
SWD4-2- White Elm Mineral Deciduous Swamp
SWD3-3- Swamp Maple Mineral Deciduous Swamp
SWD4-6*- Green Ash – Swamp Maple Mineral Deciduous Swamp
SWT- Thicket Swamp
SWT2-4- Buttonbush Mineral Thicket Swamp
SWT2-5- Red Osier Dogwood Mineral Thicket Swamp
SWT2-8- Silky Dogwood Mineral Thicket Swamp
SWT2-9- Gray Dogwood Mineral Thicket Swamp
SWT2-13*- Willow – Dogwood Mineral Thicket Swamp
SWT2-14*- Winterberry – Buttonbush Mineral Thicket Swamp
SWT2-15*- Red Maple Mineral Thicket Swamp
SWT3-7- Winterberry Organic Thicket Swamp

Marsh Communities (MA)
MAM2-2- Reed Canary Grass Mineral Meadow Marsh
MAM2-10- Forb Mineral Meadow Marsh
MAM2-11*- Forb – Graminoid Mineral Meadow Marsh
MAS2-1- Cattail Mineral Shallow Marsh
MAS2-8- Rice Cut-grass Mineral Shallow Marsh

Cultural Communities (CU)
CUM1- Mineral Cultural Meadow
CUT1-7- European Buckthorn – Sweet Cherry Cultural thicket
CUW1-3*- Ash – Sumac Mineral Cultural Woodland
CUW1-4*- Green Ash Mineral Cultural Woodland
CUW1-5*- Maple-Ash Cultural Woodland
CUW1-6*- Green Ash Cultural Woodland
CUW1-7*- Red maple Mineral Cultural Woodland
CUP3-12*- White Pine – White/Norway Spruce Coniferous Plantation
CUP3-13*- White Spruce Coniferous Plantation

D- Disturbed
R- Residential

Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Data Sources: Ontario Ministry of Natural Resources © Queens Printer Ontario, 2009; © Samsung, 2010.
3. Image Source: © Grand River Conservation Authority, 2010 - Imagery Date: Spring 2006; LIDAR IMAGERY SOURCE???
4. Produced using the Version 5 site plan produced by Stantec updated on Dec 13.

Client/Project
SAMSUNG C&T
GRAND RENEWABLE ENERGY PARK

Figure No.
Tile 2 of 2 DRAFT

Title
ELC VEGETATION COMMUNITIES - SOLAR LANDS

Stantec

Feature 36

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

STAND DESCRIPTION:

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

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

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

STAND COMPOSITION:								BA:	
SIZE CLASS ANALYSIS:	C	< 10	A	10 - 24	R	25 - 50	D	> 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	X	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)

COMMUNITYCLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE: Swamp Made Mineral Deciduous	CODE: SWD3-3
INCLUSION: Swamp	CODE:
COMPLEX:	CODE:

Notes:

ELC PLANT SPECIES LIST

SITE:	Samsung Solar
POLYGON:	Solar 2-1
DATE:	22-Dec-2010
SURVEYOR(S):	M. Straus.

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
ACERFREE	D				
TRAPENN					

SPECIES CODE	LAYER 1	2	3	4	COLL.

Feature 36

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

STAND DESCRIPTION:

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

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

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

STAND COMPOSITION:							BA:
SIZE CLASS ANALYSIS:	O	< 10	O	10 - 24	O	25 - 50	A > 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	X	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)

COMMUNITYCLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE:	Fresh-moist Shagbark Hickory	CODE: FOD9-4
INCLUSION	Deciduous	CODE:
COMPLEX	Forest	CODE:

Notes:

ELC — PLANT SPECIES LIST

SITE:	Samsung
POLYGON:	Solar 2-2
DATE:	22-Dec-2010
SURVEYOR(S):	M. Straves

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.	SPECIES CODE	LAYER 1	2	3	4	COLL.
CARQUAT	O	O	—								
FRAPENN	O	O	—								
QUERUBR	R	—	—								
FAGGRAN	R	O	—								

Feature 36

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

SITE
☐ OPEN WATER
☐ SHALLOW WATER
☐ SURFICIAL DEP.
☐ BEDROCK

COVER
☐ OPEN
☐ SHRUB
☐ TREED

STAND DESCRIPTION:

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

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

STAND COMPOSITION:						BA:	
SIZE CLASS ANALYSIS:		< 10		10 - 24		25 - 50	> 50
STANDING SNAGS:		< 10		10 - 24		25 - 50	> 50
DEADFALL / LOGS:		< 10		10 - 24		25 - 50	> 50

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

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

SOIL ANALYSIS:

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

COMMUNITYCLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE: Fresh-moist Sugar Maple - Hardwood FOD6 5		CODE:
INCLUSION	Decid. Thicket	CODE:
COMPLEX		CODE:

Notes:

ELC
PLANT SPECIES LIST

SITE:	Samsung
POLYGON:	Solar 2-3
DATE:	22-Dec-2010
SURVEYOR(S):	M. Straus

LAYERS: 1 = CANOPY > 10m 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.	SPECIES CODE	LAYER 1	2	3	4	COLL.
FRAPENN	O	O	—								
QUEBALBA	O	—	—								
ACESACS	O	O	—								
FAGGRAN	—	O	O	—							

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

Wildlife Habitat Assessment

Project Number: 160877

Project Name: Samsung - Wind

Date / Time: 17-Dec-2010

Field Personnel: Melissa Strauss

Weather Conditions:	Temp:	Wind:	Cloud:	PPT:	PPT in last 24 hrs:
	-4°C - 0°C	0	100%	light snow	snow

Reptile Hibernacula Features 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)

Does the site contain potential reptile hibernacula features? ☐ Yes ☐ No (if yes, describe details in Table 1).

Bat Hibernacula Features i.e. karst topography, abandoned mines or caves

Does the site contain potential bat hibernacula features? ☐ Yes ☐ No (if yes, describe details in Table 1).

Table 1: Potential bat/reptile hibernacula features identified on site

UTM	Feature type	Photo #	Description	Species observed using feature

Species Observations

List species and type of observation: (**TK** = track, **SC** = scat, **VO** = vocalization, **OB** = observed, **DP** = distinctive parts, **FE** = feeding evidence, **CA** = carcass, **FY** = eggs, nest, **HO** = house/den, **SI** = other sign)

Birds	Mammals	Herps	Butterflies / Dragonflies	Other
i.e. AMRO/VO RTHA-OB RLHA-OB HAWD-OB DOWD-OB				

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December 2010
160960577

Legend

- Proposed Turbine Location
- 120m Zone of Investigation
- ROW Installation Zone
- ELC Communities
- Access Road
- Overhead Collector Line
- Underground Collector Line
- Substation Property
- Road
- Transmission Line (OBM)
- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Watercourse (OBM)
- Waterbody

