



Legend

- | | | | |
|--|--------------------------------------|---|---|
| | Project Location | | Transmission Line (OBM) |
| | 120m Zone of Investigation | | Deer Wintering Area |
| | Proposed Turbine Location (V3) | | Provincially Significant Wetland |
| | Access Road Centre Line (V3) | | Non-Provincially Significant Wetland |
| | Proposed Collector Line (V2 Sept 30) | | Watercourse (OBM) |
| | ROW Installation Zone (V3) | | Waterbody |
| | Substation Property | Area of Natural and Scientific Interest (ANSI) | |
| | Elenco Aquired Agreements (Oct 26) | | Life Science, Provincially Significant |
| | Government Lands | | Earth Science, Provincially Significant |
| | UDI Lands | | Earth Science, Regionally Significant |
| | Road | | |
| | Railway | | |
| | Abandoned Railway | | |



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 6

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 1 Wildlife Habitat Assessment Polygon ⑰ T-Line		
Project Number: 161010646		Project Name: Samsung			
Date / Time: Nov. 4. 10		Field Personnel: GAW			
Weather Conditions:	Temp: 10°	Wind: 2	Cloud: 100%	PPT: light rain	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).

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 (17)

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 seen

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 large: 3 with 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? 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 Possibly grazed.

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

 Stantec Consulting Ltd. 70-1 Southgate Drive Guelph, Ontario, Canada N1G 4P5 Tel: (519) 836-6050 Fax: (519) 836-2493		FEATURE 2 Wildlife Habitat Assessment Polygon ⑨			
Project Number: <u>161010646</u>	Project Name: <u>Samsung - T-Line</u>				
Date / Time: <u>Nov 4. 10</u>	Field Personnel: <u>GAW</u>				
Weather Conditions:	Temp: <u>10°</u>	Wind: <u>2</u>	Cloud: <u>100%</u>	PPT: <u>light rain</u>	PPT in last 24 hrs: <u>RAIN</u>

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>i.e. AMRO/VO</i> /	/	/	/	/

Woodland Assessment- complete 1 assessment for each woodland

Woodlot # (indicate on map) : Feature 2

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 ones seen, rarely 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)
				<u>None seen</u>

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 at pond edge

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: 161010646		POLYGON: ①	
	SURVEYOR(S): GAW		DATE: Nov. 4. 10	UTME:
	START:	END:	UTMZ:	UTMN:

POLYGON DESCRIPTION

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

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

STAND COMPOSITION: BA:

SIZE CLASS ANALYSIS: A < 10 A 10-24 O 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: 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				COLL.	SPECIES CODE	LAYER				COLL.		
	1	2	3	4			1	2	3	4			
FRAPENN		D	D										
ULMAMER		A											
ACERUBR	R												
CORSTOL			O										

} No Access

} No Access



Legend

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



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: <u>161010646</u>		Project Name: <u>Samsung - T-Line</u>			
Date / Time: <u>Nov. 4, 2010</u>		Field Personnel: <u>GAW</u>			
Weather Conditions:	Temp: <u>10°</u>	Wind: <u>2</u>	Cloud: <u>100%</u>	PPT: <u>light rain</u>	PPT in last 24 hrs: <u>Rain</u>

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>i.e. AMRO/VO</i> 				

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

If present:

None seen

	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 shrub logs at pond edge

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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

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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???**
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Client/Project
SAMSUNG C&T
GRAND RENEWABLE ENERGY PARK

Figure No.
FIELD MAP 4

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 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: 10°	Wind: 2	Cloud: 100%	PPT: light Rain	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).

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 (1b)

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

Seeps/ springs present? Yes No Unknown

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? Yes No Unknown

#	Location	Depth of water	Size of pool (diameter)	Presence of emergent/submergent veg?	Presence of shrub 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			Feature 4 Wildlife Habitat Assessment Samsung	
	Project Number: 161010646	Project Name: T-line Polygon 9 (represents several small patches)			
Date / Time: Nov. 4. 10	Field Personnel: GAW				
Weather Conditions:	Temp: 10°	Wind: 2	Cloud: 100%	PPT: light rain	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). 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

If present:

None Seen.

	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

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Legend

- | | | | |
|--|--------------------------------------|---|---|
| | Project Location | | Transmission Line (OBM) |
| | 120m Zone of Investigation | | Deer Wintering Area |
| | Proposed Turbine Location (V3) | | Provincially Significant Wetland |
| | Access Road Centre Line (V3) | | Non-Provincially Significant Wetland |
| | Proposed Collector Line (V2 Sept 30) | | Watercourse (OBM) |
| | ROW Installation Zone (V3) | | Waterbody |
| | Substation Property | Area of Natural and Scientific Interest (ANSI) | |
| | Elexco Acquired Agreements (Oct 26) | | Life Science, Provincially Significant |
| | Government Lands | | Earth Science, Provincially Significant |
| | UDI Lands | | Earth Science, Regionally Significant |
| | Road | | |
| | Railway | | |
| | Abandoned Railway | | |



