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May 2011
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Legend

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|-------------------------------|----------------------------|--------------------------|-----------------------------------|--|-------------------|
| | Study Area | | Overhead Transmission Line | | Waterbody (MNR) |
| | Zone of Investigation | | Underground Transmission Line | | Wooded Area (MNR) |
| Wind Project Location | | | | | |
| | Proposed Turbine Location | | Electrical Transmission Component | | |
| | Access Road | Existing Features | | | |
| | Overhead Collector Line | | Road | | Railway |
| | Underground Collector Line | | Abandoned Railway | | Watercourse (MNR) |
| Solar Project Location | | | | | |
| | Solar Lands | | | | |

Notes

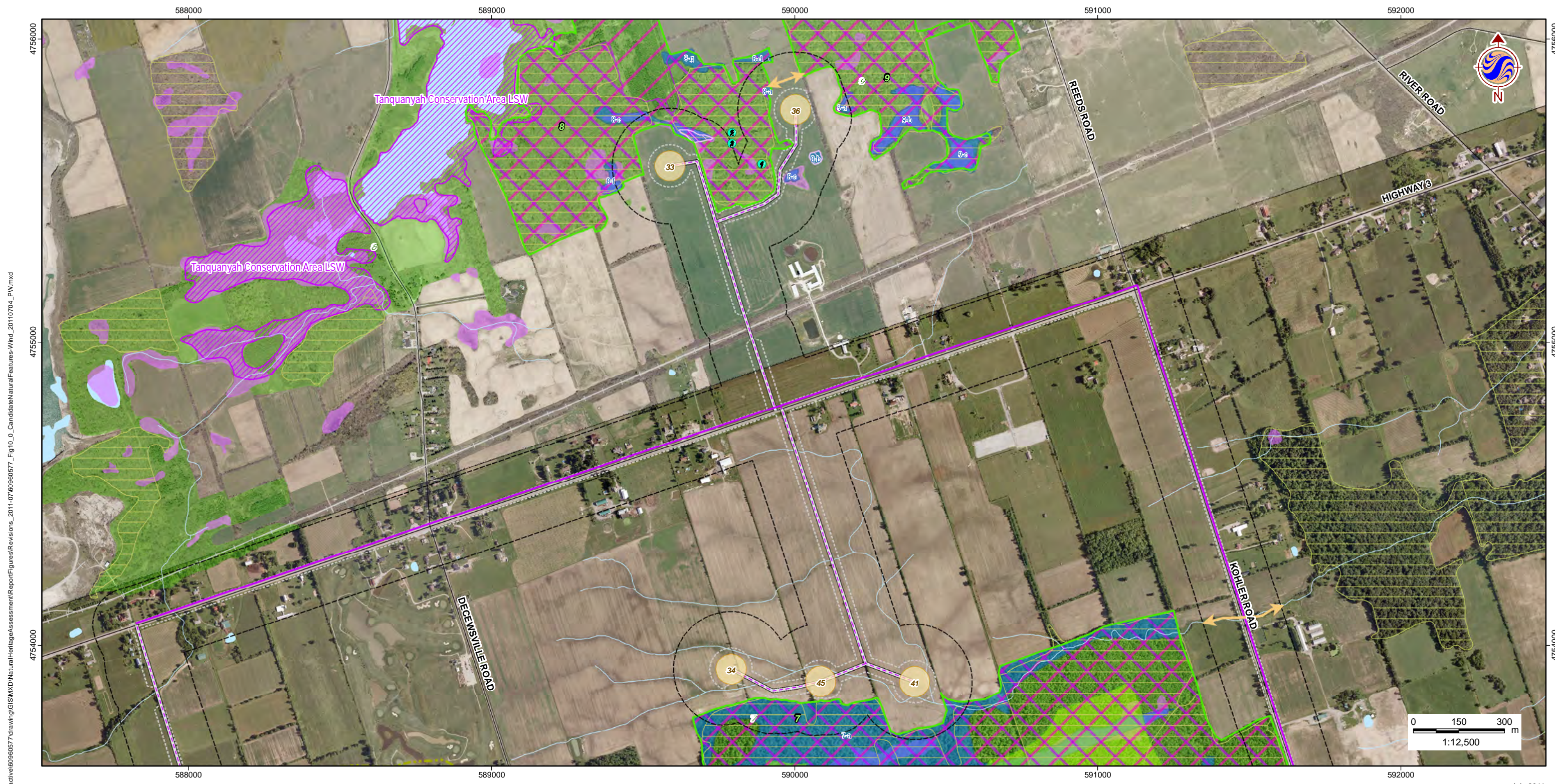
- Coordinate System: UTM NAD 83 - Zone 17 (N).
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Client/Project
SAMSUNG, PATTERN & KEPKO (SPK)
GRAND RENEWABLE ENERGY PARK

Figure No.
1.0

Title
STUDY AREA

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July 2011
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Legend

<ul style="list-style-type: none"> Study Area Zone of Investigation Constructable Area Wind Project Location Proposed Turbine Location Access Road Overhead Collector Line Underground Collector Line Solar Project Location Solar Lands Transmission Line Overhead Transmission Line Underground Transmission Line Electrical Transmission Component 	<p>Existing Features</p> <ul style="list-style-type: none"> Road Railway Abandoned Railway Transmission Line (MNR) Watercourse (MNR) Waterbody (MNR) Provincial Park (MNR) Deer Wintering Yard (MNR) Wetland (GRCA) Area of Natural and Scientific Interest Watershed Boundary 	<p>Wetland (MNR)</p> <ul style="list-style-type: none"> Provincially Significant Wetland Non-Provincially Significant Wetland <p>Natural Features</p> <ul style="list-style-type: none"> Woodland Wetland Rare Vegetation Community Seep Vernal Pool Snapping Turtle Habitat Animal Movement Corridor 	<ul style="list-style-type: none"> Natural Feature Interior Forest Habitat Candidate Valleyland Candidate Habitat for Declining Grassland Species Candidate Waterfowl Stopover Candidate Migratory Butterfly Stopover Candidate Migratory Landbird Habitat Candidate Area-Sensitive Species Woodland Habitat Candidate Habitat for Declining Woodland Species Candidate Short-Eared Owl Habitat Candidate Winter Raptor Feeding & Roosting Habitat
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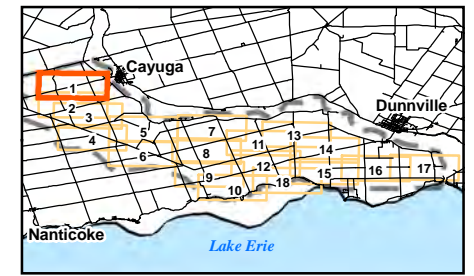
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Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
10.1

DRAFT

Title
**CANDIDATE NATURAL
FEATURES - W1**





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| <ul style="list-style-type: none"> Study Area Zone of Investigation Constructable Area Wind Project Location Proposed Turbine Location Access Road Overhead Collector Line Underground Collector Line Solar Project Location Solar Lands Transmission Line Overhead Transmission Line Underground Transmission Line Electrical Transmission Component | <ul style="list-style-type: none"> Existing Features Road Railway Abandoned Railway Transmission Line (MNR) Watercourse (MNR) Waterbody (MNR) Provincial Park (MNR) Deer Wintering Yard (MNR) Wetland (GRCA) Area of Natural and Scientific Interest Watershed Boundary | <ul style="list-style-type: none"> Wetland (MNR) Provincially Significant Wetland Non-Provincially Significant Wetland Natural Features Woodland Wetland Rare Vegetation Community Seep Vernal Pool Snapping Turtle Habitat Animal Movement Corridor | <ul style="list-style-type: none"> Natural Feature Interior Forest Habitat Candidate Valleyland Candidate Habitat for Declining Grassland Species Candidate Waterfowl Stopover Candidate Migratory Butterfly Stopover Candidate Migratory Landbird Habitat Candidate Area-Sensitive Species Woodland Habitat Candidate Habitat for Declining Woodland Species Candidate Short-Eared Owl Habitat Candidate Winter Raptor Feeding & Roosting Habitat |
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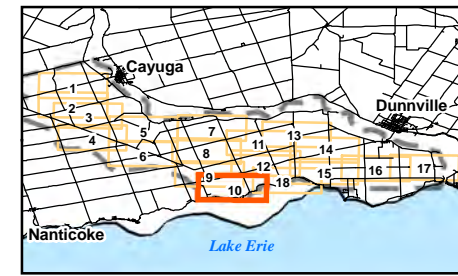
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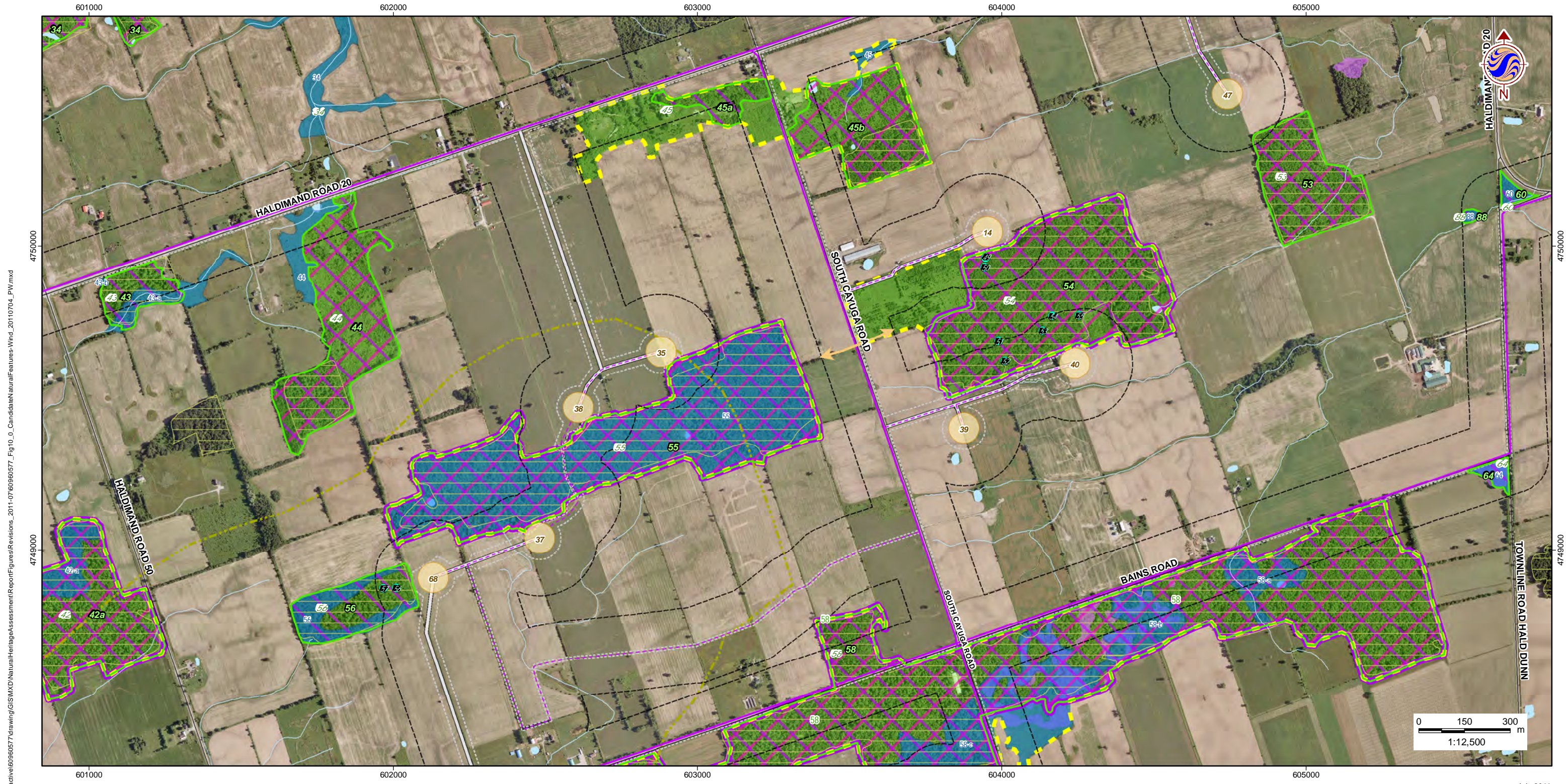
Client/Project
SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK

Figure No.
10.10

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Title
CANDIDATE NATURAL FEATURES - W10





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July 2011
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Legend