Forest Communities (FO)
FOM2-2- Dry-fresh White Pine – Sugar Maple Mixed Forest
FOD- Deciduous Forest
FOD2-1- Dry-fresh Oak – Red Maple Deciduous Forest
FOD2-2- Dry-fresh Oak – Hickory Deciduous Forest
FOD2-4- Dry-fresh Oak – Hardwood Deciduous Forest
FOD3-1- Dry-fresh Poplar Deciduous Forest
FOD4-1- Dry-fresh Beech Deciduous Forest
FOD4-2- Dry-fresh White Ash Deciduous Forest
FOD5-1- Dry-fresh Sugar Maple Deciduous Forest
FOD5-2- Dry-fresh Sugar Maple – Beech Deciduous Forest
FOD5-3- Dry-fresh Sugar Maple – Oak Deciduous Forest
FOD5-8- Dry-fresh Sugar Maple – White Ash Deciduous Forest
FOD5-11*- Dry-fresh Sugar Maple – Oak – Beech Deciduous Forest
FOD5-12*- Dry-fresh Sugar Maple – Hickory – Beech Deciduous Forest
FOD6-1- Fresh-moist Sugar Maple – Lowland Ash Deciduous Forest
FOD6-5- Fresh-moist Sugar Maple – Hardwood Deciduous Forest
FOD6-6*- Fresh-moist Sugar Maple – Hickory Deciduous Forest
FOD7-1- Fresh-moist White Elm Lowkind Deciduous Forest
FOD7-2- Fresh-moist Ash Lowland Deciduous Forest
FOD9-1- Fresh-moist Oak – Sugar Maple Deciduous Forest
FOD9-4- Fresh-moist Shagbark Hickory Deciduous Forest
FOD9-6*- Fresh-moist Red Oak – Shagbark Hickory Deciduous Forest

Swamp Communities (SW)
SWD1-1- Swamp White Oak Mineral Deciduous Swamp
SWD2-2- Green Ash Mineral Deciduous Swamp
SWD2-3*- Ash – Hardwood Mineral Deciduous Swamp
SWD2-4*- Green Ash – Red Maple Mineral Deciduous Swamp
SWD3-1- Red Maple Mineral Deciduous Swamp
SWD3-2- Silver Maple Mineral Deciduous Swamp
SWD3-5*- Swamp Maple - Green Ash Mineral Deciduous Swamp
SWD4-1- Willow Mineral Deciduous Swamp
SWD4-2- White Elm Mineral Deciduous Swamp
SWD3-3- Swamp Maple Mineral Deciduous Swamp
SWD4-6*- Green Ash – Swamp Maple Mineral Deciduous Swamp
SWT- Thicket Swamp
SWT2-4- Buttonbush Mineral Thicket Swamp
SWT2-5- Red Osier Dogwood Mineral Thicket Swamp
SWT2-8- Silky Dogwood Mineral Thicket Swamp
SWT2-9- Gray Dogwood Mineral Thicket Swamp
SWT2-13*- Willow – Dogwood Mineral Thicket Swamp
SWT2-14*- Winterberry – Buttonbush Mineral Thicket Swamp
SWT2-15*- Red Maple Mineral Thicket Swamp
SWT3-7- Winterberry Organic Thicket Swamp

Marsh Communities (MA)
MAM2-2- Reed Canary Grass Mineral Meadow Marsh
MAM2-10- Forb Mineral Meadow Marsh
MAM2-11*- Forb – Graminoid Mineral Meadow Marsh
MAS2-1- Cattail Mineral Shallow Marsh
MAS2-8- Rice Cut-grass Mineral Shallow Marsh

Cultural Communities (CU)
CUM1- Mineral Cultural Meadow
CUT1-7- European Buckthorn – Sweet Cherry Cultural thicket
CUW1-3*- Ash – Sumac Mineral Cultural Woodland
CUW1-4*- Green Ash Mineral Cultural Woodland
CUW1-5*- Maple-Ash Cultural Woodland
CUW1-6*- Green Ash Cultural Woodland
CUW1-7*- Red maple Mineral Cultural Woodland
CUP3-12*- White Pine – White/Norway Spruce Coniferous Plantation
CUP3-13*- White Spruce Coniferous Plantation

D- Disturbed
R- Residential

Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Data Sources: Ontario Ministry of Natural Resources © Queens Printer Ontario, 2009; © Samsung, 2010.
3. Image Source: © Grand River Conservation Authority, 2010 - Imagery Date: Spring 2006; LIDAR IMAGERY SOURCE???
4. Produced using the Version 5 site plan produced by Stantec updated on Dec 13.

Client/Project
SAMSUNG C&T
GRAND RENEWABLE ENERGY PARK

Figure No.
TILE 8 DRAFT

Title
ELC VEGETATION COMMUNITIES

Stantec

Feature 42

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

SITE

☐ OPEN WATER
☐ SHALLOW WATER
☐ SURFICIAL DEP.
☐ BEDROCK

COVER

☐ OPEN
☐ SHRUB
☐ TREED

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	Poplar
2	SUB-CANOPY			
3	UNDERSTOREY			
4	GRD. LAYER	57	4	Asters, goldenrods

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

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

STAND COMPOSITION:							BA:	
SIZE CLASS ANALYSIS:	0	< 10	A	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	X	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:

		CODE:
COMMUNITY CLASS:		
COMMUNITY SERIES:		
ECOSITE:		
VEGETATION TYPE: Hybrid Poplar Deciduous Plantation		CUP1-4
INCLUSION		
COMPLEX		

Notes: Poplar plantation - soil

ELC — PLANT SPECIES LIST

SITE: Samsung
POLYGON: 8-1
DATE: 22-Dec-2020
SURVEYOR(S): M. Straus

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
Poplar	D				

SPECIES CODE	LAYER 1	2	3	4	COLL.
Asters				O	
Goldenrods				O	

December 2010
160960577

Legend

- Proposed Turbine Location
- 120m Zone of Investigation
- ROW Installation Zone
- ELC Communities
- Access Road
- Overhead Collector Line
- Underground Collector Line
- Substation Property
- Road
- Transmission Line (OBM)
- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Watercourse (OBM)
- Waterbody

Forest Communities (FO)
FOM2-2- Dry-fresh White Pine – Sugar Maple Mixed Forest
FOD- Deciduous Forest
FOD2-1- Dry-fresh Oak – Red Maple Deciduous Forest
FOD2-2- Dry-fresh Oak – Hickory Deciduous Forest
FOD2-4- Dry-fresh Oak – Hardwood Deciduous Forest
FOD3-1- Dry-fresh Poplar Deciduous Forest
FOD4-1- Dry-fresh Beech Deciduous Forest
FOD4-2- Dry-fresh White Ash Deciduous Forest
FOD5-1- Dry-fresh Sugar Maple Deciduous Forest
FOD5-2- Dry-fresh Sugar Maple – Beech Deciduous Forest
FOD5-3- Dry-fresh Sugar Maple – Oak Deciduous Forest
FOD5-8- Dry-fresh Sugar Maple – White Ash Deciduous Forest
FOD5-11*- Dry-fresh Sugar Maple – Oak – Beech Deciduous Forest
FOD5-12*- Dry-fresh Sugar Maple – Hickory – Beech Deciduous Forest
FOD6-1- Fresh-moist Sugar Maple – Lowland Ash Deciduous Forest
FOD6-5- Fresh-moist Sugar Maple – Hardwood Deciduous Forest
FOD6-6*- Fresh-moist Sugar Maple – Hickory Deciduous Forest
FOD7-1- Fresh-moist White Elm Lowkind Deciduous Forest
FOD7-2- Fresh-moist Ash Lowland Deciduous Forest
FOD9-1- Fresh-moist Oak – Sugar Maple Deciduous Forest
FOD9-4- Fresh-moist Shagbark Hickory Deciduous Forest
FOD9-6*- Fresh-moist Red Oak – Shagbark Hickory Deciduous Forest