GAW
Nov. 4.10


Notes

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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		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 <u>161010646</u>		Project Name: <u>Samsung</u>			
Date / Time: <u>Nov. 4. 10</u>		Field Personnel: <u>GAW</u>			
Weather Conditions:	Temp: <u>10°</u>	Wind: <u>2</u>	Cloud: <u>100%</u>	PPT: <u>light rain</u>	PPT in last 24 hrs: <u>Rain</u>

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>i.e. AMRO/VO</i> Bcch BLJA NOHA	/	/	/	/

Woodland Assessment- complete 1 assessment for each woodland

Woodlot # (indicate on map) : Polygon (2)

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

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:		POLYGON: 12	
	SURVEYOR(S):		DATE:	UTME:
	START:	END:	UTMZ:	UTMN:

POLYGON DESCRIPTION

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

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

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

COMM. AGE:	PIONEER	YOUNG	MID-AGE	<input checked="" type="checkbox"/> MATURE	OLD GROWTH
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SOIL ANALYSIS:

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

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS: Forest	CODE: Fo
COMMUNITY SERIES: Deciduous Forest	CODE: FoD
ECOSITE: D-F sugar Maple Dec. Forest	CODE: FoD5
VEGETATION TYPE: maple - beech - oak	CODE: FoD
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				COLL.	SPECIES CODE	LAYER				COLL.	
	1	2	3	4			1	2	3	4		
FAGGRAN	O	A	A									
FRAPENN	A											
ACESASA	D	D	D									
shagbark	O											
TILAMER	O											
OSTVIRG		O										
QUERUBR	A											
QUEMACR	A	O										

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
<input checked="" type="checkbox"/> TERRESTRIAL <input type="checkbox"/> WETLAND <input type="checkbox"/> AQUATIC	<input type="checkbox"/> ORGANIC <input checked="" type="checkbox"/> MINERAL SOIL <input type="checkbox"/> PARENT MIN. <input type="checkbox"/> ACIDIC BEDRK. <input type="checkbox"/> BASIC BEDRK. <input type="checkbox"/> CARB. BEDRK.	<input type="checkbox"/> LACUSTRINE <input type="checkbox"/> RIVERINE <input type="checkbox"/> BOTTOMLAND <input type="checkbox"/> TERRACE <input type="checkbox"/> VALLEY SLOPE <input checked="" type="checkbox"/> TABLELAND <input type="checkbox"/> ROLL UPLAND <input type="checkbox"/> CLIFF <input type="checkbox"/> TALLUS <input type="checkbox"/> CREVICE / CAVE <input type="checkbox"/> ALVAR <input type="checkbox"/> ROCKLAND <input type="checkbox"/> BEACH / BAR <input type="checkbox"/> SAND DUNE <input type="checkbox"/> BLUFF	<input checked="" type="checkbox"/> NATURAL <input type="checkbox"/> CULTURAL	<input type="checkbox"/> PLANKTON <input type="checkbox"/> SUBMERGED <input type="checkbox"/> FLOATING-LVD. <input type="checkbox"/> GRAMINOID <input type="checkbox"/> FORB <input type="checkbox"/> LICHEN <input type="checkbox"/> BRYOPHYTE <input checked="" type="checkbox"/> DECIDUOUS <input type="checkbox"/> CONIFEROUS <input type="checkbox"/> MIXED	<input type="checkbox"/> LAKE <input type="checkbox"/> POND <input type="checkbox"/> RIVER <input type="checkbox"/> STREAM <input type="checkbox"/> MARSH <input type="checkbox"/> SWAMP <input type="checkbox"/> FEN <input type="checkbox"/> BOG <input type="checkbox"/> BARREN <input type="checkbox"/> MEADOW <input type="checkbox"/> PRAIRIE <input type="checkbox"/> THICKET <input type="checkbox"/> SAVANNAH <input type="checkbox"/> WOODLAND <input checked="" type="checkbox"/> FOREST <input type="checkbox"/> PLANTATION
SITE			COVER		
<input type="checkbox"/> OPEN WATER <input type="checkbox"/> SHALLOW WATER <input checked="" type="checkbox"/> SURFICIAL DEP. <input type="checkbox"/> BEDROCK			<input type="checkbox"/> OPEN <input type="checkbox"/> SHRUB <input checked="" type="checkbox"/> 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	ACESASA >> FAGGRAN > QUERUBR
2 SUB-CANOPY	3	4	" > "
3 UNDERSTOREY	4-5	4	FAGGRAN
4 GRD. LAYER	6-7		

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

STAND COMPOSITION: BA:

SIZE CLASS ANALYSIS: A < 10 A 10-24 O 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 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				COLL.	SPECIES CODE	LAYER				COLL.	
	1	2	3	4			1	2	3	4		
ACESASA	D	A	A									
FAGGRAN	A	A	A									
QUERUBR	A											
FRAPENN	O											
PRUSERO	O											
TILAMER	O											



Stantec

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 <u>161010646</u>	Project Name: <u>Samsung</u>
Date / Time: <u>Nov. 4. 10</u>	Field Personnel: <u>GAW</u>

Weather Conditions:	Temp: <u>10°</u>	Wind: <u>2</u>	Cloud: <u>100%</u>	PPT: <u>light rain</u>	PPT in last 24 hrs: <u>Rain</u>
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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
<u>i.e. AMRO/VO</u> /	/	/	/	/