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| <ul style="list-style-type: none"> Study Area Zone of Investigation Constructable Area Wind Project Location Proposed Turbine Location Access Road Overhead Collector Line Underground Collector Line Solar Project Location Solar Lands Transmission Line Overhead Transmission Line Underground Transmission Line Electrical Transmission Component | <ul style="list-style-type: none"> Existing Features Road Railway Abandoned Railway Transmission Line (MNR) Watercourse (MNR) Waterbody (MNR) Provincial Park (MNR) Deer Wintering Yard (MNR) Wetland (GRCA) Area of Natural and Scientific Interest Watershed Boundary | <ul style="list-style-type: none"> Wetland (MNR) Provincially Significant Wetland Non-Provincially Significant Wetland Natural Features Woodland Watercourse (MNR) Rare Vegetation Community Seep Vernal Pool Snapping Turtle Habitat Animal Movement Corridor | <ul style="list-style-type: none"> Natural Feature Interior Forest Habitat Candidate Valleyland Candidate Habitat for Declining Grassland Species Candidate Waterfowl Stopover Candidate Migratory Landbird Habitat Candidate Migratory Butterfly Stopover Candidate Area-Sensitive Species Woodland Habitat Candidate Habitat for Declining Woodland Species Candidate Short-Eared Owl Habitat Candidate Winter Raptor Feeding & Roosting Habitat |
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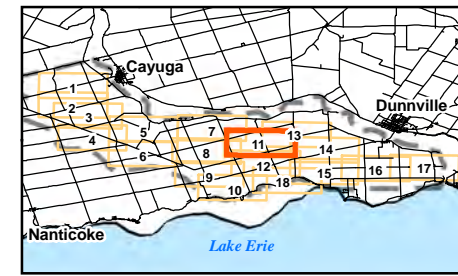
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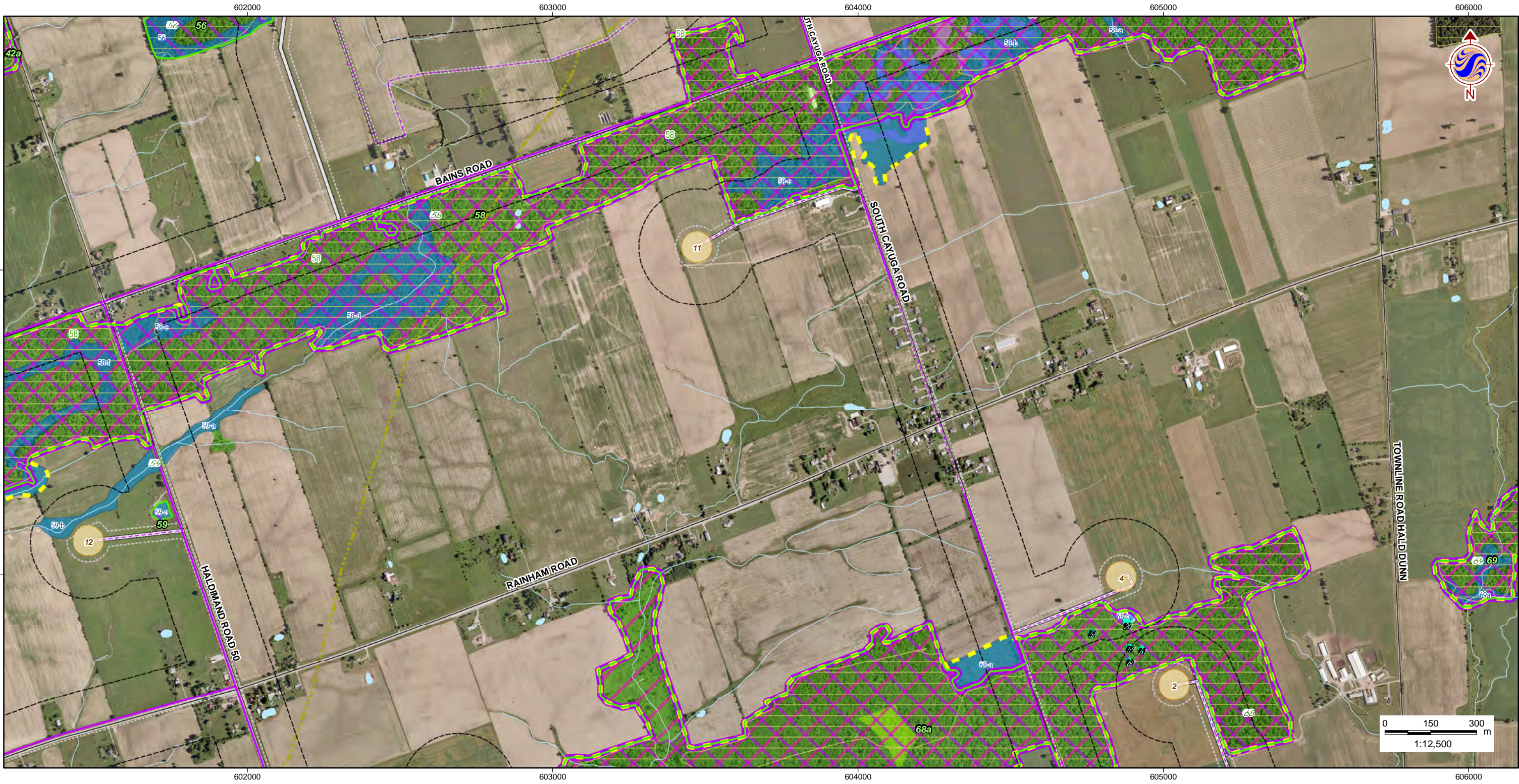
Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
10.11

DRAFT

Title
**CANDIDATE NATURAL
FEATURES - W11**





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Legend

- Study Area
- Zone of Investigation
- Constructable Area
- Wind Project Location**
- Proposed Turbine Location
- Access Road
- Overhead Collector Line
- Underground Collector Line
- Solar Project Location**
- Solar Lands
- Transmission Line**
- Overhead Transmission Line
- Underground Transmission Line
- Electrical Transmission Component

Existing Features

- Road
- Railway
- Abandoned Railway
- Transmission Line (MNR)
- Watercourse (MNR)
- Waterbody (MNR)
- Provincial Park (MNR)
- Deer Wintering Yard (MNR)
- Wetland (GRCA)
- Area of Natural and Scientific Interest
- Watershed Boundary

Wetland (MNR)

- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Natural Features**
- Woodland
- Wetland
- Rare Vegetation Community
- Seep
- Vernal Pool
- Snapping Turtle Habitat
- Animal Movement Corridor

7

- Natural Feature
- Interior Forest Habitat
- Candidate Valleyland
- Candidate Habitat for Declining Grassland Species
- Candidate Waterfowl Stopover
- Candidate Migratory Butterfly Stopover
- Candidate Migratory Landbird Habitat
- Candidate Area-Sensitive Species Woodland Habitat
- Candidate Habitat for Declining Woodland Species
- Candidate Short-Eared Owl Habitat
- Candidate Winter Raptor Feeding & Roosting Habitat

Notes

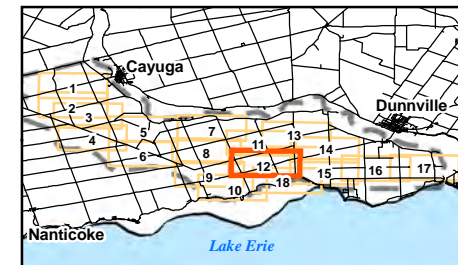
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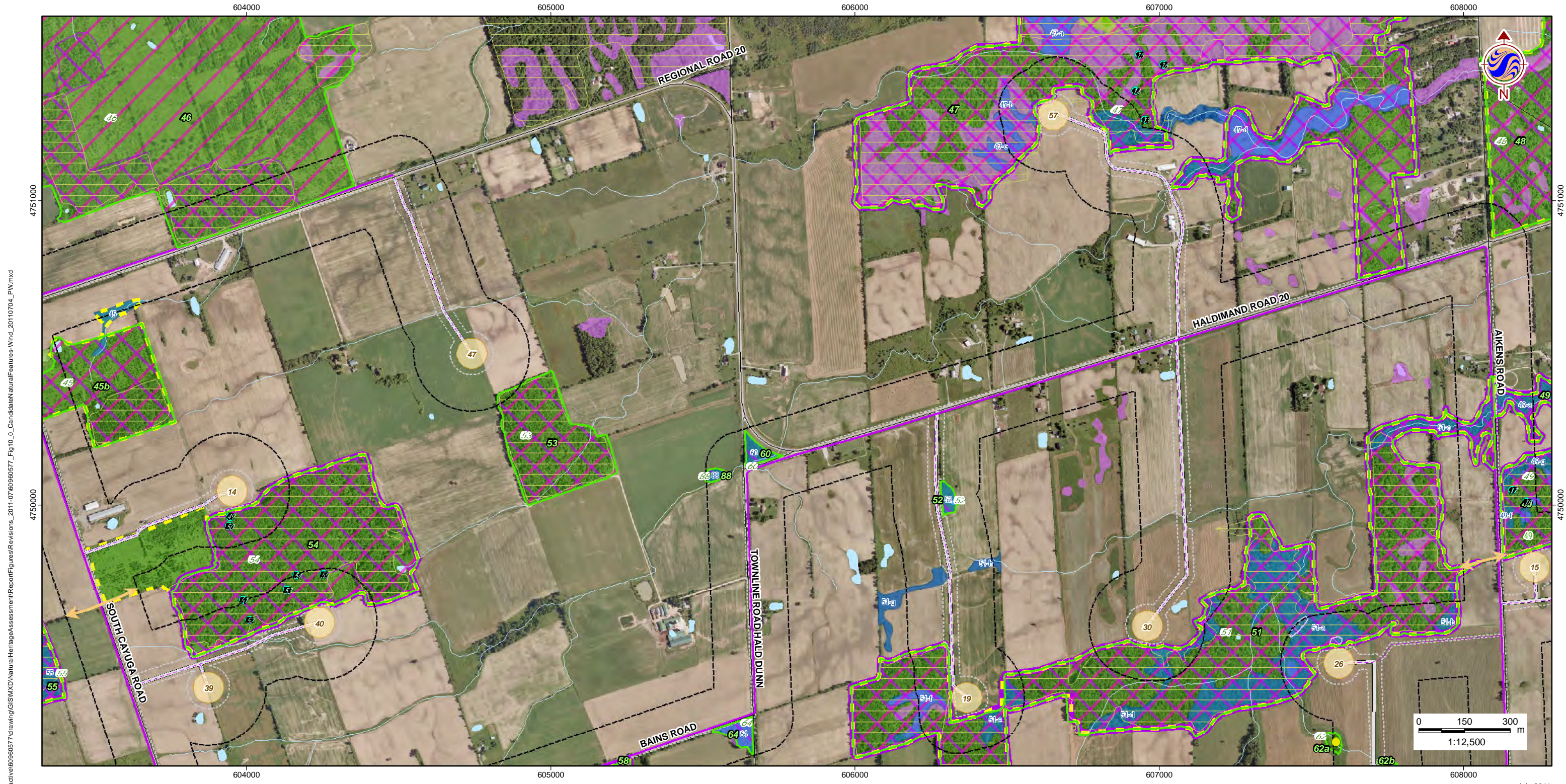
Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
 GRAND RENEWABLE ENERGY PARK**

Figure No.
10.12

DRAFT

Title
**CANDIDATE NATURAL
 FEATURES - W12**





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| <ul style="list-style-type: none"> Study Area Zone of Investigation Constructable Area Wind Project Location Proposed Turbine Location Access Road Overhead Collector Line Underground Collector Line Solar Project Location Solar Lands Transmission Line Overhead Transmission Line Underground Transmission Line Electrical Transmission Component | <ul style="list-style-type: none"> Existing Features Road Railway Abandoned Railway Transmission Line (MNR) Watercourse (MNR) Waterbody (MNR) Provincial Park (MNR) Deer Wintering Yard (MNR) Wetland (GRCA) Area of Natural and Scientific Interest Watershed Boundary | <ul style="list-style-type: none"> Wetland (MNR) Provincially Significant Wetland Non-Provincially Significant Wetland Natural Features Woodland Wetland Rare Vegetation Community Seep Vernal Pool Snapping Turtle Habitat Animal Movement Corridor | <ul style="list-style-type: none"> Natural Feature Interior Forest Habitat Candidate Valleyland Candidate Habitat for Declining Grassland Species Candidate Waterfowl Stopover Candidate Migratory Butterfly Stopover Candidate Migratory Landbird Habitat Candidate Area-Sensitive Species Woodland Habitat Candidate Habitat for Declining Woodland Species Candidate Short-Eared Owl Habitat Candidate Winter Raptor Feeding & Roosting Habitat |
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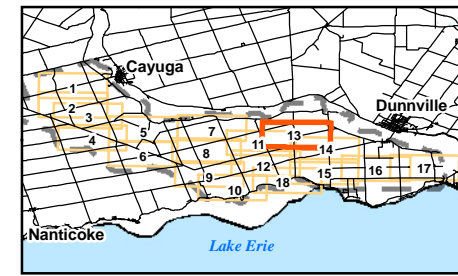
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Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
10.13

DRAFT

Title
**CANDIDATE NATURAL
FEATURES - W13**





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July 2011
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Legend

- Study Area
- Zone of Investigation
- Constructable Area
- Wind Project Location**
- Proposed Turbine Location
- Access Road
- Overhead Collector Line
- Underground Collector Line
- Solar Project Location**
- Solar Lands
- Transmission Line**
- Overhead Transmission Line
- Underground Transmission Line
- Electrical Transmission Component

- Existing Features**
- Road
 - Railway
 - Abandoned Railway
 - Transmission Line (MNR)
 - Watercourse (MNR)
 - Waterbody (MNR)
 - Provincial Park (MNR)
 - Deer Wintering Yard (MNR)
 - Wetland (GRCA)
 - Area of Natural and Scientific Interest
 - Watershed Boundary

- Wetland (MNR)**
- Provincially Significant Wetland
 - Non-Provincially Significant Wetland
- Natural Features**
- Woodland
 - Watercourse (MNR)
 - Rare Vegetation Community
 - Seep
 - Vernal Pool
 - Snapping Turtle Habitat
 - Animal Movement Corridor

- Natural Feature
- Interior Forest Habitat
- Candidate Valleyland
- Candidate Habitat for Declining Grassland Species
- Candidate Waterfowl Stopover
- Candidate Migratory Butterfly Stopover
- Candidate Migratory Landbird Habitat
- Candidate Area-Sensitive Species Woodland Habitat
- Candidate Habitat for Declining Woodland Species
- Candidate Short-Eared Owl Habitat
- Candidate Winter Raptor Feeding & Roosting Habitat

Notes

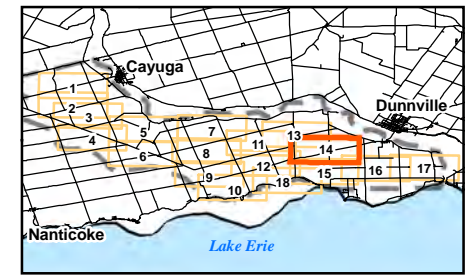
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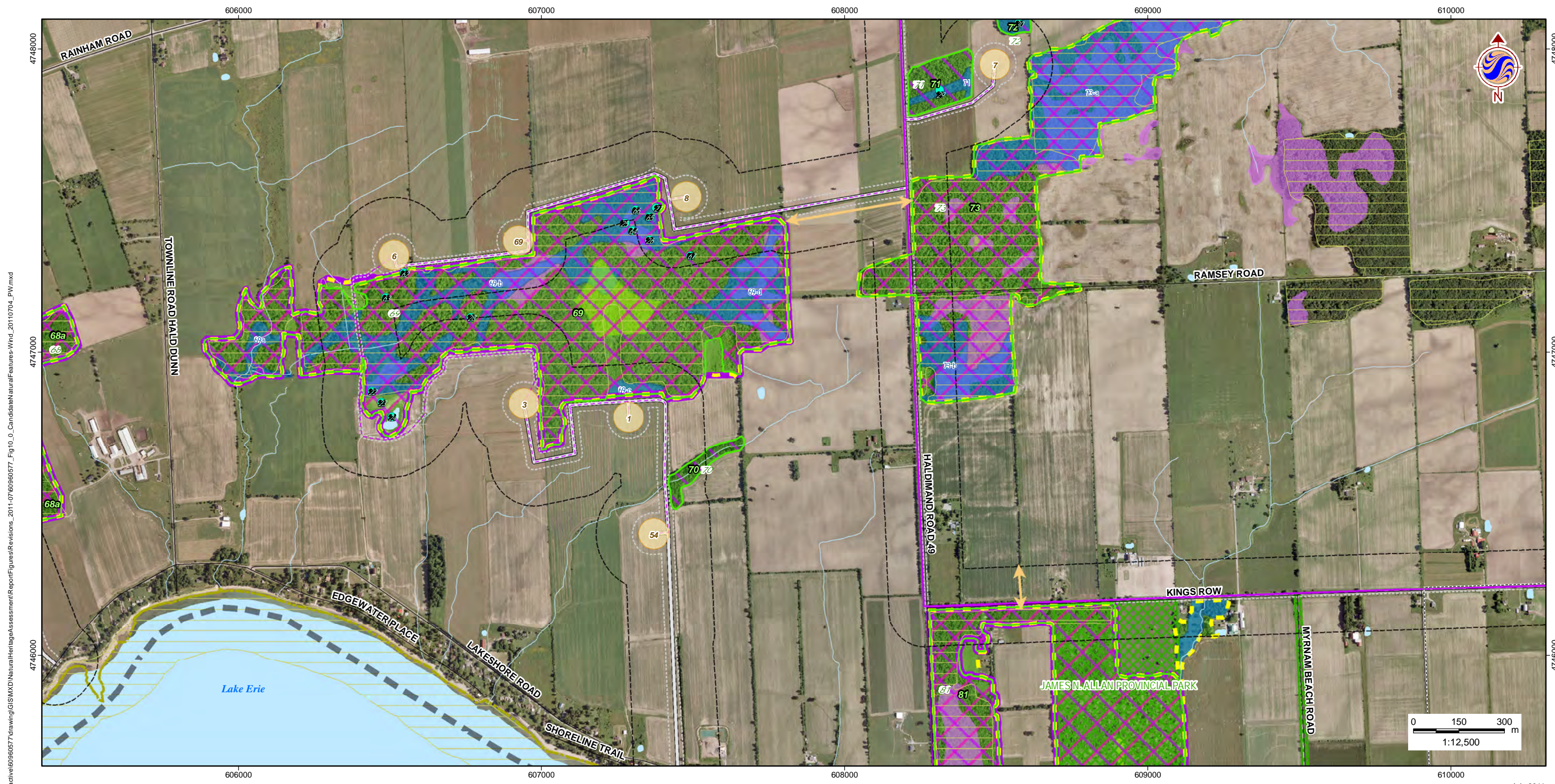
Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
10.14