Swamp Communities (SW)
SWD1-1- Swamp White Oak Mineral Deciduous Swamp
SWD2-2- Green Ash Mineral Deciduous Swamp
SWD2-3*- Ash – Hardwood Mineral Deciduous Swamp
SWD2-4*- Green Ash – Red Maple Mineral Deciduous Swamp
SWD3-1- Red Maple Mineral Deciduous Swamp
SWD3-2- Silver Maple Mineral Deciduous Swamp
SWD3-5*- Swamp Maple - Green Ash Mineral Deciduous Swamp
SWD4-1- Willow Mineral Deciduous Swamp
SWD4-2- White Elm Mineral Deciduous Swamp
SWD3-3- Swamp Maple Mineral Deciduous Swamp
SWD4-6*- Green Ash – Swamp Maple Mineral Deciduous Swamp
SWT- Thicket Swamp
SWT2-4- Buttonbush Mineral Thicket Swamp
SWT2-5- Red Osier Dogwood Mineral Thicket Swamp
SWT2-8- Silky Dogwood Mineral Thicket Swamp
SWT2-9- Gray Dogwood Mineral Thicket Swamp
SWT2-13*- Willow – Dogwood Mineral Thicket Swamp
SWT2-14*- Winterberry – Buttonbush Mineral Thicket Swamp
SWT2-15*- Red Maple Mineral Thicket Swamp
SWT3-7- Winterberry Organic Thicket Swamp

Marsh Communities (MA)
MAM2-2- Reed Canary Grass Mineral Meadow Marsh
MAM2-10- Forb Mineral Meadow Marsh
MAM2-11*- Forb – Graminoid Mineral Meadow Marsh
MAS2-1- Cattail Mineral Shallow Marsh
MAS2-8- Rice Cut-grass Mineral Shallow Marsh

Cultural Communities (CU)
CUM1- Mineral Cultural Meadow
CUT1-7- European Buckthorn – Sweet Cherry Cultural thicket
CUW1-3*- Ash – Sumac Mineral Cultural Woodland
CUW1-4*- Green Ash Mineral Cultural Woodland
CUW1-5*- Maple-Ash Cultural Woodland
CUW1-6*- Green Ash Cultural Woodland
CUW1-7*- Red maple Mineral Cultural Woodland
CUP3-12*- White Pine – White/Norway Spruce Coniferous Plantation
CUP3-13*- White Spruce Coniferous Plantation

D- Disturbed
R- Residential

Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Data Sources: Ontario Ministry of Natural Resources © Queens Printer Ontario, 2009; © Samsung, 2010.
3. Image Source: © Grand River Conservation Authority, 2010 - Imagery Date: Spring 2006; LIDAR IMAGERY SOURCE???
4. Produced using the Version 5 site plan produced by Stantec updated on Dec 13.

Client/Project
SAMSUNG C&T
GRAND RENEWABLE ENERGY PARK

Figure No.
TILE 9 **DRAFT**

Title
ELC VEGETATION COMMUNITIES

Stantec

No. Feature 42

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

STAND DESCRIPTION:

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

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

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

STAND COMPOSITION:							BA:	
SIZE CLASS ANALYSIS:	A	< 10	O	10 - 24	R	25 - 50	N	> 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:	Mineral thicket swamp	CODE: SWT2
INCLUSION	Shed-canary grass Meadow	CODE: MAMM3-2
COMPLEX	Marsh	CODE:

Notes: Depression in Ag field - dense underbrush.
- Assessed from road. Dogwood SWT
- MAM

ELC PLANT SPECIES LIST

SITE: Sansug
POLYGON: 9-1
DATE: 22-Dec-2010
SURVEYOR(S):

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
CAROVAT	R				
QUERUBR		O			
FRAPEN	R	O			
Stag Sumac			O		
Cornussp.			O		
RHACATH		O			

SPECIES CODE	LAYER 1	2	3	4	COLL.
Reed Canary Grass				O	

Feature 42

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

STAND DESCRIPTION:

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

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

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

STAND COMPOSITION:			BA:	
SIZE CLASS ANALYSIS:	< 10	10 - 24	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)

COMMUNITYCLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE: Fresh-moist Sugar Maple -		CODE: FOD6-5
INCLUSION	Hardwood Dec.	CODE:
COMPLEX	FOD5-7	CODE:

Notes:

ELC PLANT SPECIES LIST	SITE: Samsung
	POLYGON: 9-2
	DATE: 28-Dec-2010
	SURVEYOR(S): M. Straus

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
ACESACS	O	O	—		
TILAMER	O	O	—		
FRAPENN	O	O	—		

SPECIES CODE	LAYER 1	2	3	4	COLL.

Feature 42

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

STAND DESCRIPTION:

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

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

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

STAND COMPOSITION:					BA:
SIZE CLASS ANALYSIS:	O	< 10	A	10 - 24	O	25 - 50	R	> 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	X	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:

		CODE:
COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE:	Dry-fresh Sugar Maple – Beech	CODE: FODS-2
INCLUSION	Deciduous Forest	CODE:
COMPLEX		CODE:

Notes:

ELC — PLANT SPECIES LIST

SITE: Samsung
POLYGON: 9-3
DATE: 22-Dec-2010
SURVEYOR(S): M. Straus

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
ACESACS	O	O	—		
FAGGRAN	O	O	A	—	

SPECIES CODE	LAYER 1	2	3	4	COLL.

Feature 42

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

STAND DESCRIPTION:

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

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

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

STAND COMPOSITION:							BA:
SIZE CLASS ANALYSIS:	O	< 10	A	10 - 24	O	25 - 50	R > 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	X	MATURE		OLD GROWTH

SOIL ANALYSIS:

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

COMMUNITYCLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE:	CODE: FOD9-4
INCLUSION	CODE:
COMPLEX	CODE:

Notes:

ELC PLANT SPECIES LIST

SITE: Samsung

POLYGON: 9-4

DATE: 22-Dec-2010

SURVEYOR(S): M. Straus

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
CARLOVAT	O	O			
FRAPENN	O	O			
QUERUBR	O	—	—		
FAGGRAN	R	O	O	-	

SPECIES CODE	LAYER 1	2	3	4	COLL.

Not feature

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

SITE

☐ OPEN WATER
☐ SHALLOW WATER
☐ SURFICIAL DEP.
☐ BEDROCK

COVER

☐ OPEN
☐ SHRUB
☐ TREED

STAND DESCRIPTION:

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

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

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

STAND COMPOSITION:						BA:	
SIZE CLASS ANALYSIS:	R	< 10	N	10 - 24	N	25 - 50	N	> 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 :	X	PIONEER		YOUNG		MID-AGE		MATURE		OLD GROWTH

SOIL ANALYSIS:

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

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE:	Reed-canary Grass Mineral Meadow Marsh.	CODE: MAM2-2
INCLUSION		CODE:
COMPLEX		CODE:

Notes:

ELC PLANT SPECIES LIST

SITE:	Samsung
POLYGON:	9-5
DATE:	22-Dec-2010
SURVEYOR(S):	M. Straus

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

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

SPECIES CODE	LAYER 1	2	3	4	COLL.
Reed-canary grass				D	

No feature

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	2	2	FRAPENN >> Salix sp.
2	SUB-CANOPY			
3	UNDERSTOREY			
4	GRD. LAYER	5-7	4	Aster, goldenrod, Reed-canGrass