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

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

 Stantec	Stantec Consulting Ltd. 70-1 Southgate Drive Guelph, Ontario, Canada N1G 4P5 Tel: (519) 836-6050 Fax: (519) 836-2493			Feature 12 Wildlife Habitat Assessment Polygon 10 T-line	
	Project Number <u>161010646</u>		Project Name: <u>Samsung</u>		
Date / Time: <u>Nov. 4. 10</u>		Field Personnel: <u>GAW</u>			
Weather Conditions:	Temp: <u>10°</u>	Wind: <u>2</u>	Cloud: <u>100%</u>	PPT: <u>light rain</u>	PPT in last 24 hrs: <u>Rain</u>

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>i.e. AMRO/VO</i> /	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)
<u>See Above</u>	<u>7-20m</u>	<u>15-45 cm</u>	<u>3-10m</u>	<u>medium</u>

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

 Stantec		Stantec Consulting Ltd. 70-1 Southgate Drive Guelph, Ontario, Canada N1G 4P5 Tel: (519) 836-6050 Fax: (519) 836-2493		Feature 13 Wildlife Habitat Assessment Polygon ④ T-line	
Project Number <u>161010646</u>			Project Name: <u>Samsung</u>		
Date / Time: <u>Nov. 4. 10</u>			Field Personnel: <u>GAW</u>		
Weather Conditions:	Temp: <u>10°</u>	Wind: <u>2</u>	Cloud: <u>100%</u>	PPT: <u>light rain</u>	PPT in last 24 hrs: <u>Rain</u>

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>i.e. AMRO/VO</i> 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 *Unknown*

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? Yes No *Unknown*

#	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		Feature 13 Wildlife Habitat Assessment Polygon 13 T-line	
Project Number <u>161010646</u>		Project Name: <u>Samsung</u>			
Date / Time: <u>Nov. 4, 10</u>		Field Personnel: <u>GAW</u>			
Weather Conditions:	Temp: <u>10°</u>	Wind: <u>2</u>	Cloud: <u>100%</u>	PPT: <u>light rain</u>	PPT in last 24 hrs: <u>Rain</u>

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>i.e. AMRO/VO</i> 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
<input checked="" type="checkbox"/> TERRESTRIAL <input type="checkbox"/> WETLAND <input type="checkbox"/> AQUATIC	<input type="checkbox"/> ORGANIC <input checked="" type="checkbox"/> MINERAL SOIL <input type="checkbox"/> PARENT MIN. <input type="checkbox"/> ACIDIC BEDRK. <input type="checkbox"/> BASIC BEDRK. <input type="checkbox"/> CARB. BEDRK.	<input type="checkbox"/> LACUSTRINE <input type="checkbox"/> RIVERINE <input type="checkbox"/> BOTTOMLAND <input type="checkbox"/> TERRACE <input type="checkbox"/> VALLEY SLOPE <input checked="" type="checkbox"/> TABLELAND <input type="checkbox"/> ROLL UPLAND <input type="checkbox"/> CLIFF <input type="checkbox"/> TALUS <input type="checkbox"/> CREVICE / CAVE <input type="checkbox"/> ALVAR <input type="checkbox"/> ROCKLAND <input type="checkbox"/> BEACH / BAR <input type="checkbox"/> SAND DUNE <input type="checkbox"/> BLUFF	<input checked="" type="checkbox"/> NATURAL <input type="checkbox"/> CULTURAL	<input type="checkbox"/> PLANKTON <input type="checkbox"/> SUBMERGED <input type="checkbox"/> FLOATING-LVD. <input type="checkbox"/> GRAMINOID <input type="checkbox"/> FORB <input type="checkbox"/> LICHEN <input checked="" type="checkbox"/> BRYOPHYTE <input checked="" type="checkbox"/> DECIDUOUS <input type="checkbox"/> CONIFEROUS <input type="checkbox"/> MIXED	<input type="checkbox"/> LAKE <input type="checkbox"/> POND <input type="checkbox"/> RIVER <input type="checkbox"/> STREAM <input type="checkbox"/> MARSH <input type="checkbox"/> SWAMP <input type="checkbox"/> FEN <input type="checkbox"/> SOG <input type="checkbox"/> BARREN <input type="checkbox"/> MEADOW <input type="checkbox"/> PRAIRIE <input type="checkbox"/> THICKET <input type="checkbox"/> SAVANNAH <input type="checkbox"/> WOODLAND <input type="checkbox"/> PLANTATION
SITE			COVER		
<input type="checkbox"/> OPEN WATER <input type="checkbox"/> SHALLOW WATER <input type="checkbox"/> SURFICIAL DEP. <input type="checkbox"/> BEDROCK			<input type="checkbox"/> OPEN <input type="checkbox"/> SHRUB <input checked="" type="checkbox"/> 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	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
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STANDING SNAGS:	< 10	10 - 24	25 - 50	> 50
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DEADFALL / LOGS:	< 10	10 - 24	25 - 50	> 50
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ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

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

SOIL ANALYSIS:

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

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS: 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-II*
INCLUSION	CODE:
COMPLEX	CODE:

Notes:

RTHA No Access
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				COLL.	SPECIES CODE	LAYER				COLL.		
	1	2	3	4			1	2	3	4			
ACESASA	D	D	D										
FAGGRAN	O	A	A										
TILAMER	O												
Shagbark	O	O	A										
QUERUBR	O	A											

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:		POLYGON: (14)	
	SURVEYOR(S):		DATE:	
	START:	END:	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
<input checked="" type="checkbox"/> TERRESTRIAL <input type="checkbox"/> WETLAND <input type="checkbox"/> AQUATIC	<input type="checkbox"/> ORGANIC <input checked="" type="checkbox"/> MINERAL SOIL <input type="checkbox"/> PARENT MIN. <input type="checkbox"/> ACIDIC BEDRK. <input type="checkbox"/> BASIC BEDRK. <input type="checkbox"/> CARB. BEDRK.	<input type="checkbox"/> LACUSTRINE <input type="checkbox"/> RIVERINE <input type="checkbox"/> BOTTLAND <input type="checkbox"/> TERRACE <input type="checkbox"/> VALLEY SLOPE <input checked="" type="checkbox"/> TABLELAND <input type="checkbox"/> ROLL UPLAND <input type="checkbox"/> CLIFF <input type="checkbox"/> TALUS <input type="checkbox"/> CREVICE / CAVE <input type="checkbox"/> ALVAR <input type="checkbox"/> ROCKLAND <input type="checkbox"/> BEACH / BAR <input type="checkbox"/> SAND DUNE <input type="checkbox"/> BLUFF	<input checked="" type="checkbox"/> NATURAL <input type="checkbox"/> CULTURAL	<input type="checkbox"/> PLANKTON <input type="checkbox"/> SUBMERGED <input type="checkbox"/> FLOATING-LVD. <input type="checkbox"/> GRAMINOID <input type="checkbox"/> FORB <input type="checkbox"/> LICHEN <input type="checkbox"/> BRYOPHYTE <input checked="" type="checkbox"/> DECIDUOUS <input type="checkbox"/> CONIFEROUS <input type="checkbox"/> MIXED	<input type="checkbox"/> LAKE <input type="checkbox"/> POND <input type="checkbox"/> RIVER <input type="checkbox"/> STREAM <input type="checkbox"/> MARSH <input type="checkbox"/> SWAMP <input type="checkbox"/> FEN <input type="checkbox"/> BOG <input type="checkbox"/> BARREN <input type="checkbox"/> MEADOW <input type="checkbox"/> PRAIRIE <input type="checkbox"/> THICKET <input type="checkbox"/> SAVANNAH <input type="checkbox"/> WOODLAND <input checked="" type="checkbox"/> FOREST <input type="checkbox"/> PLANTATION
SITE		COVER			
<input type="checkbox"/> OPEN WATER <input type="checkbox"/> SHALLOW WATER <input checked="" type="checkbox"/> SURFICIAL DEP. <input type="checkbox"/> BEDROCK		<input type="checkbox"/> OPEN <input type="checkbox"/> SHRUB <input checked="" type="checkbox"/> 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	ACESASA >> Quercus > Shagbark
2 SUB-CANOPY	3	4	" > shagbark
3 UNDERSTOREY	4-5	4	" > FAGGRAN
4 GRD. LAYER	6-7		

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

STAND COMPOSITION:

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

STANDING SNAGS:		< 10	10 - 24	25 - 50	> 50
------------------------	--	------	---------	---------	------

DEADFALL / LOGS:		< 10	10 - 24	25 - 50	> 50
-------------------------	--	------	---------	---------	------

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

COMM. AGE:		PIONEER	YOUNG	MID-AGE	<input checked="" type="checkbox"/> 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: F0
COMMUNITY SERIES: Deciduous Forest	CODE: FOD
ECOSITE: D-F Sugar Maple Dec. Forest	CODE: FODS
VEGETATION TYPE: D-F Sugar Maple - Oak Dec. Forest	CODE: FODS-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				COLL.	SPECIES CODE	LAYER				COLL.	
	1	2	3	4			1	2	3	4		
FAGGRAN	R		O									
ACESASA	D	D	A									
QUERUBR	A											
QUEMACR	O											
Shagbark	A	A										
OSTVIRG		O										
FRAPENN		O	R									
PINSTRO	R											

 Stantec		Stantec Consulting Ltd. 70-1 Southgate Drive Guelph, Ontario, Canada N1G 4P5 Tel: (519) 836-6050 Fax: (519) 836-2493	Feature 80 Wildlife Habitat Assessment T-line		
Project Number: <u>161010646</u>		Project Name: <u>Samsung</u>			
Date / Time: <u>Nov. 4, 2010</u>		Field Personnel: <u>GAW</u>			
Weather Conditions:	Temp: <u>10°</u>	Wind: <u>2</u>	Cloud: <u>100%</u>	PPT: <u>light rain</u>	PPT in last 24 hrs: <u>Rain</u>

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>i.e. AMRO/VO</i> /	/	/	/	/

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 shrubs/logs at pond edge

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: 16101064b	POLYGON: 13	
	SURVEYOR(S): GAW	DATE: Nov. 4, 10	UTME
	START: END:	UTMZ:	UTMN:
	POLYGON DESCRIPTION		