Title
**CANDIDATE NATURAL
FEATURES - W14**

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| <ul style="list-style-type: none"> Study Area Zone of Investigation Constructable Area Wind Project Location Proposed Turbine Location Access Road Overhead Collector Line Underground Collector Line Solar Project Location Solar Lands Transmission Line Overhead Transmission Line Underground Transmission Line Electrical Transmission Component | <ul style="list-style-type: none"> Existing Features Road Railway Abandoned Railway Transmission Line (MNR) Watercourse (MNR) Waterbody (MNR) Provincial Park (MNR) Deer Wintering Yard (MNR) Wetland (GRCA) Area of Natural and Scientific Interest Watershed Boundary | <ul style="list-style-type: none"> Wetland (MNR) Provincially Significant Wetland Non-Provincially Significant Wetland Natural Features Woodland Wetland Rare Vegetation Community Seep Vernal Pool Snapping Turtle Habitat Animal Movement Corridor | <ul style="list-style-type: none"> Natural Feature Interior Forest Habitat Candidate Valleyland Candidate Habitat for Declining Grassland Species Candidate Waterfowl Stopover Candidate Migratory Butterfly Stopover Candidate Migratory Landbird Habitat Candidate Area-Sensitive Species Woodland Habitat Candidate Habitat for Declining Woodland Species Candidate Short-Eared Owl Habitat Candidate Winter Raptor Feeding & Roosting Habitat |
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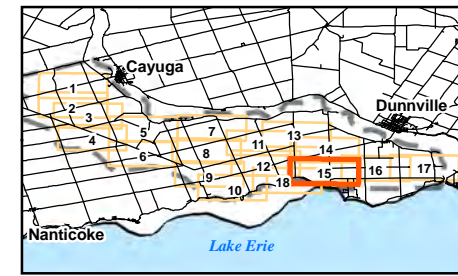
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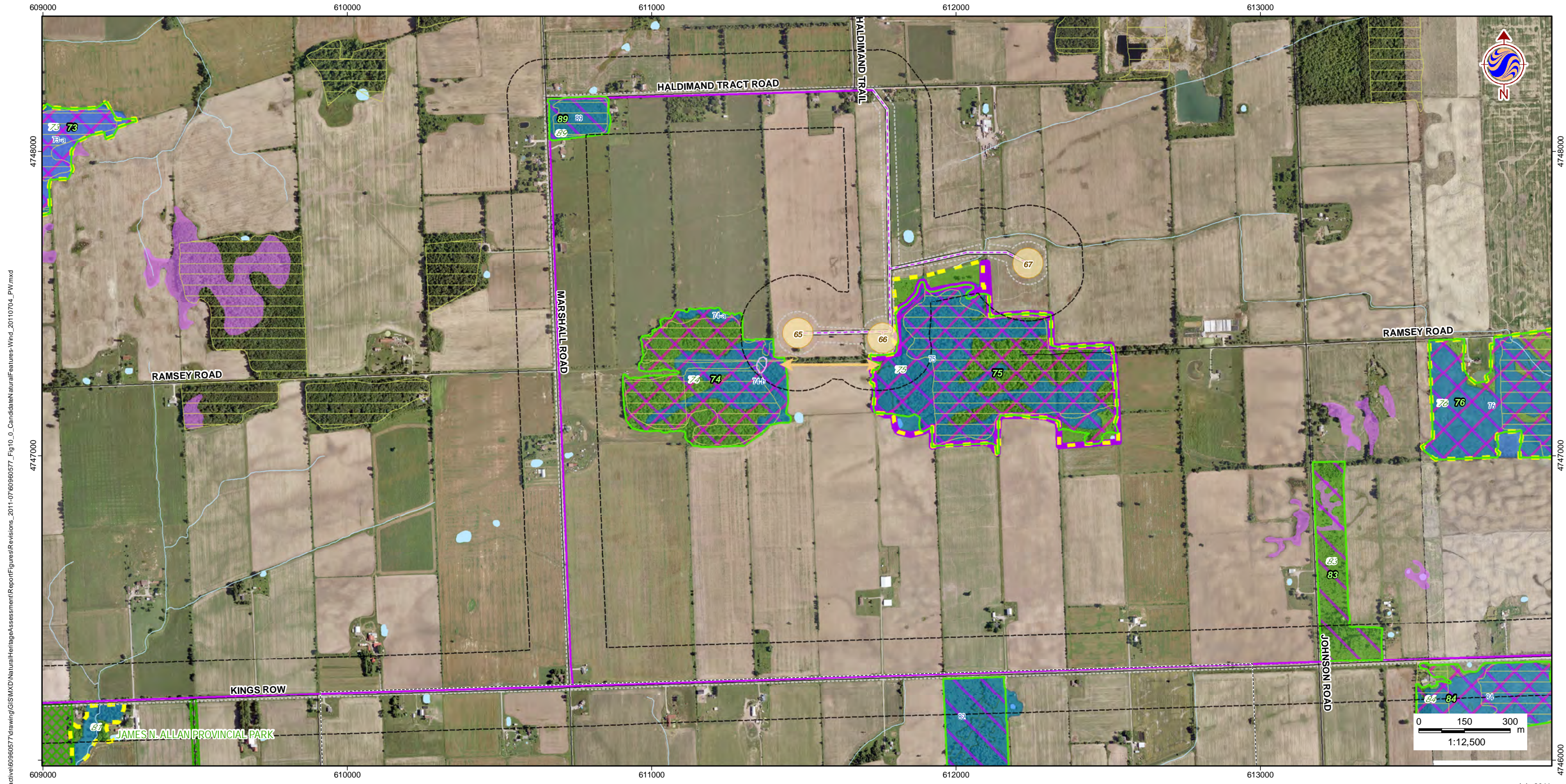
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Client/Project
SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK

Figure No.
10.15 DRAFT

Title
**CANDIDATE NATURAL
FEATURES - W15**





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| <ul style="list-style-type: none"> Study Area Zone of Investigation Constructable Area Wind Project Location Proposed Turbine Location Access Road Overhead Collector Line Underground Collector Line Solar Project Location Solar Lands Transmission Line Overhead Transmission Line Underground Transmission Line Electrical Transmission Component | <ul style="list-style-type: none"> Existing Features Road Railway Abandoned Railway Transmission Line (MNR) Watercourse (MNR) Waterbody (MNR) Provincial Park (MNR) Deer Wintering Yard (MNR) Wetland (GRCA) Area of Natural and Scientific Interest Watershed Boundary | <ul style="list-style-type: none"> Wetland (MNR) Provincially Significant Wetland Non-Provincially Significant Wetland Natural Features Woodland Wetland Rare Vegetation Community Seep Vernal Pool Snapping Turtle Habitat Animal Movement Corridor | <ul style="list-style-type: none"> Natural Feature Interior Forest Habitat Candidate Valleyland Candidate Habitat for Declining Grassland Species Candidate Waterfowl Stopover Candidate Migratory Butterfly Stopover Candidate Migratory Landbird Habitat Candidate Area-Sensitive Species Woodland Habitat Candidate Habitat for Declining Woodland Species Candidate Short-Eared Owl Habitat Candidate Winter Raptor Feeding & Roosting Habitat |
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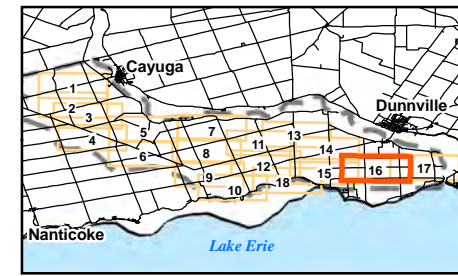
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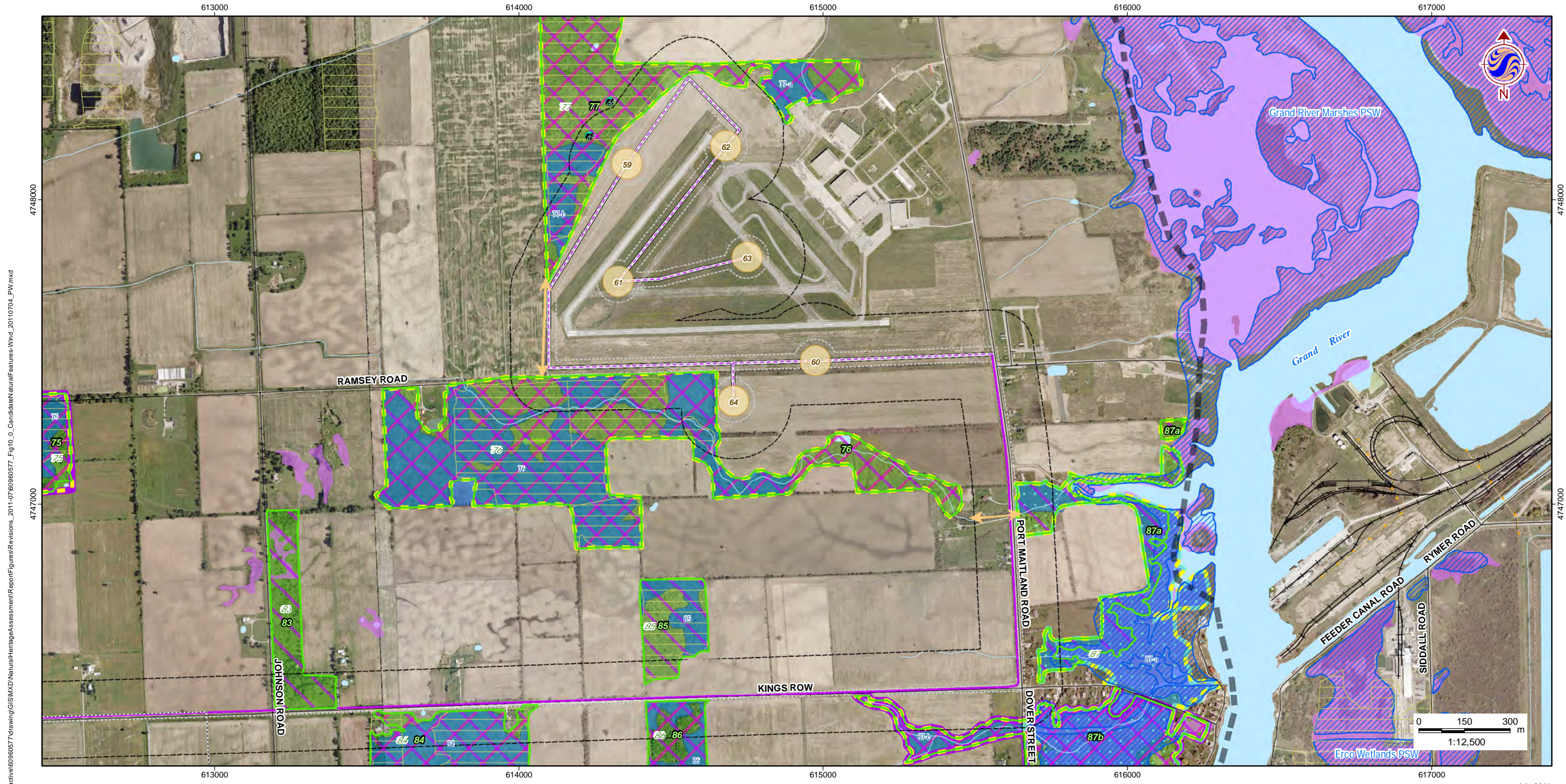
Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
10.16

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Title
**CANDIDATE NATURAL
FEATURES - W16**





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July 2011
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Legend

- Study Area
- Zone of Investigation
- Constructable Area
- Wind Project Location**
- Proposed Turbine Location
- Access Road
- Overhead Collector Line
- Underground Collector Line
- Solar Project Location**
- Solar Lands
- Transmission Line**
- Overhead Transmission Line
- Underground Transmission Line
- Electrical Transmission Component

- Existing Features**
- Road
 - Railway
 - Abandoned Railway
 - Transmission Line (MNR)
 - Watercourse (MNR)
 - Waterbody (MNR)
 - Provincial Park (MNR)
 - Deer Wintering Yard (MNR)
 - Wetland (GRCA)
 - Area of Natural and Scientific Interest
 - Watershed Boundary

- Wetland (MNR)**
- Provincially Significant Wetland
 - Non-Provincially Significant Wetland
- Natural Features**
- Woodland
 - Wetland
 - Rare Vegetation Community
 - Seep
 - Vernal Pool
 - Snapping Turtle Habitat
 - Animal Movement Corridor