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

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

STAND COMPOSITION:					BA:
SIZE CLASS ANALYSIS:	O < 10	O 10 - 24	R 25 - 50	R > 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	X 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)

COMMUNITYCLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE: Mineral Thicket Swamp		CODE: SWT2
INCLUSION		CODE:
COMPLEX		CODE:

Notes: Surrounding a pond – CUM sp
Pic 1933
MAM2-2 portion
+ Willows

ELC — PLANT SPECIES LIST

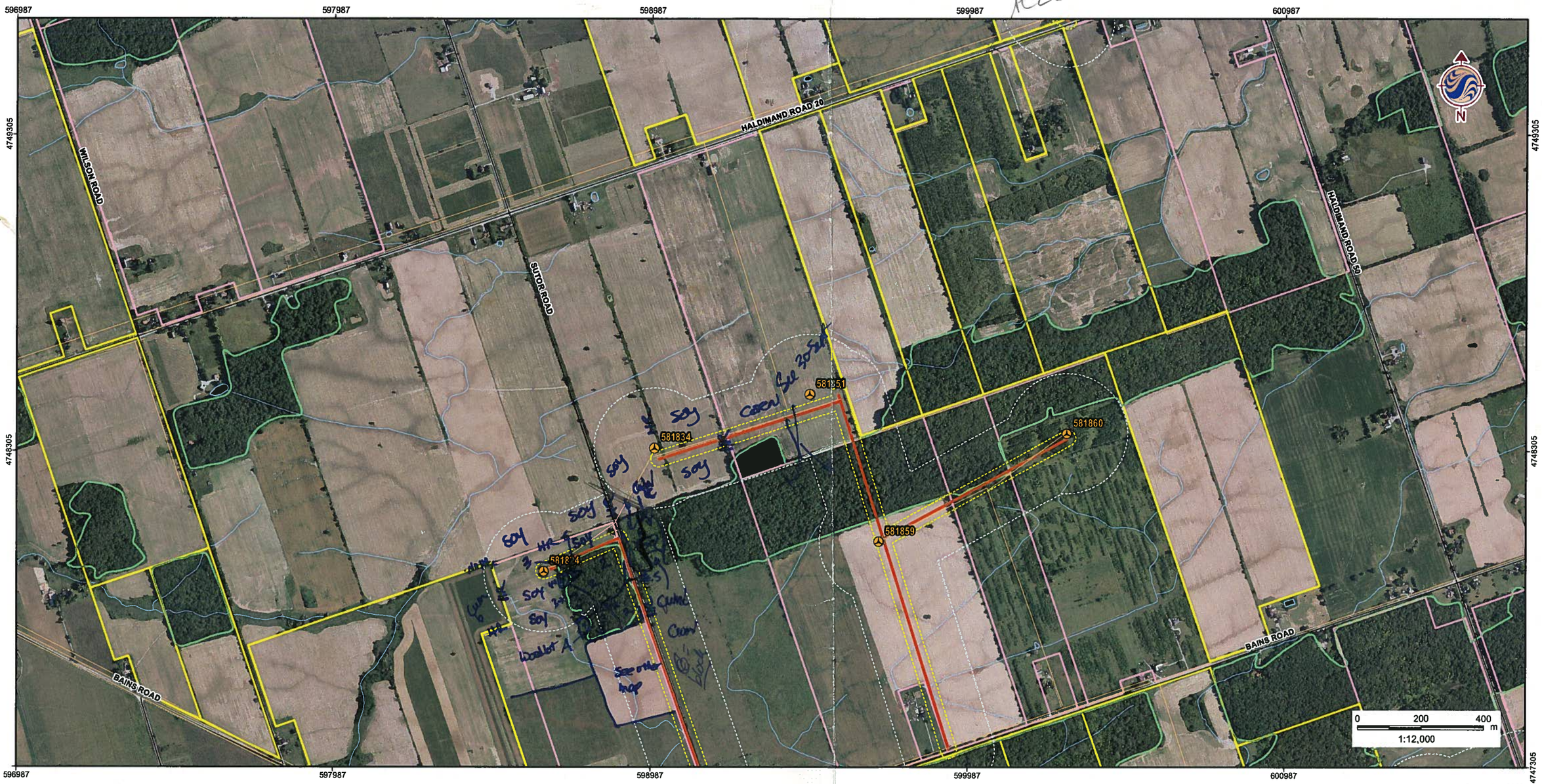
SITE: Samsung
POLYGON: 9-6
DATE: 22-Dec-2010
SURVEYOR(S): M. Straus

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
Salix sp	R				
FRAPENN	O				
Hawthorn					
Cornus sp.			O		

SPECIES CODE	LAYER 1	2	3	4	COLL.
Aster				A	
Goldenrod				A	
Reed-canary				O	



W:\active\160960577\drawing\GIS\MXD\NaturalHeritageAssessment\FieldMaps\160960577_FIELDMAP_ProjectLocation_Mapbook_20100921_PW.mxd - 9/27/2010 @ 5:35:56 PM

Legend

- Project Location
- Proposed Turbine Location
- Proposed Access Road
- Proposed Collector Line
- ROW Installation Zone
- 120m Investigation Zone
- Elexco Aquired Agreements
- Government Lands
- UDI Lands
- Road
- Railway
- Abandoned Railway
- Transmission Line (OBM)
- Deer Wintering Area
- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Watercourse (OBM)
- Waterbody

Area of Natural and Scientific Interest (ANSI)

- Life Science, Provincially Significant
- Earth Science, Provincially Significant
- Earth Science, Regionally Significant

Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Data Sources: Ontario Ministry of Natural Resources © Queens Printer Ontario, 2009; © GREP, 2010; © Samsung, 2010.
3. Image Source: © First Base Solutions, 2010 - Imagery Date: Spring 2006; **LIDAR IMAGERY SOURCE???**

Client/Project

SAMSUNG C&T
GRAND RENEWABLE ENERGY PARK

Figure No.