POLYGON DESCRIPTION

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

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 = 10-25 m 3 = 2-10 m 4 = 1-2 m 5 = 0.5-1 m 6 = 0.2-0.5 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

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

No Access

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
<input type="checkbox"/> TERRESTRIAL <input checked="" type="checkbox"/> WETLAND <input type="checkbox"/> AQUATIC	<input type="checkbox"/> ORGANIC <input checked="" type="checkbox"/> MINERAL SOIL <input type="checkbox"/> PARENT MIN. <input type="checkbox"/> ACIDIC BEDRK. <input type="checkbox"/> BASIC BEDRK. <input type="checkbox"/> CARB. BEDRK.	<input type="checkbox"/> LACUSTRINE <input type="checkbox"/> RIVERINE <input type="checkbox"/> BOTTOMLAND <input type="checkbox"/> TERRACE <input type="checkbox"/> VALLEY SLOPE <input checked="" type="checkbox"/> TABLELAND <input type="checkbox"/> ROLL UPLAND <input type="checkbox"/> CLIFF <input type="checkbox"/> TALUS <input type="checkbox"/> CREVICE / CAVE <input type="checkbox"/> ALVAR <input type="checkbox"/> ROCKLAND <input type="checkbox"/> BEACH / BAR <input type="checkbox"/> SAND DUNE <input type="checkbox"/> BLUFF	<input checked="" type="checkbox"/> NATURAL <input type="checkbox"/> CULTURAL COVER <input type="checkbox"/> OPEN <input type="checkbox"/> SHRUB <input checked="" type="checkbox"/> TREED	<input type="checkbox"/> PLANKTON <input type="checkbox"/> SUBMERGED <input type="checkbox"/> FLOATING-LVD. <input type="checkbox"/> GRAMINOID <input type="checkbox"/> FORB <input type="checkbox"/> LICHEN <input type="checkbox"/> BRYOPHYTE <input checked="" type="checkbox"/> DECIDUOUS <input type="checkbox"/> CONIFEROUS <input type="checkbox"/> MIXED	<input type="checkbox"/> LAKE <input type="checkbox"/> POND <input type="checkbox"/> RIVER <input type="checkbox"/> STREAM <input type="checkbox"/> MARSH <input checked="" type="checkbox"/> SWAMP <input type="checkbox"/> FEN <input type="checkbox"/> BOG <input type="checkbox"/> BARREN <input type="checkbox"/> MEADOW <input type="checkbox"/> PRAIRIE <input type="checkbox"/> THICKET <input type="checkbox"/> SAVANNAH <input type="checkbox"/> WOODLAND <input type="checkbox"/> FOREST <input type="checkbox"/> PLANTATION
SITE					
<input type="checkbox"/> OPEN WATER <input type="checkbox"/> SHALLOW WATER <input checked="" type="checkbox"/> SURFICIAL DEP. <input type="checkbox"/> 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	FRAPENN
2 SUB-CANOPY	3	4	" >> ULMAMER
3 UNDERSTOREY	4-5	4	CORSTOL
4 GRD. LAYER	6-7		

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

STAND COMPOSITION: BA: _____

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

STANDING SNAGS: < 10 10-24 25-50 > 50

DEADFALL / LOGS: < 10 10-24 25-50 > 50

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:

No Access

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

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4749665

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591570

592570

593570

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4749665



November 2010
160960577

Legend

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



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

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: <u>10°</u>	Wind: <u>2</u>	Cloud: <u>100%</u>	PPT: <u>light rain</u>	PPT in last 24 hrs: <u>Rain</u>
----------------------------	------------------	----------------	--------------------	------------------------	---------------------------------

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
<u>i.e. AMRO/VO</u> /	/	/	/	/

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 shrubs/logs at pond edge

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: 161010646	POLYGON: 9	
	SURVEYOR(S): GAW	DATE: Nov. 4, 10	UTME:
	START:	END:	UTMZ:
			UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
<input type="checkbox"/> TERRESTRIAL <input checked="" type="checkbox"/> WETLAND <input type="checkbox"/> AQUATIC	<input type="checkbox"/> ORGANIC <input checked="" type="checkbox"/> MINERAL SOIL <input type="checkbox"/> PARENT MIN. <input type="checkbox"/> ACIDIC BEDRK. <input type="checkbox"/> BASIC BEDRK. <input type="checkbox"/> CARB. BEDRK.	<input type="checkbox"/> LACUSTRINE <input type="checkbox"/> RIVERINE <input type="checkbox"/> BOTTOMLAND <input type="checkbox"/> TERRACE <input type="checkbox"/> VALLEY SLOPE <input checked="" type="checkbox"/> TABLELAND <input type="checkbox"/> ROLL UPLAND <input type="checkbox"/> CLIFF <input type="checkbox"/> TALUS <input type="checkbox"/> CREVICE / CAVE <input type="checkbox"/> ALVAR <input type="checkbox"/> ROCKLAND <input type="checkbox"/> BEACH / BAR <input type="checkbox"/> SAND DUNE <input type="checkbox"/> BLUFF	<input checked="" type="checkbox"/> NATURAL <input type="checkbox"/> CULTURAL <input type="checkbox"/> OPEN <input type="checkbox"/> SHRUB <input checked="" type="checkbox"/> TREED	<input type="checkbox"/> PLANKTON <input type="checkbox"/> SUBMERGED <input type="checkbox"/> FLOATING-LVD. <input type="checkbox"/> GRAMINOID <input type="checkbox"/> FORB <input type="checkbox"/> LICHEN <input type="checkbox"/> BRYOPHYTE <input checked="" type="checkbox"/> DECIDUOUS <input type="checkbox"/> CONIFEROUS <input type="checkbox"/> MIXED	<input type="checkbox"/> LAKE <input type="checkbox"/> POND <input type="checkbox"/> RIVER <input type="checkbox"/> STREAM <input type="checkbox"/> MARSH <input checked="" type="checkbox"/> SWAMP <input type="checkbox"/> FEN <input type="checkbox"/> BOG <input type="checkbox"/> BARREN <input type="checkbox"/> MEADOW <input type="checkbox"/> PRAIRIE <input type="checkbox"/> THICKET <input type="checkbox"/> SAVANNAH <input type="checkbox"/> WOODLAND <input type="checkbox"/> FOREST <input type="checkbox"/> 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	FRAPENN
2 SUB-CANOPY	3	4	" >> ULMAMER
3 UNDERSTOREY	4-5	4	CORSTOL
4 GRD. LAYER	6-7		No Access