- Natural Feature
- Interior Forest Habitat
- Candidate Valleyland
- Candidate Habitat for Declining Grassland Species
- Candidate Waterfowl Stopover
- Candidate Migratory Butterfly Stopover
- Candidate Migratory Landbird Habitat
- Candidate Area-Sensitive Species Woodland Habitat
- Candidate Habitat for Declining Woodland Species
- Candidate Short-Eared Owl Habitat
- Candidate Winter Raptor Feeding & Roosting Habitat

Notes

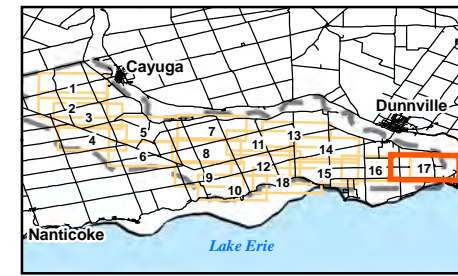
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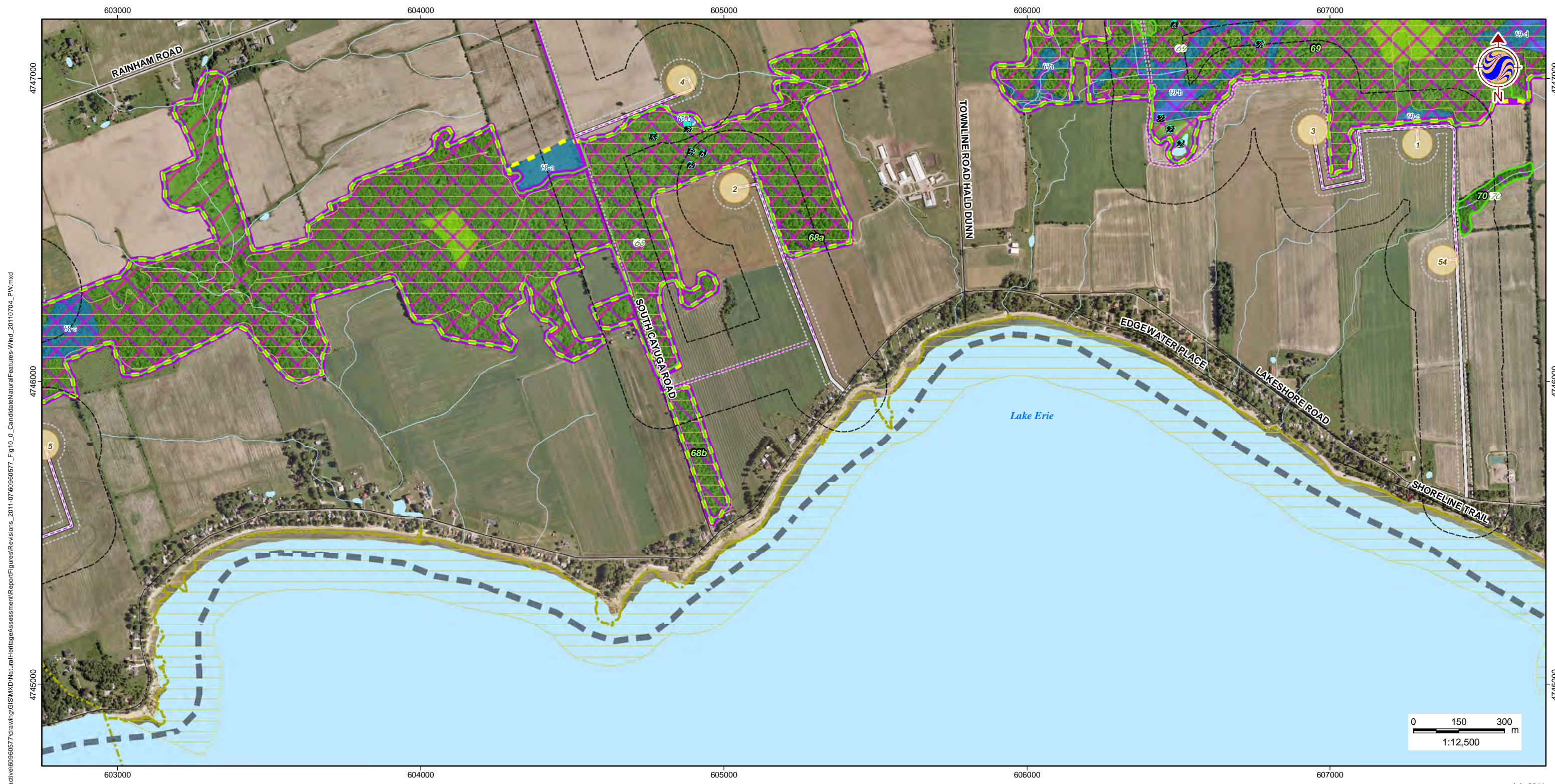
Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
10.17

DRAFT

Title
**CANDIDATE NATURAL
FEATURES - W17**





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July 2011
160960577



Legend

- Study Area
- Zone of Investigation
- Constructable Area
- Wind Project Location**
- Proposed Turbine Location
- Access Road
- Overhead Collector Line
- Underground Collector Line
- Solar Project Location**
- Solar Lands
- Transmission Line**
- Overhead Transmission Line
- Underground Transmission Line
- Electrical Transmission Component

- Existing Features**
- Road
 - Railway
 - Abandoned Railway
 - Transmission Line (MNR)
 - Watercourse (MNR)
 - Waterbody (MNR)
 - Provincial Park (MNR)
 - Deer Wintering Yard (MNR)
 - Wetland (GRCA)
 - Area of Natural and Scientific Interest
 - Watershed Boundary

- Wetland (MNR)**
- Provincially Significant Wetland
 - Non-Provincially Significant Wetland
- Natural Features**
- Woodland
 - Wetland
 - Rare Vegetation Community
 - Seep
 - Vernal Pool
 - Snapping Turtle Habitat
 - Animal Movement Corridor

- Natural Feature
- Interior Forest Habitat
- Candidate Valleyland
- Candidate Habitat for Declining Grassland Species
- Candidate Waterfowl Stopover
- Candidate Migratory Butterfly Stopover
- Candidate Migratory Landbird Habitat
- Candidate Area-Sensitive Species Woodland Habitat
- Candidate Habitat for Declining Woodland Species
- Candidate Short-Eared Owl Habitat
- Candidate Winter Raptor Feeding & Roosting Habitat

Notes

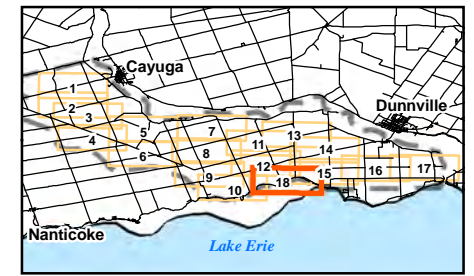
1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queens Printer Ontario, 2011; © Samsung, 2011.
3. Image Source: © Terrapoint, 2011 - Imagery Date: July 2009; Grand River Conservation Authority © First Base Solutions, 2011 - Imagery Date: Spring 2006.

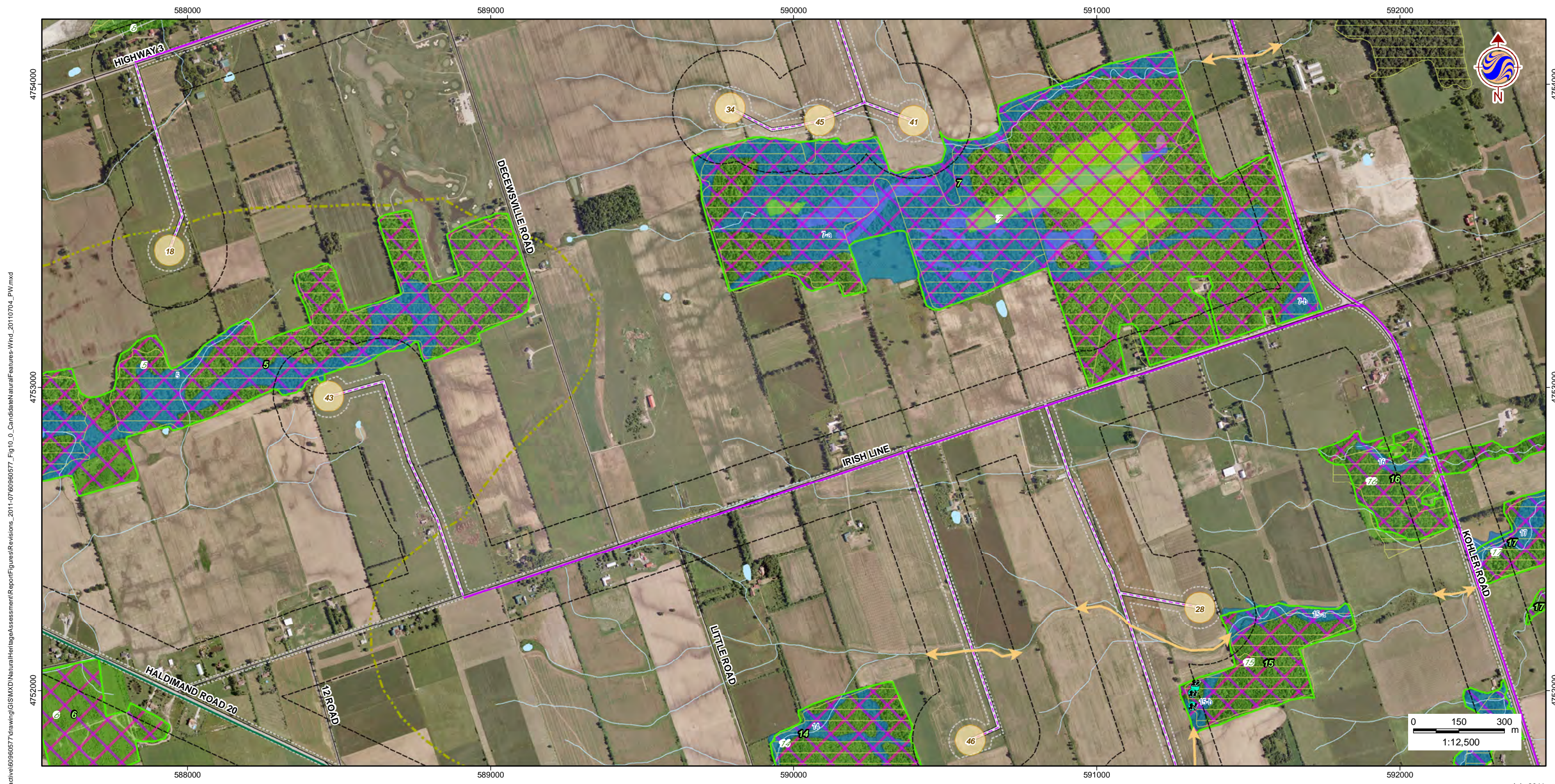
Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
10.18

DRAFT

Title
**CANDIDATE NATURAL
FEATURES - W18**





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July 2011
160960577



Legend

- Study Area
- Zone of Investigation
- Constructable Area
- Wind Project Location**
- Proposed Turbine Location
- Access Road
- Overhead Collector Line
- Underground Collector Line
- Solar Project Location**
- Solar Lands
- Transmission Line**
- Overhead Transmission Line
- Underground Transmission Line
- Electrical Transmission Component

- Existing Features**
- Road
 - Railway
 - Abandoned Railway
 - Transmission Line (MNR)
 - Waterbody (MNR)
 - Provincial Park (MNR)
 - Deer Wintering Yard (MNR)
 - Wetland (GRCA)
 - Area of Natural and Scientific Interest
 - Watershed Boundary

- Wetland (MNR)**
- Provincially Significant Wetland
 - Non-Provincially Significant Wetland
- Natural Features**
- Woodland
 - Wetland
 - Rare Vegetation Community
 - Seep
 - Vernal Pool
 - Snapping Turtle Habitat
 - Animal Movement Corridor

- Natural Feature
- Interior Forest Habitat
- Candidate Valleyland
- Candidate Habitat for Declining Grassland Species
- Candidate Waterfowl Stopover
- Candidate Migratory Butterfly Stopover
- Candidate Migratory Landbird Habitat
- Candidate Area-Sensitive Species Woodland Habitat
- Candidate Habitat for Declining Woodland Species
- Candidate Short-Eared Owl Habitat
- Candidate Winter Raptor Feeding & Roosting Habitat

Notes

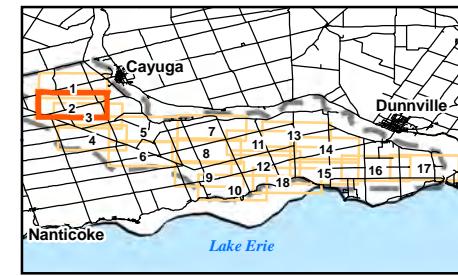
1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queens Printer Ontario, 2011; © Samsung, 2011.
3. Image Source: © Terrapoint, 2011 - Imagery Date: July 2009; Grand River Conservation Authority © First Base Solutions, 2011 - Imagery Date: Spring 2006.