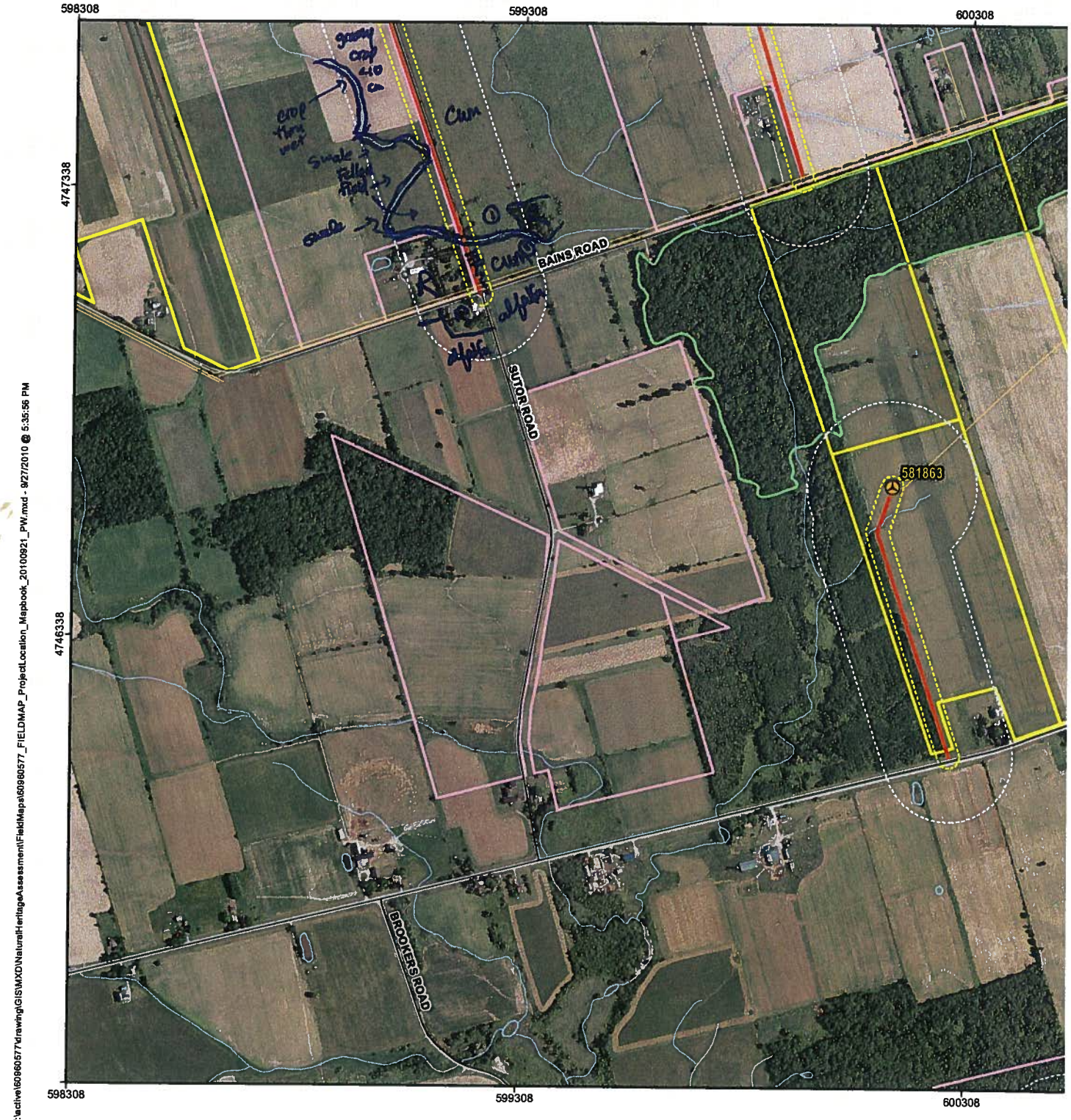
FIELD MAP 8

Title

PROJECT LOCATION MAP

Stantec

September 2010
160960577



Legend

- Project Location
- Proposed Turbine Location
- Proposed Access Road
- Proposed Collector Line
- ROW Installation Zone
- 120m Investigation Zone
- Elexco Aquired Agreements
- Government Lands
- UDI Lands
- Road
- Railway
- Abandoned Railway
- Transmission Line (OBM)
- Deer Wintering Area
- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Watercourse (OBM)
- Waterbody

Area of Natural and Scientific Interest (ANSI)

- Life Science, Provincially Significant
- Earth Science, Provincially Significant
- Earth Science, Regionally Significant

Stantec

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

Wildlife Habitat Assessment

Project Number: 160960577

Project Name: Samsung

Date / Time: 13-Oct-2010 @ 09:30

Field Personnel: M. Straus

Weather Conditions:	Temp:	Wind:	Cloud:	PPT:	PPT in last 24 hrs:
	5°-15°C	1-3	5%	none	Fog + frost

Reptile Hibernacula Features 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)

Does the site contain potential reptile hibernacula features? ☐ Yes ☒ No (if yes, describe details in Table 1).

Bat Hibernacula Features i.e. karst topography, abandoned mines or caves

Does the site contain potential bat hibernacula features? ☐ Yes ☒ No (if yes, describe details in Table 1).

Table 1: Potential bat/reptile hibernacula features identified on site

UTM	Feature type	Photo #	Description	Species observed using feature

Species Observations

List species and type of observation: (**TK** = track, **SC** = scat, **VO** = vocalization, **OB** = observed, **DP** = distinctive parts, **FE** = feeding evidence, **CA** = carcass, **FY** = eggs, nest, **HO** = house/den, **SI** = other sign)

Birds	Mammals	Herps	Butterflies / Dragonflies	Other
i.e. AMRO/VO GCKI-VO AMCR-VO RBWO-OB EAME-OB SAVS-OB HAWO-VO EUST-OB DOWO-OB AMRO-OB WBNU-VO NOFL-VO BCCH-VO TUVU-OB WTSP-OB NOMO-VO SWSP-OB RTHA-VO	Raccoon - TK, SC Deer - TK	Gartersnake-OB	Morning Cloak-OB	

Feature 42

Woodland Assessment- *complete 1 assessment for each woodland*

Woodlot # (indicate on map) : A

Approximate age of stand 50-60

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☒ Yes ☐ No
If yes, approximate # present or % of stand 1%
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc..) Throughout

Are snags present? ☒ Yes ☐ No
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark.
8/ha in 2 3 beech @ 2-10m tall; ~20cm DBH no loose bark, 1 @ 30cm 7 4m, Ea 20cm 7 18m, no loose: many Be 20-30 broken 2m & 10+

Trees with cavities present? ☐ No ☐ Rare ☒ Occasional ☐ Abundant
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)
	12m	20cm	3m	Small
	7m	35cm	3m	hollow
	10-15	25cm	5m	small

lots of woodpecker feeding in area #2 - lots of snags - Abundant feeding cavities

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☒ No
If yes, UTM and describe tree type, height and position in tree, size of nest, species present
Many Squirrel nests though

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☒ Yes ☐ No
If yes, describe old logging evidence

Seeps/ springs present? ☒ Yes ☒ No If yes,

Seep/Spring #	UTM	Description	Surrounding Habitat
	See Habitat #5		

Vernal Pools Present? ☒ Yes ☐ No If yes,

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shrubs, logs at pond edge
	See Habitat #5	none present	~5m x length of woodlot	no - now wetsp eg. Impatients	

No feature

ELC COMMUNITY DESCRIPTION CLASSIFICATION	SITE:		POLYGON: 1	
	SURVEYOR(S):	DATE:	UTME:	
	START:	END	UTMZ:	UTMN:

POLYGON DESCRIPTION

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

SITE	VEGETATION
☐ OPEN WATER ☐ SHALLOW WATER ☐ SURFICIAL DEP. ☐ BEDROCK	☐ OPEN ☐ SHRUB ☐ TREED

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	0	
2	SUB-CANOPY	3	1	ACERUBR (+ cumc.)
3	UNDERSTOREY	4	2	RUBIDEA & Dogwoods
4	GRD. LAYER	5-7	4	Goldenrod sp.