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

STAND COMPOSITION: BA:

SIZE CLASS ANALYSIS:	A < 10	A 10 - 24	O 25 - 50	> 50
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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: 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: 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				COLL.	SPECIES CODE	LAYER				COLL.	
	1	2	3	4			1	2	3	4		
FRAPENN	D	D										
ULMAMER		A										
ACERUBR	R											
CORSTOL				O								



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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: <u>10°</u>	Wind: <u>2</u>	Cloud: <u>100%</u>	PPT: <u>light rain</u>	PPT in last 24 hrs: <u>Rain</u>
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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>i.e. AMRO/VO</i> 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:	UTM:
	START:	END:	UTMZ:	UTMN:

POLYGON DESCRIPTION

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

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

STAND COMPOSITION: BA:

SIZE CLASS ANALYSIS:	A	< 10	A	10 - 24	O	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 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				COLL.	SPECIES CODE	LAYER				COLL.	
	1	2	3	4			1	2	3	4		
ACESASA	A											
FAGGRAN	R											
QUERUBR	A											
FRAPENN	O											
Shagbark	R											
LONDIO1					O							

No Access

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
<input checked="" type="checkbox"/> TERRESTRIAL <input type="checkbox"/> WETLAND <input type="checkbox"/> AQUATIC	<input type="checkbox"/> ORGANIC <input checked="" type="checkbox"/> MINERAL SOIL <input type="checkbox"/> PARENT MIN. <input type="checkbox"/> ACIDIC BEDRK. <input type="checkbox"/> BASIC BEDRK. <input type="checkbox"/> CARB. BEDRK.	<input type="checkbox"/> LACUSTRINE <input type="checkbox"/> RIVERINE <input type="checkbox"/> BOTTOMLAND <input type="checkbox"/> TERRACE <input type="checkbox"/> VALLEY SLOPE <input checked="" type="checkbox"/> TABLELAND <input type="checkbox"/> ROLL UPLAND <input type="checkbox"/> CLIFF <input type="checkbox"/> TALUS <input type="checkbox"/> CREVICE / CAVE <input type="checkbox"/> ALVAR <input type="checkbox"/> ROCKLAND <input type="checkbox"/> BEACH / BAR <input type="checkbox"/> SAND DUNE <input type="checkbox"/> BLUFF	<input checked="" type="checkbox"/> NATURAL <input type="checkbox"/> CULTURAL <input type="checkbox"/> OPEN <input type="checkbox"/> SHRUB <input checked="" type="checkbox"/> TREED	<input type="checkbox"/> PLANKTON <input type="checkbox"/> SUBMERGED <input type="checkbox"/> FLOATING-LVD. <input type="checkbox"/> GRAMINOID <input type="checkbox"/> FORB <input type="checkbox"/> LICHEN <input type="checkbox"/> BRYOPHYTE <input checked="" type="checkbox"/> DECIDUOUS <input type="checkbox"/> CONIFEROUS <input type="checkbox"/> MIXED	<input type="checkbox"/> LAKE <input type="checkbox"/> POND <input type="checkbox"/> RIVER <input type="checkbox"/> STREAM <input type="checkbox"/> MARSH <input type="checkbox"/> SWAMP <input type="checkbox"/> FEN <input type="checkbox"/> BOG <input type="checkbox"/> BARREN <input type="checkbox"/> MEADOW <input type="checkbox"/> PRAIRIE <input type="checkbox"/> THICKET <input type="checkbox"/> SAVANNAH <input type="checkbox"/> WOODLAND <input checked="" type="checkbox"/> FOREST <input type="checkbox"/> PLANTATION
SITE					
<input type="checkbox"/> OPEN WATER <input type="checkbox"/> SHALLOW WATER <input checked="" type="checkbox"/> SURFICIAL DEP. <input type="checkbox"/> 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	QUERUBR, Acer, Shagbark, FRAPENN
2 SUB-CANOPY	3	4	
3 UNDERSTOREY	4-5	4	
4 GRD. LAYER	6-7		