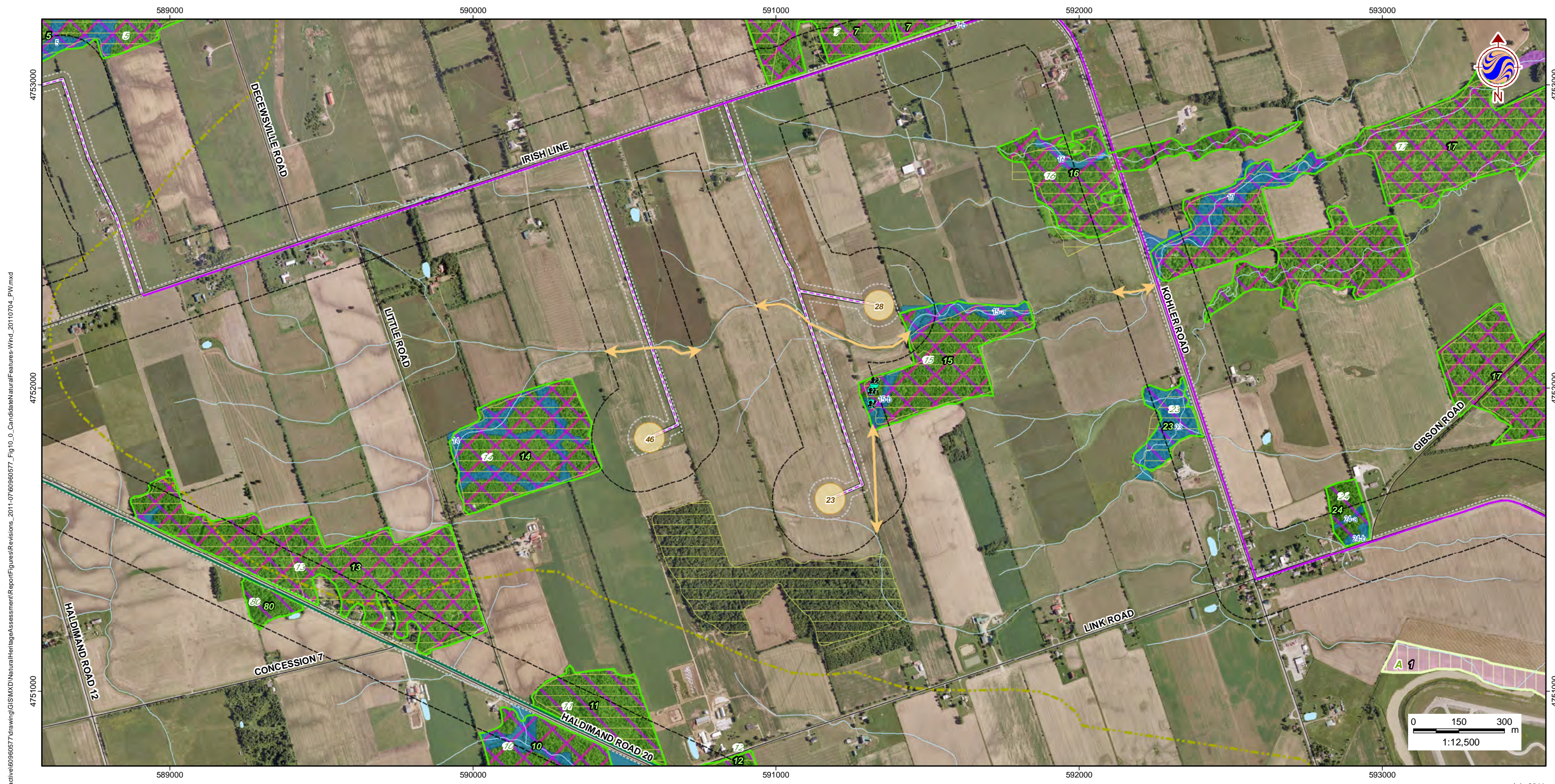
Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
10.2

DRAFT

Title
**CANDIDATE NATURAL
FEATURES - W2**





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July 2011
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Legend

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| <ul style="list-style-type: none"> Study Area Zone of Investigation Constructable Area Wind Project Location Proposed Turbine Location Access Road Overhead Collector Line Underground Collector Line Solar Project Location Solar Lands Transmission Line Overhead Transmission Line Underground Transmission Line Electrical Transmission Component | <ul style="list-style-type: none"> Existing Features Road Railway Abandoned Railway Transmission Line (MNR) Watercourse (MNR) Waterbody (MNR) Provincial Park (MNR) Deer Wintering Yard (MNR) Wetland (GRCA) Area of Natural and Scientific Interest Watershed Boundary | <ul style="list-style-type: none"> Wetland (MNR) Provincially Significant Wetland Non-Provincially Significant Wetland Natural Features Woodland Watercourse (MNR) Rare Vegetation Community Seep Vernal Pool Snapping Turtle Habitat Animal Movement Corridor | <ul style="list-style-type: none"> Natural Feature Interior Forest Habitat Candidate Valleyland Candidate Habitat for Declining Grassland Species Candidate Waterfowl Stopover Candidate Migratory Butterfly Stopover Candidate Migratory Landbird Habitat Candidate Area-Sensitive Species Woodland Habitat Candidate Habitat for Declining Woodland Species Candidate Short-Eared Owl Habitat Candidate Winter Raptor Feeding & Roosting Habitat |
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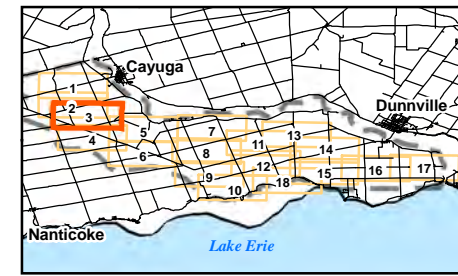
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Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

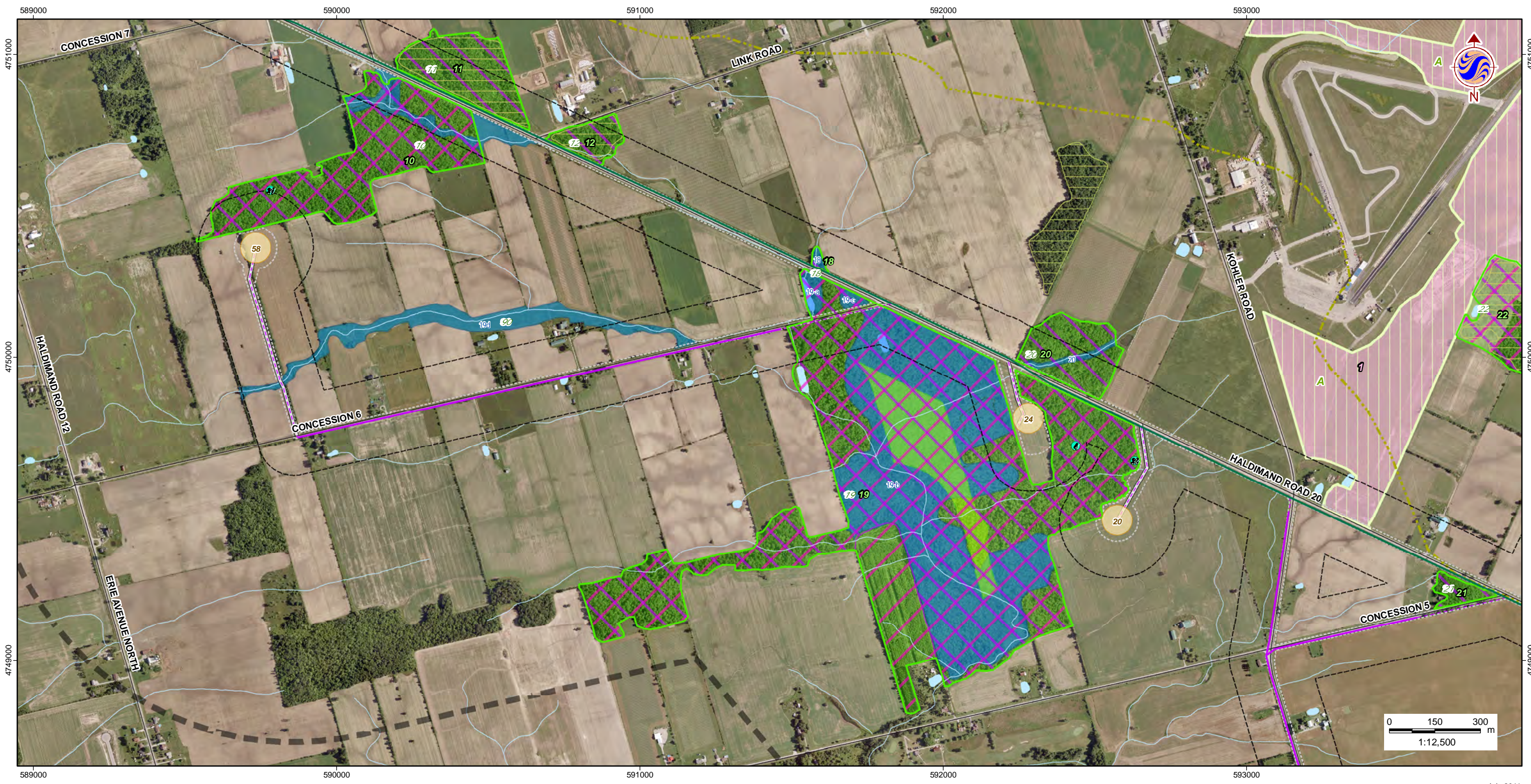
Figure No.
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Title
**CANDIDATE NATURAL
FEATURES - W3**



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| <ul style="list-style-type: none"> Study Area Zone of Investigation Constructable Area Wind Project Location Proposed Turbine Location Access Road Overhead Collector Line Underground Collector Line Solar Project Location Solar Lands Transmission Line Overhead Transmission Line Underground Transmission Line Electrical Transmission Component | <ul style="list-style-type: none"> Existing Features Road Railway Abandoned Railway Transmission Line (MNR) Watercourse (MNR) Waterbody (MNR) Provincial Park (MNR) Deer Wintering Yard (MNR) Wetland (GRCA) Area of Natural and Scientific Interest Watershed Boundary | <ul style="list-style-type: none"> Wetland (MNR) Provincially Significant Wetland Non-Provincially Significant Wetland Natural Features Woodland Wetland Rare Vegetation Community Seep Vernal Pool Snapping Turtle Habitat Animal Movement Corridor | <ul style="list-style-type: none"> Natural Feature Interior Forest Habitat Candidate Valleyland Candidate Habitat for Declining Grassland Species Candidate Waterfowl Stopover Candidate Migratory Butterfly Stopover Candidate Migratory Landbird Habitat Candidate Area-Sensitive Species Woodland Habitat Candidate Habitat for Declining Woodland Species Candidate Short-Eared Owl Habitat Candidate Winter Raptor Feeding & Roosting Habitat |
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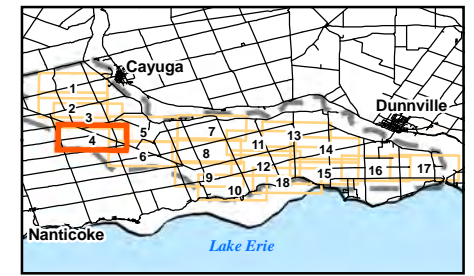
1. Coordinate System: UTM NAD 83 - Zone 17 (N).
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Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
10.4

DRAFT

Title
**CANDIDATE NATURAL
FEATURES - W4**





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Legend

- Study Area
- Zone of Investigation
- Constructable Area
- Wind Project Location**
- Proposed Turbine Location
- Access Road
- Overhead Collector Line
- Underground Collector Line
- Solar Project Location**
- Solar Lands
- Transmission Line**
- Overhead Transmission Line
- Underground Transmission Line
- Electrical Transmission Component

- Existing Features**
- Road
 - Railway
 - Abandoned Railway
 - Transmission Line (MNR)
 - Watercourse (MNR)
 - Waterbody (MNR)
 - Provincial Park (MNR)
 - Deer Wintering Yard (MNR)
 - Wetland (GRCA)
 - Area of Natural and Scientific Interest
 - Watershed Boundary

- Wetland (MNR)**
- Provincially Significant Wetland
 - Non-Provincially Significant Wetland
- Natural Features**
- Woodland
 - Wetland
 - Rare Vegetation Community
 - Seep
 - Vernal Pool
 - Snapping Turtle Habitat
 - Animal Movement Corridor

- Natural Feature
- Interior Forest Habitat
- Candidate Valleyland
- Candidate Habitat for Declining Grassland Species
- Candidate Waterfowl Stopover
- Candidate Migratory Butterfly Stopover
- Candidate Migratory Landbird Habitat
- Candidate Area-Sensitive Species Woodland Habitat
- Candidate Habitat for Declining Woodland Species
- Candidate Short-Eared Owl Habitat
- Candidate Winter Raptor Feeding & Roosting Habitat

Notes

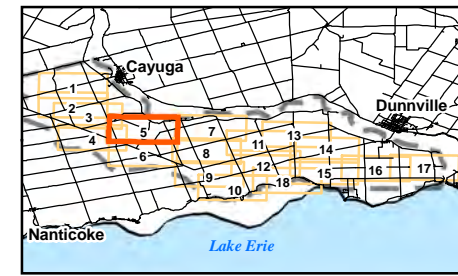
1. Coordinate System: UTM NAD 83 - Zone 17 (N).
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Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
10.5

DRAFT

Title
**CANDIDATE NATURAL
FEATURES - W5**





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Legend

- Study Area
- Zone of Investigation
- Constructable Area
- Wind Project Location**
- Proposed Turbine Location
- Access Road
- Overhead Collector Line
- Underground Collector Line
- Solar Project Location**
- Solar Lands
- Transmission Line**
- Overhead Transmission Line
- Underground Transmission Line
- Electrical Transmission Component

- Existing Features**
- Road
 - Railway
 - Abandoned Railway
 - Transmission Line (MNR)
 - Watercourse (MNR)
 - Waterbody (MNR)
 - Provincial Park (MNR)
 - Deer Wintering Yard (MNR)
 - Wetland (GRCA)
 - Area of Natural and Scientific Interest
 - Watershed Boundary

- Wetland (MNR)**
- Provincially Significant Wetland
 - Non-Provincially Significant Wetland
- Natural Features**
- Woodland
 - Wetland
 - Rare Vegetation Community
 - Seep
 - Vernal Pool
 - Snapping Turtle Habitat
 - Animal Movement Corridor

- Natural Feature
- Interior Forest Habitat
- Candidate Valleyland
- Candidate Habitat for Declining Grassland Species
- Candidate Waterfowl Stopover
- Candidate Migratory Butterfly Stopover
- Candidate Migratory Landbird Habitat
- Candidate Area-Sensitive Species Woodland Habitat
- Candidate Habitat for Declining Woodland Species
- Candidate Short-Eared Owl Habitat
- Candidate Winter Raptor Feeding & Roosting Habitat