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

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

STAND COMPOSITION:					BA:
SIZE CLASS ANALYSIS:	R < 10	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 :	X 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:

		CODE:
COMMUNITY CLASS:		
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE: Mineral Cultural Meadow		CODE: CUM1
INCLUSION		CODE:
COMPLEX		CODE:

Notes:

Pic 1659

Cumb - shorter w/ P.F. Trefoil | Cumc = more successional + slightly wetter. Same groundcover but ? ACERUBR

Nanny

ELC COMMUNITY DESCRIPTION CLASSIFICATION	SITE: Samsung
	POLYGON: 1
	DATE: 13-Oct-2010
	SURVEYOR(S): M. Straus

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SCIENTIFIC NAME	1	2	3	4	COMMON NAME	1	2	3	4
APRUSERO		R			P.S. Aster				O
POPDELT	R	R			Tussock				R
ACERUBR		O			ASTLAT				O
					Reed Canary Grass				R
					Spotted Jewelweed				R
					Mullein				R
					Scirpus sp.				R
					B.F. Trefoil				O
SALDISC			R						
RHACATH		R	R						
Apple sp.		O	R						
Scrub Dogwood			R						
Manitoba Maple		R							
VIBLENT		R							
RUBIDEA			R		Vetch sp.				O
Silky Dogwood			R		Goldenrod sp.				A

ELC Community Description & Classification

SITE:		POLYGON: (2)	
SURVEYOR(S):	DATE:		UTME:
START:	END	UTMZ:	UTMN:

POLYGON DESCRIPTION

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

STAND DESCRIPTION:

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

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

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

STAND COMPOSITION:	BA:

SIZE CLASS ANALYSIS:	A	< 10	A	10 - 24	O	25 - 50	R	> 50
STANDING SNAGS:	R	< 10	O	10 - 24	R	25 - 50	N	> 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: F-M Shagbark Hickory Deciduous Forest	CODE: FOD9-4
INCLUSION	CODE:
COMPLEX	CODE:

Notes:

Pic 1661

Feature 42

ELC Plant Species List

SITE:	Samsung
POLYGON:	2
DATE:	13-Oct-2010
SURVEYOR(S):	M. Straus

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

CARoVAT	O	R	R	R	
FAGGRAN	—	O	A	R	
ACERUBR	R	R	R	R	
FRAPENN	O	R	R	O	
TILAMER	R	O	R	R	
QUERUBR	R	—	—		
ACESACS	-	R	R	R	
OSTVIRG	—	—	O	O	
RHURADI				O	
PRUVIRG	—	—		R	
Currant spined hodis	—	—		R	✓
RUBIDEA	—	—		R	
FRAVIRG	—	—		O	
RUBRUBE	—	—		R	

RIBCYNO

Buttercup sp				O	

Page .... of ....

ELC COMMUNITY DESCRIPTION & CLASSIFICATION

SITE:		POLYGON: (3)	
SURVEYOR(S):	DATE:		UTME:
START:	END	UTMZ:	UTMN:

POLYGON DESCRIPTION

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

STAND DESCRIPTION:

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

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

STAND COMPOSITION:	BA:

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

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

COMM. AGE :		PIONEER		YOUNG	X	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)

COMMUNITYCLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE: F-M Red Oak - Shagbark Hickory Dec. Forest	CODE: FOD9-6
INCLUSION	CODE:
COMPLEX	CODE:

Notes: Ric1663

Feature 42

ELC PLANT SPECIES LIST

SITE:	Samsung
POLYGON:	3
DATE:	13-Oct-2010
SURVEYOR(S):	McStraus

LAYERS: 1 = CANOPY > 10m 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT T = Trace

SPECIES CODE	LAYER 1	2	3	4	COLL.
CAROVAT	O	O	R	R	
ACERUBR	R	R	R	R	
FRAPENN	O	O	R	O	
FRANIGR	–	R	–	–	
QUERUBR	O	R	R	R	
FAGGRAN	-	R	R	R	
OSTVIRG	–	–	O		
POPTREM	T	–	–	–	
RUBIDEA				O	
CARCARO			R		
FRAVIRG				O	

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Feature 42

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: 1009605777		POLYGON: (4)	
	SURVEYOR(S):	DATE:		UTME:
	START:	END	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM
- ☐ TERRESTRIAL
- ☐ WETLAND
- ☐ AQUATIC

SITE
- ☐ OPEN WATER
- ☐ SHALLOW WATER
- ☐ SURFICIAL DEP.
- ☐ BEDROCK

SUBSTRATE
- ☐ ORGANIC
- ☐ MINERAL SOIL
- ☐ PARENT MIN.
- ☐ ACIDIC BEDRK.
- ☐ BASIC BEDRK.
- ☐ CARB. BEDRK.

TOPOGRAPHIC FEATURE
- ☐ LACUSTRINE
- ☐ RIVERINE
- ☐ BOTTOMLAND
- ☐ TERRACE
- ☐ VALLEY SLOPE
- ☐ TABLELAND
- ☐ ROLL. UPLAND
- ☐ CLIFF
- ☐ TALUS
- ☐ CREVICE / CAVE
- ☐ ALVAR
- ☐ ROCKLAND
- ☐ BEACH / BAR
- ☐ SAND DUNE
- ☐ BLUFF

HISTORY
- ☐ NATURAL
- ☐ CULTURAL

COVER
- ☐ OPEN
- ☐ SHRUB
- ☐ TREED

PLANT FORM
- ☐ PLANKTON
- ☐ SUBMERGED
- ☐ FLOATING-LVD.
- ☐ GRAMINOID
- ☐ FORB
- ☐ LICHEN
- ☐ BRYOPHYTE
- ☐ DECIDUOUS
- ☐ CONIFEROUS
- ☐ MIXED

COMMUNITY
- ☐ LAKE
- ☐ POND
- ☐ RIVER
- ☐ STREAM
- ☐ MARSH
- ☐ SWAMP
- ☐ FEN
- ☐ BOG
- ☐ BARREN
- ☐ MEADOW
- ☐ PRAIRIE
- ☐ THICKET
- ☐ SAVANNAH
- ☐ WOODLAND
- ☐ FOREST
- ☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY			
2	SUB-CANOPY			
3	UNDERSTOREY	4-5	4	SPIALBA >> RUBIDEA > Goldenrod sp. (all P ~1,3m)
4	GRD. LAYER	6-7	3	RUBIDEA < Grass

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

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

STAND COMPOSITION:									BA:
SIZE CLASS ANALYSIS:		< 10		10 - 24		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)

COMMUNITYCLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE: Meadowsweet Mineral Thicket Swamp	CODE: SWT2-6
INCLUSION	CODE:
COMPLEX	CODE:

Notes:

pic 1662

ELC PLANT SPECIES LIST	
SITE:	Samsung
POLYGON:	4
DATE:	13-Oct-2010
SURVEYOR(S):	M. Straus

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

Apple			R		
RHACATH			R		
Silky Dog			O		
Hawthorn			R		
Manitoba Maple			R		
SAMCANA			R		
RUBIDEA			O	O	
SPIALBA			D		

PS Aster			R		
ASTLAT			R		
Reed Canary Grass			R		
Goldenrod sp.			O	O	

Page ...... of ......