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

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

COMM. AGE:	PIONEER	YOUNG	MID-AGE	<input checked="" type="checkbox"/> MATURE	OLD GROWTH
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SOIL ANALYSIS:

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

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS: 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				COLL.	SPECIES CODE	LAYER				COLL.	
	1	2	3	4			1	2	3	4		
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 Blygon (7) T-line		
	Project Number 161010646	Project Name: Samsung			
Date / Time: Nov. 4. 10	Field Personnel: GAW				
Weather Conditions:	Temp: 10°	Wind: 2	Cloud: 100%	PPT: light rain	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)

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 ①

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

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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



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 1

Title

**TRANSMISSION LINE -
MAPBOOK**



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Feature 29

Wildlife Habitat Assessment

Polygon (4) T-line

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

Weather Conditions:	Temp: <u>10°</u>	Wind: <u>2</u>	Cloud: <u>100%</u>	PPT: <u>light rain</u>	PPT in last 24 hrs: <u>Rain</u>
---------------------	---------------------	-------------------	-----------------------	---------------------------	------------------------------------

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, Unknown 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, Unknown 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
<u>i.e. AMRO/VO</u> /	<u>Gr. squirrel</u>	/	/	

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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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: 10°	Wind: 2	Cloud: 100%
			PPT: light rain
			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). *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 BCH	grey squirrel	/	/	/

Woodland Assessment- complete 1 assessment for each woodland

Woodlot # (indicate on map): Polygon ⑥

Approximate age of stand MaJure

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 *Unknown*

Seep/Spring #	UTM	Description	Surrounding Habitat

Vernal Pools Present? Yes No *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: 5	
	SURVEYOR(S): GAW	DATE: Nov. 4. 10	UTME:
	START: END	UTMZ:	UTMN:

POLYGON DESCRIPTION

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

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

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

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: 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: CWT

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

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
<input type="checkbox"/> TERRESTRIAL <input checked="" type="checkbox"/> WETLAND <input type="checkbox"/> AQUATIC	<input type="checkbox"/> ORGANIC <input checked="" type="checkbox"/> MINERAL SOIL <input type="checkbox"/> PARENT MIN. <input type="checkbox"/> ACIDIC BEDRK <input type="checkbox"/> BASIC BEDRK. <input type="checkbox"/> CARB. BEDRK.	<input type="checkbox"/> LACUSTRINE <input type="checkbox"/> RIVERINE <input type="checkbox"/> BOTTOMLAND <input type="checkbox"/> TERRACE <input type="checkbox"/> VALLEY SLOPE <input checked="" type="checkbox"/> TABLELAND <input type="checkbox"/> ROLL UPLAND <input type="checkbox"/> CLIFF <input type="checkbox"/> TALUS <input type="checkbox"/> CREVICE / CAVE <input type="checkbox"/> ALVAR <input type="checkbox"/> ROCKLAND <input type="checkbox"/> BEACH / BAR <input type="checkbox"/> SAND DUNE <input type="checkbox"/> BLUFF	<input checked="" type="checkbox"/> NATURAL <input type="checkbox"/> CULTURAL	<input type="checkbox"/> PLANKTON <input type="checkbox"/> SUBMERGED <input type="checkbox"/> FLOATING-LVD. <input checked="" type="checkbox"/> GRAMINOID <input type="checkbox"/> FORB <input type="checkbox"/> LICHEN <input type="checkbox"/> BRYOPHYTE <input type="checkbox"/> DECIDUOUS <input type="checkbox"/> CONIFEROUS <input type="checkbox"/> MIXED	<input type="checkbox"/> LAKE <input type="checkbox"/> POND <input type="checkbox"/> RIVER <input type="checkbox"/> STREAM <input checked="" type="checkbox"/> MARSH <input type="checkbox"/> SWAMP <input type="checkbox"/> FEN <input type="checkbox"/> BOG <input type="checkbox"/> BARREN <input type="checkbox"/> MEADOW <input type="checkbox"/> PRAIRIE <input type="checkbox"/> THICKET <input type="checkbox"/> SAVANNAH <input type="checkbox"/> WOODLAND <input type="checkbox"/> FOREST <input type="checkbox"/> PLANTATION
SITE			COVER		
<input type="checkbox"/> OPEN WATER <input type="checkbox"/> SHALLOW WATER <input checked="" type="checkbox"/> SURFICIAL DEP. <input type="checkbox"/> BEDROCK			<input checked="" type="checkbox"/> OPEN <input type="checkbox"/> SHRUB <input type="checkbox"/> 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:	<input type="checkbox"/> < 10	<input type="checkbox"/> 10 - 24	<input type="checkbox"/> 25 - 50	<input type="checkbox"/> > 50
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STANDING SNAGS:	<input type="checkbox"/> < 10	<input type="checkbox"/> 10 - 24	<input type="checkbox"/> 25 - 50	<input type="checkbox"/> > 50
DEADFALL / LOGS:	<input type="checkbox"/> < 10	<input type="checkbox"/> 10 - 24	<input type="checkbox"/> 25 - 50	<input type="checkbox"/> > 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: Meadow Marsh CODE: MAM
ECOSITE: Mineral Meadow Marsh CODE: MAM2
VEGETATION TYPE: Marsh
Reed Canary Grass Mineral Meadow 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				COLL.	SPECIES CODE	LAYER				COLL.		
	1	2	3	4			1	2	3	4			
Reed Canary	D	D	D	D									