Notes

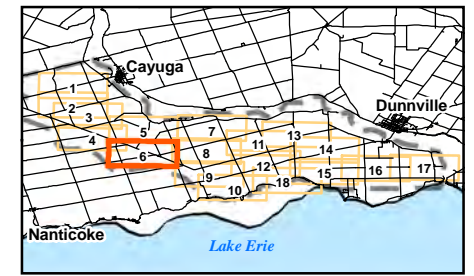
1. Coordinate System: UTM NAD 83 - Zone 17 (N).
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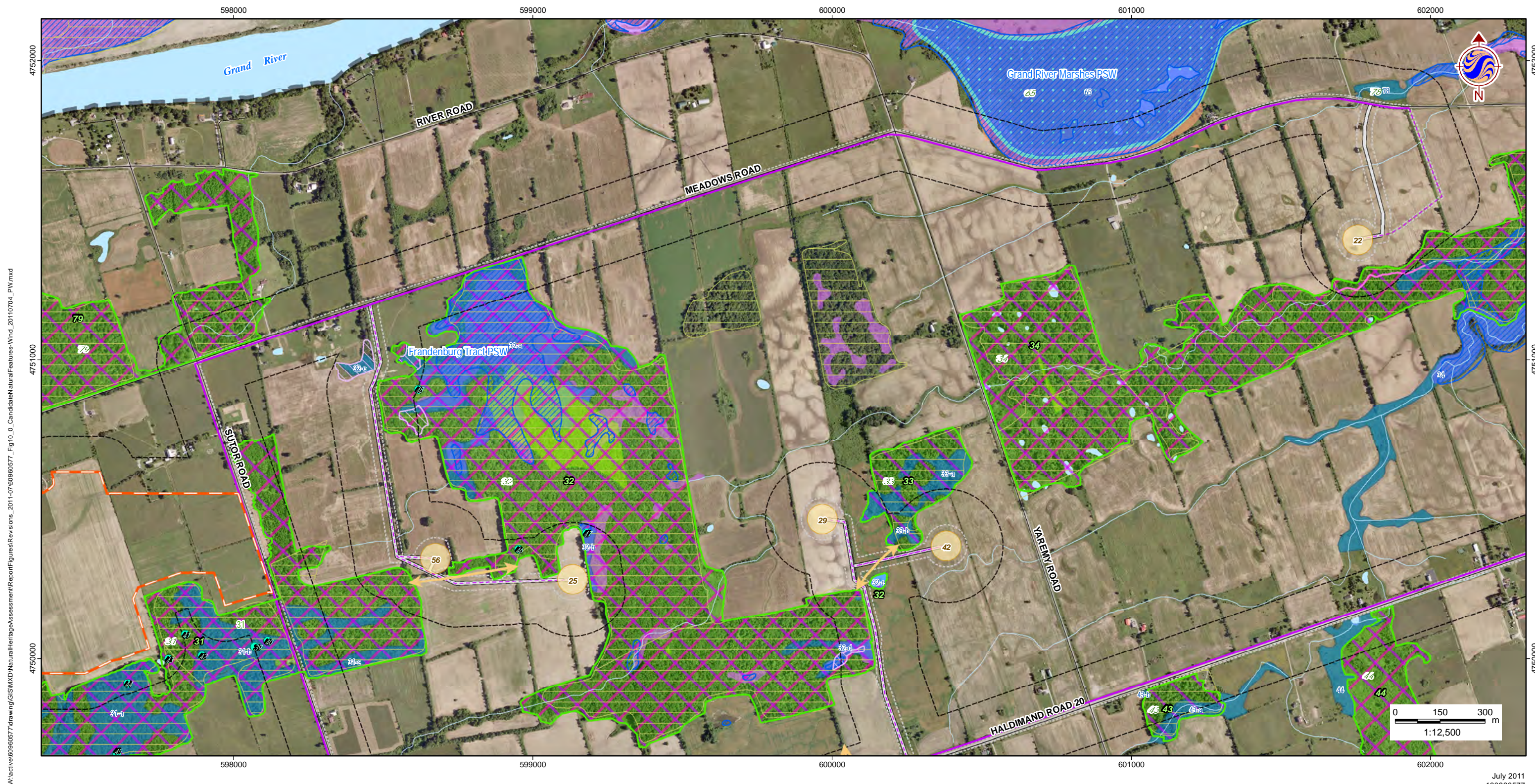
Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
10.6

DRAFT

Title
**CANDIDATE NATURAL
FEATURES - W6**





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July 2011
160960577



Legend

- Study Area
- Zone of Investigation
- Constructable Area
- Wind Project Location**
- Proposed Turbine Location
- Access Road
- Overhead Collector Line
- Underground Collector Line
- Solar Project Location**
- Solar Lands
- Transmission Line**
- Overhead Transmission Line
- Underground Transmission Line
- Electrical Transmission Component

- Existing Features**
- Road
- Railway
- Abandoned Railway
- Transmission Line (MNR)
- Watercourse (MNR)
- Waterbody (MNR)
- Provincial Park (MNR)
- Deer Wintering Yard (MNR)
- Wetland (GRCA)
- Area of Natural and Scientific Interest
- Watershed Boundary

- Wetland (MNR)**
- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Natural Features**
- Woodland
- Wetland (9-a)
- Rare Vegetation Community
- Seep
- Vernal Pool
- Snapping Turtle Habitat
- Animal Movement Corridor

- Natural Feature
- Interior Forest Habitat
- Candidate Valleyland
- Candidate Habitat for Declining Grassland Species
- Candidate Waterfowl Stopover
- Candidate Migratory Butterfly Stopover
- Candidate Migratory Landbird Habitat
- Candidate Area-Sensitive Species Woodland Habitat
- Candidate Habitat for Declining Woodland Species
- Candidate Short-Eared Owl Habitat
- Candidate Winter Raptor Feeding & Roosting Habitat

Notes

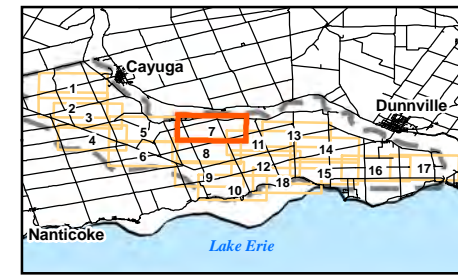
1. Coordinate System: UTM NAD 83 - Zone 17 (N).
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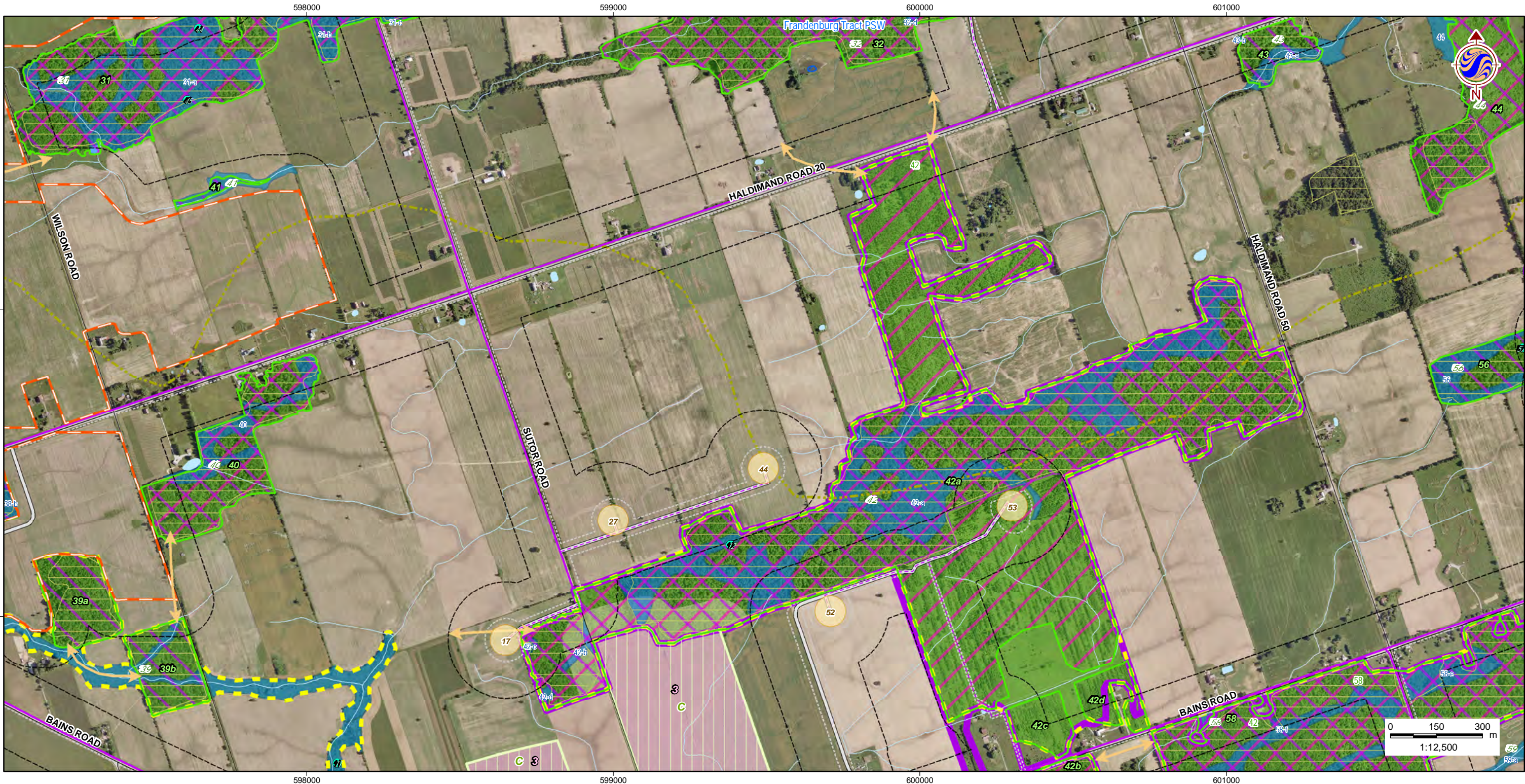
Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
10.7

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Title
**CANDIDATE NATURAL
FEATURES - W7**





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July 2011
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Legend

- Study Area
- Zone of Investigation
- Constructable Area
- Wind Project Location**
- Proposed Turbine Location
- Access Road
- Overhead Collector Line
- Underground Collector Line
- Solar Project Location**
- Solar Lands
- Transmission Line**
- Overhead Transmission Line
- Underground Transmission Line
- Electrical Transmission Component

- Existing Features**
- Road
 - Railway
 - Abandoned Railway
 - Transmission Line (MNR)
 - Watercourse (MNR)
 - Waterbody (MNR)
 - Provincial Park (MNR)
 - Deer Wintering Yard (MNR)
 - Wetland (GRCA)
 - Area of Natural and Scientific Interest
 - Watershed Boundary

- Wetland (MNR)**
- Provincially Significant Wetland
 - Non-Provincially Significant Wetland
- Natural Features**
- Woodland
 - Wetland
 - Rare Vegetation Community
 - Seep
 - Vernal Pool
 - Snapping Turtle Habitat
 - Animal Movement Corridor

- Natural Feature
- Interior Forest Habitat
- Candidate Valleyland
- Candidate Habitat for Declining Grassland Species
- Candidate Waterfowl Stopover
- Candidate Migratory Butterfly Stopover
- Candidate Migratory Landbird Habitat
- Candidate Area-Sensitive Species Woodland Habitat
- Candidate Habitat for Declining Woodland Species
- Candidate Short-Eared Owl Habitat
- Candidate Winter Raptor Feeding & Roosting Habitat

Notes

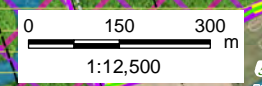
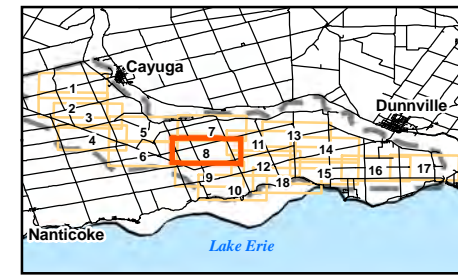
1. Coordinate System: UTM NAD 83 - Zone 17 (N).
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Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
10.8

DRAFT

Title
**CANDIDATE NATURAL
FEATURES - W8**



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| <ul style="list-style-type: none"> Study Area Zone of Investigation Constructable Area Wind Project Location Proposed Turbine Location Access Road Overhead Collector Line Underground Collector Line Solar Project Location Solar Lands Transmission Line Overhead Transmission Line Underground Transmission Line Electrical Transmission Component | <ul style="list-style-type: none"> Existing Features Road Railway Abandoned Railway Transmission Line (MNR) Watercourse (MNR) Waterbody (MNR) Provincial Park (MNR) Deer Wintering Yard (MNR) Wetland (GRCA) Area of Natural and Scientific Interest Watershed Boundary | <ul style="list-style-type: none"> Wetland (MNR) Provincially Significant Wetland Non-Provincially Significant Wetland Natural Features Woodland Wetland Rare Vegetation Community Seep Vernal Pool Snapping Turtle Habitat Animal Movement Corridor | <ul style="list-style-type: none"> Natural Feature Interior Forest Habitat Candidate Valleyland Candidate Habitat for Declining Grassland Species Candidate Waterfowl Stopover Candidate Migratory Landbird Habitat Candidate Migratory Butterfly Stopover Candidate Area-Sensitive Species Woodland Habitat Candidate Habitat for Declining Woodland Species Candidate Short-Eared Owl Habitat Candidate Winter Raptor Feeding & Roosting Habitat |
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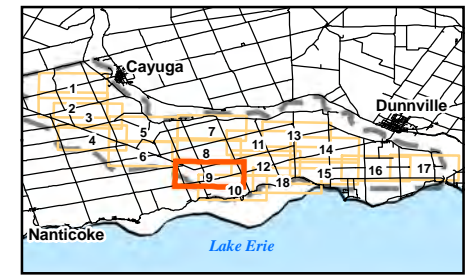
1. Coordinate System: UTM NAD 83 - Zone 17 (N).
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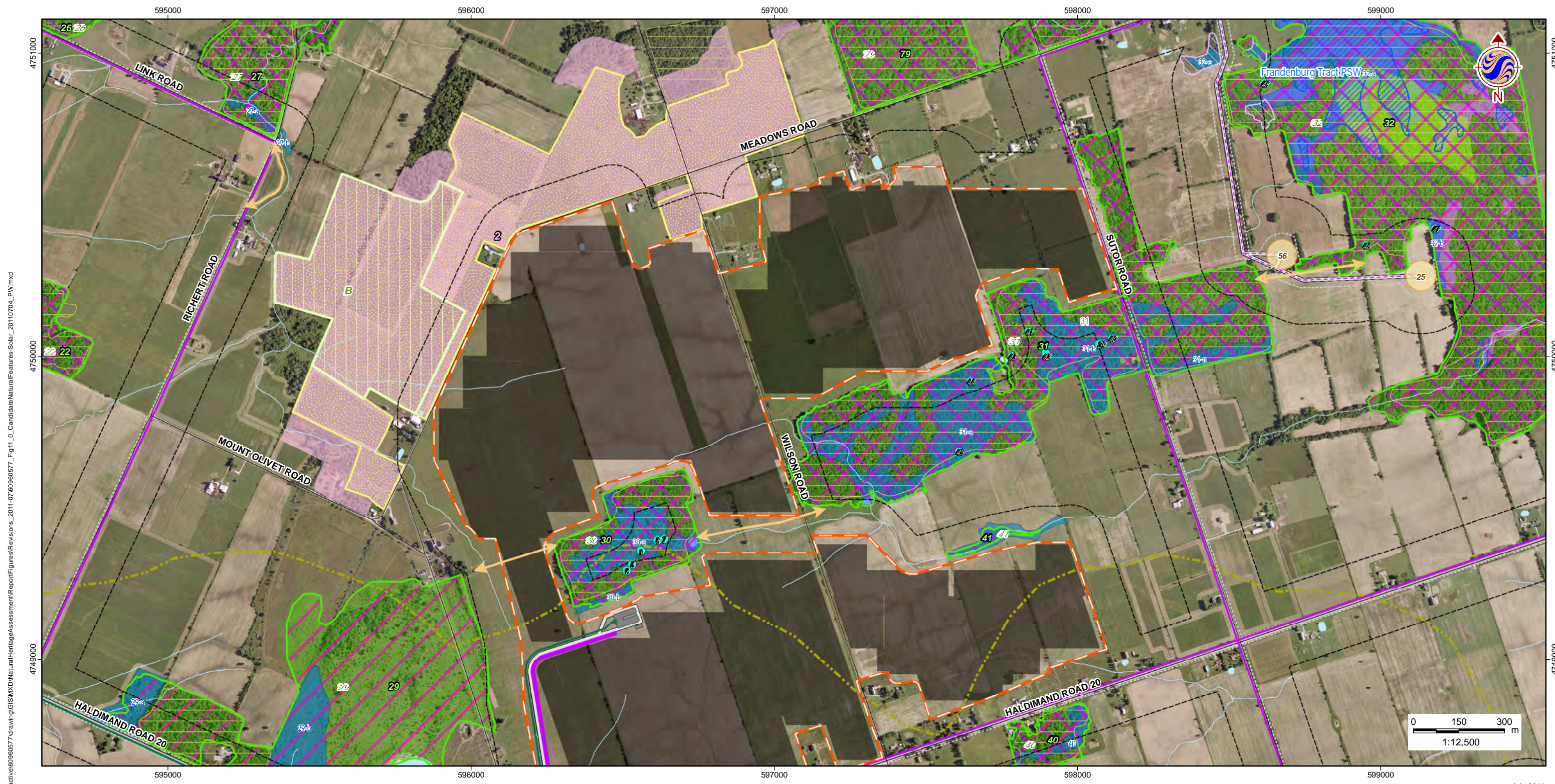
Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
10.9