ELC COMMUNITY DESCRIPTION CLASSIFICATION

SITE: 16096057 POLYGON: 5

SURVEYOR(S): DATE: UTME:

START: END UTMZ: UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	HYDROGRAPHIC FEATURE	NUTRIENT	VEGETATION	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
SITE	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
☐ OPEN WATER	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☐ SWAMP
☐ SHALLOW WATER		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
☐ SURFICIAL DEP.		☐ CLIFF		☐ DECIDUOUS	☐ BOG
☐ BEDROCK		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	1	4	ACER sp. > QUEMAC
2	SUB-CANOPY	2	1	ULMAMER
3	UNDERSTOREY	3-4	4	ACERUBR > OSTVIRG
4	GRD. LAYER	5-7	4	Spotted T.M. Not > RUBIDEA

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

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

STAND COMPOSITION: BA:

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

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

COMM. AGE :		PIONEER		YOUNG	X	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:

		CODE:
COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE:	Swamp Maple Mineral Deciduous Swamp	CODE: SWDB-3
INCLUSION		CODE:
COMPLEX		CODE:

Notes:

PIC 1664

Feature 42

ELC PLANT SPECIES LIST

SITE: Samsung

POLYGON: 5

DATE: 13-07-2010

SURVEYOR(S): M. Straus

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

PLANT SPECIES	LAYER				SOIL
	1	2	3	4	
ACEFREE	~~O~~ -	R	R		
QUEMBER	R	R	R	R	
TILAMER	—		R		
ACERUBR	R				
ULMAMER	-	R	R	R	
FRAPENN	R				
OSTVIRG			O		
Gray Dogwood			R		
Bar Berry			R		
RUBIDEA			O	O	

PLANT SPECIES	LAYER				SOIL
	1	2	3	4	
AGTLATE				R	
Spotted T.M. Not				O	
Wood Nettle				O	

Feature 42

ELC COMMUNITY DESCRIPTION	SITE: 16096057	POLYGON: 6	
	SURVEYOR(S):	DATE:	UTME:
	START:	END	UTMZ:	UTMN:

POLYGON DESCRIPTION

WATER	SUBSTRATE	TOPOGRAPHIC POSITION	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
SITE	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
☐ OPEN WATER	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☐ SWAMP
☐ SHALLOW WATER		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
☐ SURFICIAL DEP.		☐ CLIFF		☐ DECIDUOUS	☐ BOG
☐ BEDROCK		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY			
2	SUB-CANOPY	3	3	ACSA + maples
3	UNDERSTOREY	4	2-3	Silky Dogwood > SPIALBA
4	GRD. LAYER	5-7	4	Reed Canary Grass > CUM sp

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

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

STAND COMPOSITION:	BA:

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

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

COMM. AGE:	X	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:	Red Maple Mineral Cultural Woodland	CODE: CUW1-7*
INCLUSION		CODE:
COMPLEX		CODE:

Notes: Bleeds into CUM/woodlot border - gradient ↓ to the west

P/C 1665

ELC PLANT SPECIES LIST	SITE: Sumsberg
	POLYGON: 6
	DATE: 13-Oct-2010
	SURVEYOR(S): M. Straus

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	1	2	3	4
ACERUBR		O		
ACESACC		R		
ULMAMER		R		
FRAPENN		R		
CAREVAT	R			
RHULAEV			R	
SPIALBA			O	
RIVERBANK GRASS			R	
SALDISC			R	
RUBIDEA				
Silky Dogwood			O	

SPECIES CODE	1	2	3	4
Reed Canary Grass				O
Spotted T.M. Aster				R
Sensitive Fern				R
P.S. Aster				O
Wild Carrot				O
Goldenrod sp				A
Viola sp.				R
Vine Nightshade				R
Scirpus sp				R

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: 160960577		POLYGON: (7)	
	SURVEYOR(S):	DATE:		UTME:
	START:	END	UTMZ:	UTMN:

POLYGON DESCRIPTION

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

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	1	4	CAROVAT > ACER(soft) > FRAPENN
2	SUB-CANOPY	2	4	CAROVAT > FAGGRAN
3	UNDERSTOREY	3-4	4	FAGGRAN ≤ OSTVIRG
4	GRD. LAYER	5-7	4	ASTMACR < Viola sp

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

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

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

COMM. AGE :		PIONEER		YOUNG		MID-AGE	X	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: FoM Shagbark Hickory Decid. Forest	CODE: FOD 9-4
INCLUSION	CODE:
COMPLEX	CODE:

Notes: Pic 1666

Feature 42

ELC PLANT SPECIES LIST	
	SITE: Samsung
	POLYGON: 7
	DATE: 13-Oct-2010
	SURVEYOR(S): M. Straus

LAYERS: 1 = CANOPY > 10m 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

[illegible]	1	2	3	4	[illegible]
FRAPENN	O	R	—		
CAROVAT	O	O	R	R	
FRANIGR	R	R	—		
ACEFREE	O	R	—		
QUERUBR	R	—	—		
FAGGRAN	R	O	O	R	
ACERUBR	O	R	R	R	
QUEMACR	R	—	—		
OSTVIRG		—	O	R	
RUBPUBE					
RHURADI					

[illegible]	1	2	3	4	[illegible]
Spotted T.M.Not				R	
Sensitive Fern				R	
ASTMACR				O	
Wood Nettle				R	
Zigzag Golden				R	
Viola sp				O	
Buttercup sp				O	

Page .... of ....

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
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	GRD. LAYER			

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

CVR CODES 0= NONE 1= 0% < CVR $\leq$ 10% 2= 10 < CVR $\leq$ 25% 3= 25 < CVR $\leq$ 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)

COMMUNITYCLASSIFICATION:

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

	INCLUSION		CODE:
	COMPLEX		CODE:

Notes:

ELC PLANT SPECIES LIST	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

598308 599308 600308 601308 602308

4747338 4746338

BAINS ROAD
SUTOR ROAD
BROOKERS ROAD
RAINHAM ROAD
HALDIMAND ROAD 59

581818
581863
581828
581811

Woodlot B
Woodlot C
Hay
Swale

N

0 200 400 m
1:12,000

598308 599308 600308 601308 602308

4747338 4746338

W:\active\60960577\drawing\GIS\MXD\NaturalHeritageAssessment\FieldMaps\60960577_FIELDMAP_ProjectLocation_Mapbook_20100921_PW.mxd - 9/27/2010 @ 5:35:56 PM

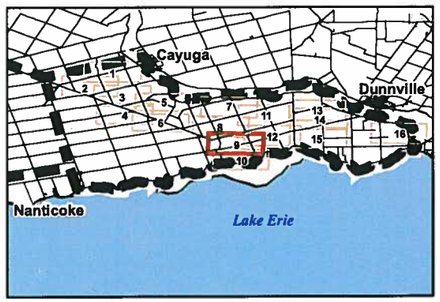
September 2010
160960577

Legend

- Project Location
- Proposed Turbine Location
- Proposed Access Road
- Proposed Collector Line
- ROW Installation Zone
- 120m Investigation Zone
- Elexco Aquired Agreements
- Government Lands
- UDI Lands
- Road
- Railway
- Abandoned Railway
- Transmission Line (OBM)
- Deer Wintering Area
- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Watercourse (OBM)
- Waterbody

Area of Natural and Scientific Interest (ANSI)

- Life Science, Provincially Significant
- Earth Science, Provincially Significant
- Earth Science, Regionally Significant



Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Data Sources: Ontario Ministry of Natural Resources © Queens Printer Ontario, 2009; © GREP, 2010; © Samsung, 2010.
3. Image Source: © First Base Solutions, 2010 - Imagery Date: Spring 2006; **LIDAR IMAGERY SOURCE???**

Client/Project

SAMSUNG C&T
GRAND RENEWABLE ENERGY PARK

Figure No.