ETC



Stantec

Stantec Consulting Ltd.
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N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Feature 3b

**Wildlife Habitat
Assessment**

Polygon ③ T-line

Project Number	161010646	Project Name:	SAMSUNG
Date / Time:	Nov. 4. 10	Field Personnel:	GAW
Weather Conditions:	Temp: 10°	Wind: 2	Cloud: 100%
			PPT: light rain
			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, *unknown* 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, *Unknown* 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>i.e. AMRO/VO</i> 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 *Unknown* If yes,

Seep/Spring #	UTM	Description	Surrounding Habitat

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

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



Stantec

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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: <u>10°</u>	Wind: <u>2</u>	Cloud: <u>100%</u>	PPT: <u>light rain</u>	PPT in last 24 hrs: <u>Rain</u>
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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, *unknown* 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, *unknown* 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>i.e. AMRO/VO</i> /	/	/	/	/

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:	
	START:	END:	UTMZ:	UTMN:

POLYGON DESCRIPTION

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

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

STAND COMPOSITION: BA:

SIZE CLASS ANALYSIS:

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
< 10	10 - 24	25 - 50	> 50	

STANDING SNAGS:

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
< 10	10 - 24	25 - 50	> 50

DEADFALL / LOGS:

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
< 10	10 - 24	25 - 50	> 50

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

COMM. AGE:

<input type="checkbox"/> PIONEER	<input checked="" type="checkbox"/> YOUNG	<input type="checkbox"/> MID-AGE	<input type="checkbox"/> MATURE	<input type="checkbox"/> OLD GROWTH
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SOIL ANALYSIS:

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

COMMUNITY CLASSIFICATION:

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

ELC
COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 161010646
SURVEYOR(S): GAW
DATE: Nov. 4.10
POLYGON: ①

START: END
UTMZ: UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
<input type="checkbox"/> TERRESTRIAL <input checked="" type="checkbox"/> WETLAND <input type="checkbox"/> AQUATIC	<input type="checkbox"/> ORGANIC <input checked="" type="checkbox"/> MINERAL SOIL <input type="checkbox"/> PARENT MIN. <input type="checkbox"/> ACIDIC BEDRK. <input type="checkbox"/> BASIC BEDRK. <input type="checkbox"/> CARB. BEDRK.	<input type="checkbox"/> LACUSTRINE <input type="checkbox"/> RIVERINE, <input type="checkbox"/> BOTTOMLAND <input type="checkbox"/> TERRACE <input type="checkbox"/> VALLEY SLOPE <input checked="" type="checkbox"/> TABLELAND <input type="checkbox"/> ROLL UPLAND <input type="checkbox"/> CLIFF <input type="checkbox"/> TALUS <input type="checkbox"/> CREVICE / CAVE <input type="checkbox"/> ALVAR <input type="checkbox"/> ROCKLAND <input type="checkbox"/> BEACH / BAR <input type="checkbox"/> SAND DUNE <input type="checkbox"/> BLUFF	<input checked="" type="checkbox"/> NATURAL <input type="checkbox"/> CULTURAL	<input type="checkbox"/> PLANKTON <input type="checkbox"/> SUBMERGED <input type="checkbox"/> FLOATING-LVD. <input type="checkbox"/> GRAMINOID <input type="checkbox"/> FORB <input type="checkbox"/> LICHEN <input type="checkbox"/> BRYOPHYTE <input checked="" type="checkbox"/> DECIDUOUS <input type="checkbox"/> CONIFEROUS <input type="checkbox"/> MIXED	<input type="checkbox"/> LAKE <input type="checkbox"/> POND <input type="checkbox"/> RIVER <input type="checkbox"/> STREAM <input type="checkbox"/> MARSH <input checked="" type="checkbox"/> SWAMP <input type="checkbox"/> FEN <input type="checkbox"/> BOG <input type="checkbox"/> BARREN <input type="checkbox"/> MEADOW <input type="checkbox"/> PRAIRIE <input type="checkbox"/> THICKET <input type="checkbox"/> SAVANNAH <input type="checkbox"/> WOODLAND <input type="checkbox"/> FOREST <input type="checkbox"/> PLANTATION
SITE <input type="checkbox"/> OPEN WATER <input type="checkbox"/> SHALLOW WATER <input type="checkbox"/> SURFICIAL DEP. <input type="checkbox"/> BEDROCK			COVER <input type="checkbox"/> OPEN <input type="checkbox"/> SHRUB <input checked="" type="checkbox"/> 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 = >25m 2 = 10-25m 3 = 2-10m 4 = 1-2m 5 = 0.5-1m 6 = 0.2-0.5m 7 = HT < 0.2m
CVR CODES: 0 = NONE 1 = 0% < CVR < 10% 2 = 10 < CVR < 25% 3 = 25 < CVR < 60% 4 = CVR > 60%

STAND COMPOSITION: BA:

SIZE CLASS ANALYSIS: 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

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