DRAFT

Title
**CANDIDATE NATURAL
FEATURES - W9**





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Legend

- Study Area
- Zone of Investigation
- Constructable Area
- Wind Project Location**
- Proposed Turbine Location
- Access Road
- Overhead Collector Line
- Underground Collector Line
- Solar Project Location**
- Solar Lands
- Solar Panel Unit
- Transmission Line**
- Overhead Transmission Line
- Underground Transmission Line
- Electrical Transmission Component
- Road
- Railway
- Abandoned Railway
- Transmission Line (MNR)
- Watercourse (MNR)
- Waterbody (MNR)
- Provincial Park (MNR)
- Deer Wintering Yard (MNR)
- Wetland (GRCA)
- Area of Natural and Scientific Interest
- Watershed Boundary

- Wetland (MNR)**
- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Natural Features**
- Woodland
- Wetland
- Rare Vegetation Community
- Seep
- Vernal Pool
- Snapping Turtle Habitat
- Animal Movement Corridor

- Natural Feature
- Interior Forest Habitat
- Candidate Valleyland
- Candidate Habitat for Declining Grassland Species
- Candidate Waterfowl Stopover
- Candidate Migratory Butterfly Stopover
- Candidate Migratory Landbird Habitat
- Candidate Area-Sensitive Species Woodland Habitat
- Candidate Habitat for Declining Woodland Species
- Candidate Short-Eared Owl Habitat
- Candidate Winter Raptor Feeding & Roosting Habitat

Notes

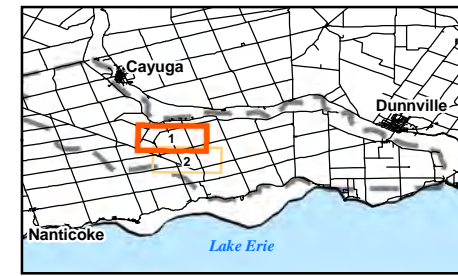
1. Coordinate System: UTM NAD 83 - Zone 17 (N).
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Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
11.1

DRAFT

Title
**CANDIDATE NATURAL
FEATURES - S1**





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| <ul style="list-style-type: none"> Study Area Zone of Investigation Constructable Area Wind Project Location Proposed Turbine Location Access Road Overhead Collector Line Underground Collector Line Solar Project Location Solar Lands Solar Panel Unit Transmission Line Overhead Transmission Line Underground Transmission Line | <ul style="list-style-type: none"> Electrical Transmission Component Existing Features Road Railway Abandoned Railway Transmission Line (MNR) Watercourse (MNR) Waterbody (MNR) Provincial Park (MNR) Deer Wintering Yard (MNR) Wetland (GRCA) Area of Natural and Scientific Interest Watershed Boundary | <ul style="list-style-type: none"> Wetland (MNR) Provincially Significant Wetland Non-Provincially Significant Wetland Natural Features Woodland Wetland Rare Vegetation Community Seep Vernal Pool Snapping Turtle Habitat Animal Movement Corridor | <ul style="list-style-type: none"> Natural Feature Interior Forest Habitat Candidate Valleyland Candidate Habitat for Declining Grassland Species Candidate Waterfowl Stopover Candidate Migratory Butterfly Stopover Candidate Migratory Landbird Habitat Candidate Area-Sensitive Species Woodland Habitat Candidate Habitat for Declining Woodland Species Candidate Short-Eared Owl Habitat Candidate Winter Raptor Feeding & Roosting Habitat |
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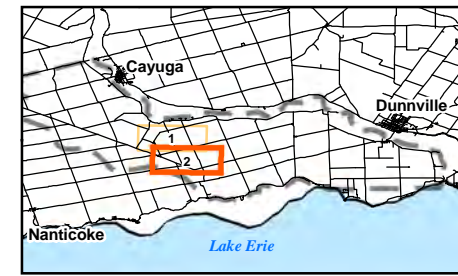
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Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
11.2

DRAFT

Title
**CANDIDATE NATURAL
FEATURES - S2**





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Legend

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| <ul style="list-style-type: none"> Study Area Zone of Investigation Constructable Area Wind Project Location Proposed Turbine Location Access Road Overhead Collector Line Underground Collector Line Solar Project Location Solar Lands Transmission Line Overhead Transmission Line Underground Transmission Line Electrical Transmission Component | <ul style="list-style-type: none"> Existing Features Road Railway Abandoned Railway Transmission Line (MNR) Watercourse (MNR) Waterbody (MNR) Provincial Park (MNR) Deer Wintering Yard (MNR) Wetland (GRCA) Area of Natural and Scientific Interest Watershed Boundary | <ul style="list-style-type: none"> Wetland (MNR) Provincially Significant Wetland Non-Provincially Significant Wetland Natural Features Woodland Wetland Rare Vegetation Community Seep Vernal Pool Snapping Turtle Habitat Animal Movement Corridor | <ul style="list-style-type: none"> Natural Feature Interior Forest Habitat Candidate Valleyland Candidate Habitat for Declining Grassland Species Candidate Waterfowl Stopover Candidate Migratory Butterfly Stopover Candidate Migratory Landbird Habitat Candidate Area-Sensitive Species Woodland Habitat Candidate Habitat for Declining Woodland Species Candidate Short-Eared Owl Habitat Candidate Winter Raptor Feeding & Roosting Habitat |
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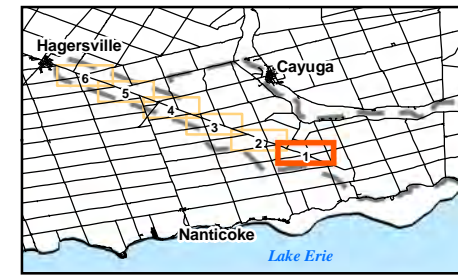
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Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
12.1

DRAFT

Title
**CANDIDATE NATURAL
FEATURES - T1**



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Legend

- Study Area
- Zone of Investigation
- Constructable Area
- Wind Project Location**
- Proposed Turbine Location
- Access Road
- Overhead Collector Line
- Underground Collector Line
- Solar Project Location**
- Solar Lands
- Transmission Line**
- Overhead Transmission Line
- Underground Transmission Line
- Electrical Transmission Component

Existing Features

- Road
- Railway
- Abandoned Railway
- Transmission Line (MNR)
- Watercourse (MNR)
- Waterbody (MNR)
- Provincial Park (MNR)
- Deer Wintering Yard (MNR)
- Wetland (GRCA)
- Area of Natural and Scientific Interest
- Watershed Boundary

Wetland (MNR)

- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Natural Features**
- Woodland
- Wetland
- Rare Vegetation Community
- Seep
- Vernal Pool
- Snapping Turtle Habitat
- Animal Movement Corridor

7

- Natural Feature
- Interior Forest Habitat
- Candidate Valleyland
- Candidate Habitat for Declining Grassland Species
- Candidate Waterfowl Stopover
- Candidate Migratory Butterfly Stopover
- Candidate Migratory Landbird Habitat
- Candidate Area-Sensitive Species Woodland Habitat
- Candidate Habitat for Declining Woodland Species
- Candidate Short-Eared Owl Habitat
- Candidate Winter Raptor Feeding & Roosting Habitat

Notes

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Client/Project

SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK

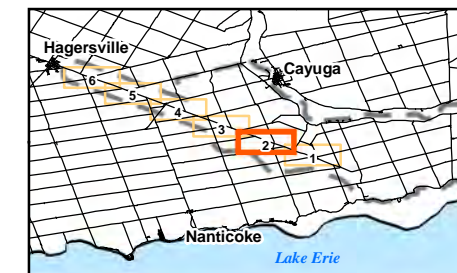
Figure No.

12.2

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Title

CANDIDATE NATURAL
FEATURES - T2



July 2011
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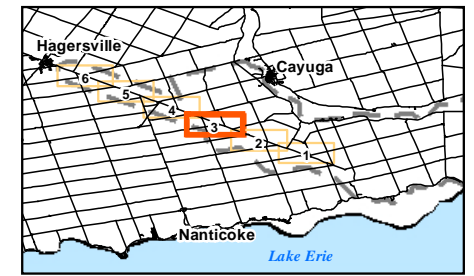


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| <ul style="list-style-type: none"> Study Area Zone of Investigation Constructable Area Wind Project Location Proposed Turbine Location Access Road Overhead Collector Line Underground Collector Line Solar Project Location Solar Lands Transmission Line Overhead Transmission Line Underground Transmission Line Electrical Transmission Component | <p>Existing Features</p> <ul style="list-style-type: none"> Road Railway Abandoned Railway Transmission Line (MNR) Watercourse (MNR) Waterbody (MNR) Provincial Park (MNR) Deer Wintering Yard (MNR) Wetland (GRCA) Area of Natural and Scientific Interest Watershed Boundary | <p>Wetland (MNR)</p> <ul style="list-style-type: none"> Provincially Significant Wetland Non-Provincially Significant Wetland <p>Natural Features</p> <ul style="list-style-type: none"> Woodland Wetland Rare Vegetation Community Seep Vernal Pool Snapping Turtle Habitat Animal Movement Corridor | <ul style="list-style-type: none"> Natural Feature Interior Forest Habitat Candidate Valleyland Candidate Habitat for Declining Grassland Species Candidate Waterfowl Stopover Candidate Migratory Butterfly Stopover Candidate Migratory Landbird Habitat Candidate Area-Sensitive Species Woodland Habitat Candidate Habitat for Declining Woodland Species Candidate Short-Eared Owl Habitat Candidate Winter Raptor Feeding & Roosting Habitat |
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SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK

Figure No.
12.3

Title
CANDIDATE NATURAL FEATURES - T3

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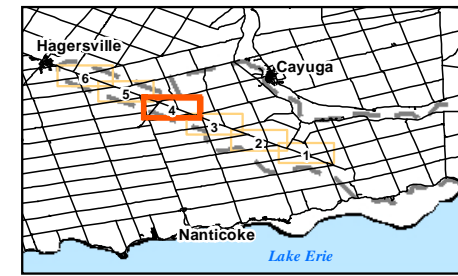


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| <ul style="list-style-type: none"> Study Area Zone of Investigation Constructable Area Wind Project Location Proposed Turbine Location Access Road Overhead Collector Line Underground Collector Line Solar Project Location Solar Lands Transmission Line Overhead Transmission Line Underground Transmission Line Electrical Transmission Component | <p>Existing Features</p> <ul style="list-style-type: none"> Road Railway Abandoned Railway Transmission Line (MNR) Watercourse (MNR) Waterbody (MNR) Provincial Park (MNR) Deer Wintering Yard (MNR) Wetland (GRCA) Area of Natural and Scientific Interest Watershed Boundary | <p>Wetland (MNR)</p> <ul style="list-style-type: none"> Provincially Significant Wetland Non-Provincially Significant Wetland <p>Natural Features</p> <ul style="list-style-type: none"> Woodland 9-a Wetland Rare Vegetation Community Seep Vernal Pool Snapping Turtle Habitat Animal Movement Corridor | <ul style="list-style-type: none"> Natural Feature Interior Forest Habitat Candidate Valleyland Candidate Habitat for Declining Grassland Species Candidate Waterfowl Stopover Candidate Migratory Butterfly Stopover Candidate Migratory Landbird Habitat Candidate Area-Sensitive Species Woodland Habitat Candidate Habitat for Declining Woodland Species Candidate Short-Eared Owl Habitat Candidate Winter Raptor Feeding & Roosting Habitat |
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SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK

Figure No.
12.4

Title
CANDIDATE NATURAL FEATURES - T4

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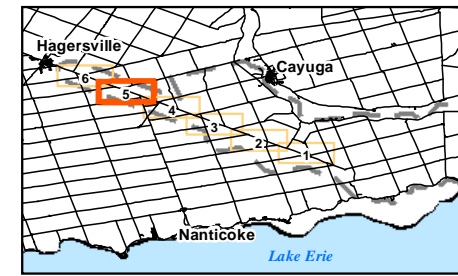