FIELD MAP 9

Title

PROJECT LOCATION MAP

Stantec

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

Wildlife Habitat Assessment

Project Number: 160960577

Project Name: Samsung

Date / Time: 30-Sept-2010

Field Personnel: Melissa Straus

Weather Conditions:	Temp:	Wind:	Cloud:	PPT:	PPT in last 24 hrs:
	13°C	2	100%	none	none

Reptile Hibernacula Features 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)

Does the site contain potential reptile hibernacula features? ☐ Yes ☒ No (if yes, describe details in Table 1).

Bat Hibernacula Features i.e. karst topography, abandoned mines or caves

Does the site contain potential bat hibernacula features? ☐ Yes ☒ No (if yes, describe details in Table 1).

Table 1: Potential bat/reptile hibernacula features identified on site

UTM	Feature type	Photo #	Description	Species observed using feature

Species Observations

List species and type of observation: (**TK** = track, **SC** = scat, **VO** = vocalization, **OB** = observed, **DP** = distinctive parts, **FE** = feeding evidence, **CA** = carcass, **FY** = eggs, nest, **HO** = house/den, **SI** = other sign)

Birds	Mammals	Herps	Butterflies / Dragonflies	Other
i.e. AMRO/VO	Deer - TK Raccoon - TK, HO, OB Grey squirrel OB			

Feature 42

Woodland Assessment- *complete 1 assessment for each woodland*

Woodlot # (indicate on map) : C 30-Sept-2010

Approximate age of stand 15 years

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☐ Yes ☒ No
If yes, approximate # present or % of stand _____
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc..) _____

Are snags present? ☐ Yes ☒ No
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark.

Trees with cavities present? ☒ No ☐ Rare ☐ Occasional ☐ Abundant
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☒ No
If yes, UTM and describe tree type, height and position in tree, size of nest, species present

_____

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☐ Yes ☒ No
If yes, describe _____

Seeps/ springs present? ☐ Yes ☒ No If yes,

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? ☐ Yes ☒ No If yes,

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shrubs, logs at pond edge

P. 48 of 64

Woodland Assessment- *complete 1 assessment for each woodland*

Woodlot # (indicate on map) : _____

Approximate age of stand _____

Are large (i.e. >40cmDBH and >25m tall) **trees present** ☐ Yes ☐ No
If yes, approximate # present or % of stand _____
Location in stand (i.e throughout, in west side only, in FOD2-6 only etc..) _____

Are snags present? ☐ Yes ☐ No
If yes provide characterization of number present, height and DBH of snags and indicate if they contain loose bark.

Trees with cavities present? ☐ No ☐ Rare ☐ Occasional ☐ Abundant
If present:

	Height ranges of tree	Range of Tree DBH	Range of Cavity Heights	Cavity sizes (approx. diameter)

Presence of large stick nests (i.e. raptor nests)? ☐ Yes ☐ No
If yes, UTM and describe tree type, height and position in tree, size of nest, species present

_____

Evidence of disturbance? (i.e logging, roads, paths, ATV use, trails) ☐ Yes ☐ No
If yes, describe _____

Seeps/ springs present? ☐ Yes ☐ No If yes,

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? ☐ Yes ☐ No If yes,

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shrubs, logs at pond edge

Feature 42

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: Samsung		POLYGON: 11	
SURVEYOR(S): MS	DATE: 30-Sept-2010	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
SITE	☐ BASIC BEDRK.	☐ VALLEY SLOPE	COVER	☐ FORB	☐ MARSH
☐ OPEN WATER	☐ CARS. BEDRK.	☐ TABLELAND	☐ OPEN	☐ LICHEN	☐ SWAMP
☐ SHALLOW WATER		☐ ROLL. UPLAND	☐ SHRUB	☐ BRYOPHYTE	☐ FEN
☐ SURFICIAL DEP.		☐ CLIFF	☐ TREED	☐ DECIDUOUS	☐ BOG
☐ BEDROCK		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	PINSTRO > PICABLE
2	SUB-CANOPY	3	4	PINSTRO > PICABLE > PICGLAU
3	UNDERSTOREY	4	1	RHACATHT < Red Raspberry
4	GRD. LAYER	5-7	4	Goldenrod = White Aster

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

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

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

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

COMM. AGE :		PIONEER	X	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: Cultural	CODE: CU	
COMMUNITY SERIES: Cultural Plantation	CODE: CUP	
ECOSITE: Coniferous Plantation	CODE: CUP3-12	
VEGETATION TYPE: White Pine Plantation / White/Norway Coniferous	CODE: CUP3-12*	
INCLUSION: Spruce	CODE:	
COMPLEX:	CODE:	

Notes:

PIC 1570

PLANT SPECIES LIST

SITE: Samsung
POLYGON: 11
DATE: 30-Sept-2010
SURVEYOR(S): Melissa Straus

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COLL.
PICABLE	O	R			
PINSTRO	D	O			
PICGLAU	-	R			
ACESACS	-	R	R	-	
FRAPENN	R	R			
RHACATHT	-		R	R	
RUBIDEA	-		-	O	

SPECIES CODE	LAYER 1	2	3	4	COLL.
White Aster				O	
Sensitive Fern				R	
Teasel				R	
Reed Canary Grass				R	Seed
TYPANGU				R	
Riverbank Grape				R	
Eastern Hemlock				R	
Gray Dogwood				R	
Goldenrod sp.				A	

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

STAND DESCRIPTION:

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

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

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

STAND COMPOSITION:									BA:
SIZE CLASS ANALYSIS:		< 10		10 - 24		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)

COMMUNITYCLASSIFICATION:

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

Notes:

ELC PLANT SPECIES LIST	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

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

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

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

596987 597987 598987 599987 600987

4749305 4748305 4747305

WILSON ROAD

SUTOR ROAD

HALDIMAND ROAD 20

HALDIMAND ROAD 50

BAINS ROAD

581851

581834

581824

581860

581859

Woodlot A

Woodlot B

soy

0 200 400 m

1:12,000

N

September 2010
160960577

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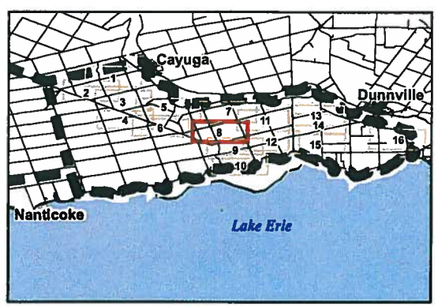
Legend

- Project Location
- Proposed Turbine Location
- Proposed Access Road
- Proposed Collector Line
- ROW Installation Zone
- 120m Investigation Zone
- Elexco Aquired Agreements
- Government Lands
- UDI Lands
- Road
- Railway
- Abandoned Railway
- Transmission Line (OBM)
- Deer Wintering Area
- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Watercourse (OBM)
- Waterbody

Area of Natural and Scientific Interest (ANSI)

- Life Science, Provincially Significant
- Earth Science, Provincially Significant
- Earth Science, Regionally significant



Stantec

Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Data Sources: Ontario Ministry of Natural Resources © Queens Printer Ontario, 2009; © GREP, 2010; © Samsung, 2010.
3. Image Source: © First Base Solutions, 2010 - Imagery Date: Spring 2006; **LIDAR IMAGERY SOURCE???**

Client/Project

SAMSUNG C&T
GRAND RENEWABLE ENERGY PARK

Figure No.

FIELD MAP 8

Title

PROJECT LOCATION MAP