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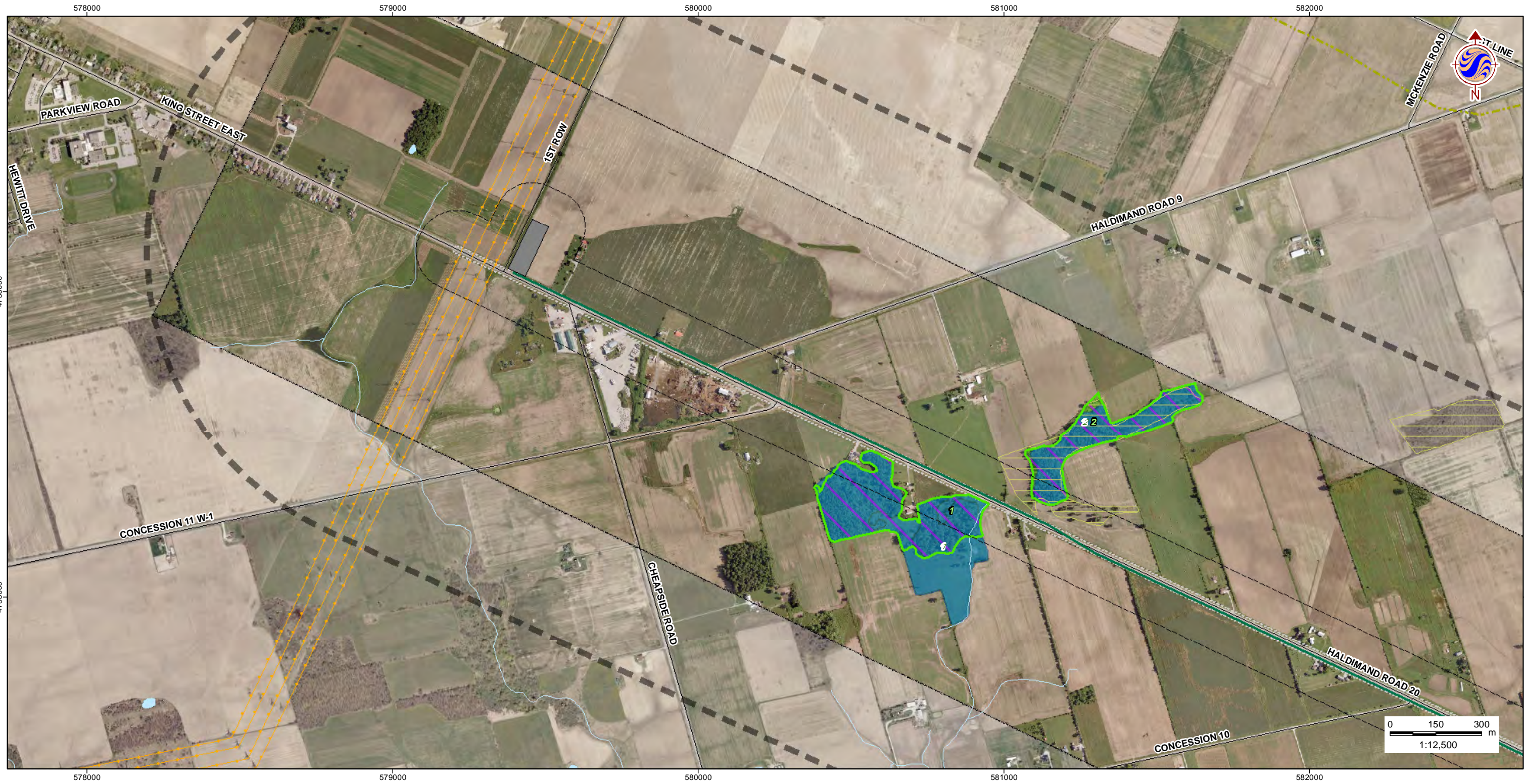
Client/Project
SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK

Figure No.
12.5

Title
CANDIDATE NATURAL FEATURES - T5

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Legend

- Study Area
- Zone of Investigation
- Constructable Area
- Wind Project Location**
- Proposed Turbine Location
- Access Road
- Overhead Collector Line
- Underground Collector Line
- Solar Project Location**
- Solar Lands
- Transmission Line**
- Overhead Transmission Line
- Underground Transmission Line
- Electrical Transmission Component

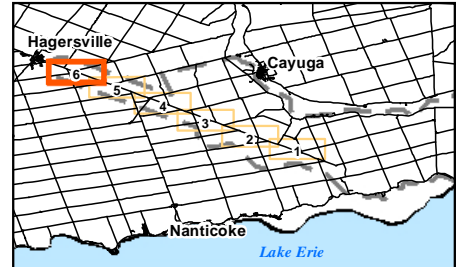
- Existing Features**
- Road
- Railway
- Abandoned Railway
- Transmission Line (MNR)
- Watercourse (MNR)
- Waterbody (MNR)
- Provincial Park (MNR)
- Deer Wintering Yard (MNR)
- Wetland (GRCA)
- Area of Natural and Scientific Interest
- Watershed Boundary

- Wetland (MNR)**
- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Natural Features**
- Woodland
- Wetland (9-a)
- Rare Vegetation Community
- Seep
- Vernal Pool
- Snapping Turtle Habitat
- Animal Movement Corridor

- Natural Feature
- Interior Forest Habitat
- Candidate Valleyland
- Candidate Habitat for Declining Grassland Species
- Candidate Waterfowl Stopover
- Candidate Migratory Butterfly Stopover
- Candidate Migratory Landbird Habitat
- Candidate Area-Sensitive Species Woodland Habitat
- Candidate Habitat for Declining Woodland Species
- Candidate Short-Eared Owl Habitat
- Candidate Winter Raptor Feeding & Roosting Habitat

Notes

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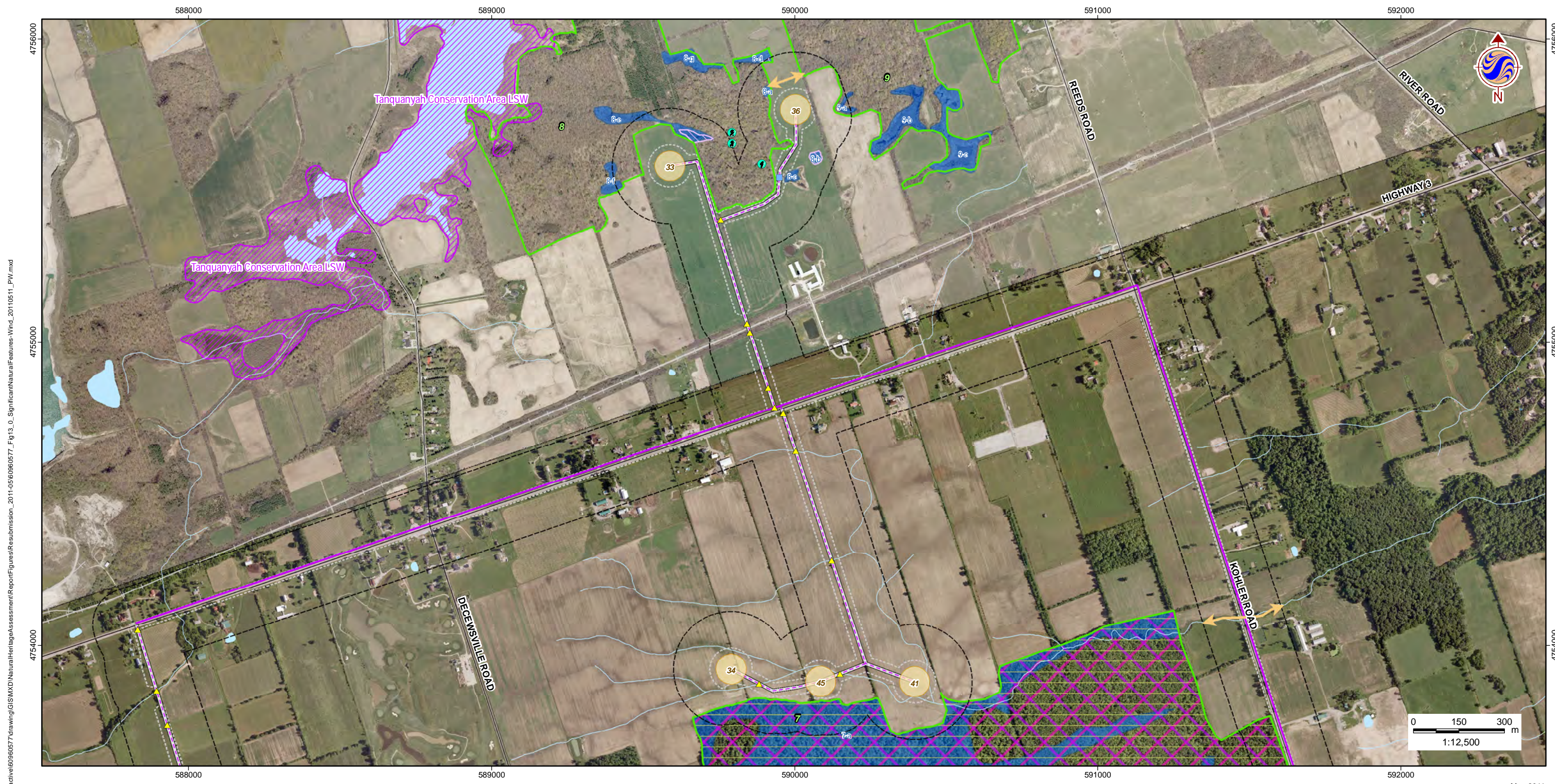


Client/Project
SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK

Figure No.
12.6

Title
CANDIDATE NATURAL FEATURES - T6

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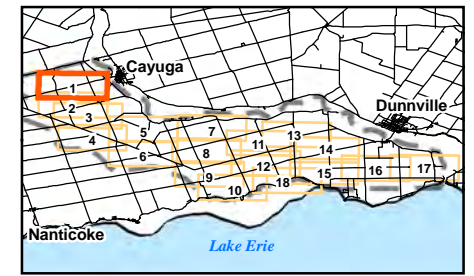
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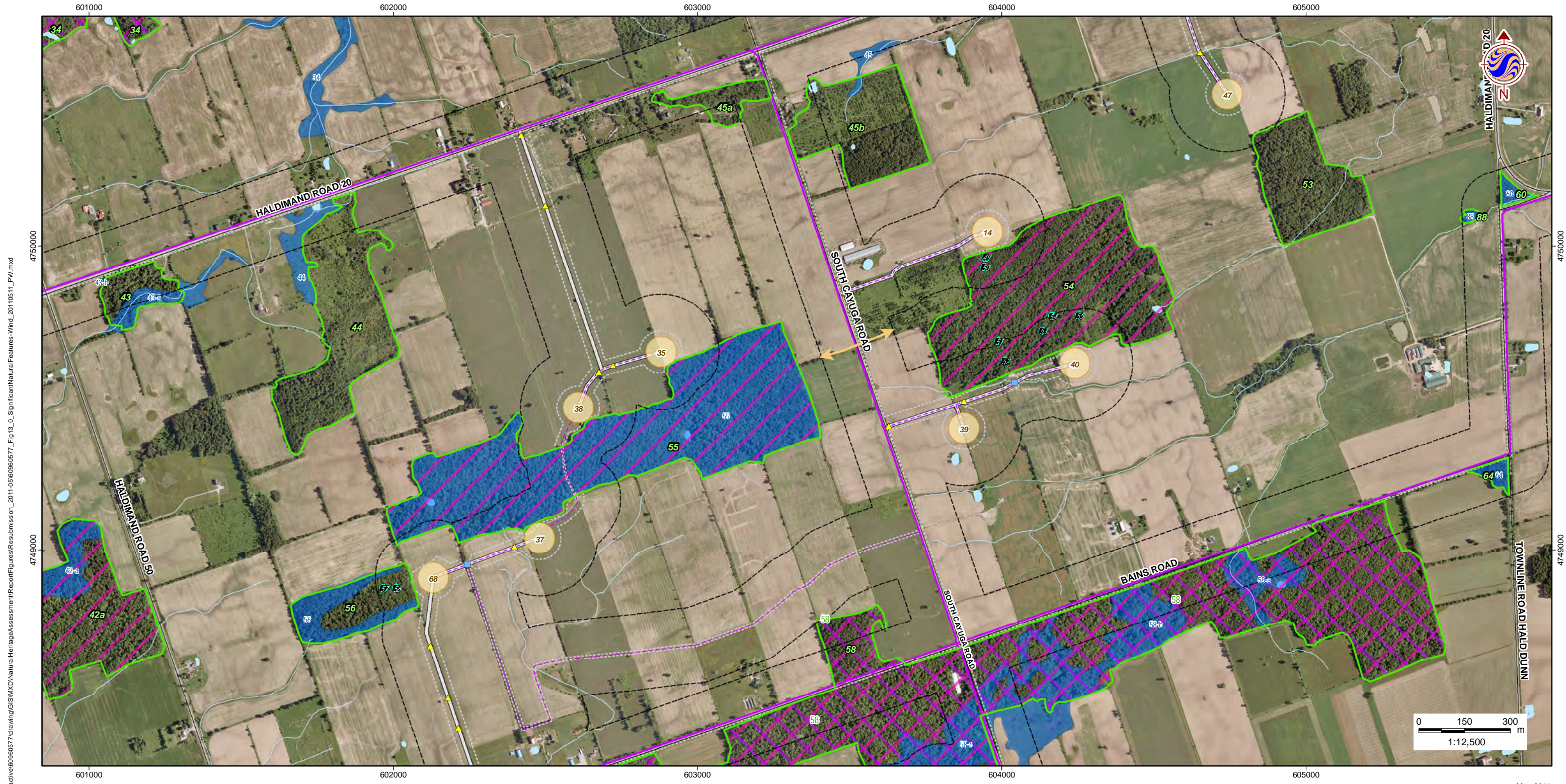
Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
13.1

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Title
**SIGNIFICANT NATURAL
FEATURES - W1**





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| <ul style="list-style-type: none"> Study Area Zone of Investigation Constructable Area Wind Project Location Proposed Turbine Location Access Road Overhead Collector Line Underground Collector Line Solar Project Location Solar Lands | <ul style="list-style-type: none"> Transmission Line Overhead Transmission Line Underground Transmission Line Electrical Transmission Component Existing Features Road Railway Abandoned Railway Transmission Line (MNR) Watercourse (MNR) Waterbody (MNR) | <ul style="list-style-type: none"> Wetland (MNR) Provincially Significant Wetland Non-Provincially Significant Wetland Significant Natural Features Significant Woodland Significant Wetland Significant Valleyland Significant Wildlife Habitat Deer Wintering Area Habitat for Declining/Area-Sensitive Grassland Species | <ul style="list-style-type: none"> Seep Vernal Pool Rare Vegetation Community Snapping Turtle Habitat Animal Movement Corridor Waterfowl Stopover Migratory Landbird Habitat Habitat for Declining Woodland Species Area-Sensitive Species Woodland Habitat Short-Eared Owl Habitat Culverts Wildlife & Flow Culvert Other Culvert |
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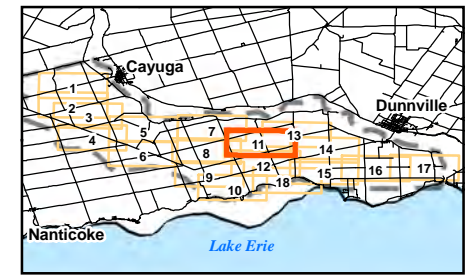
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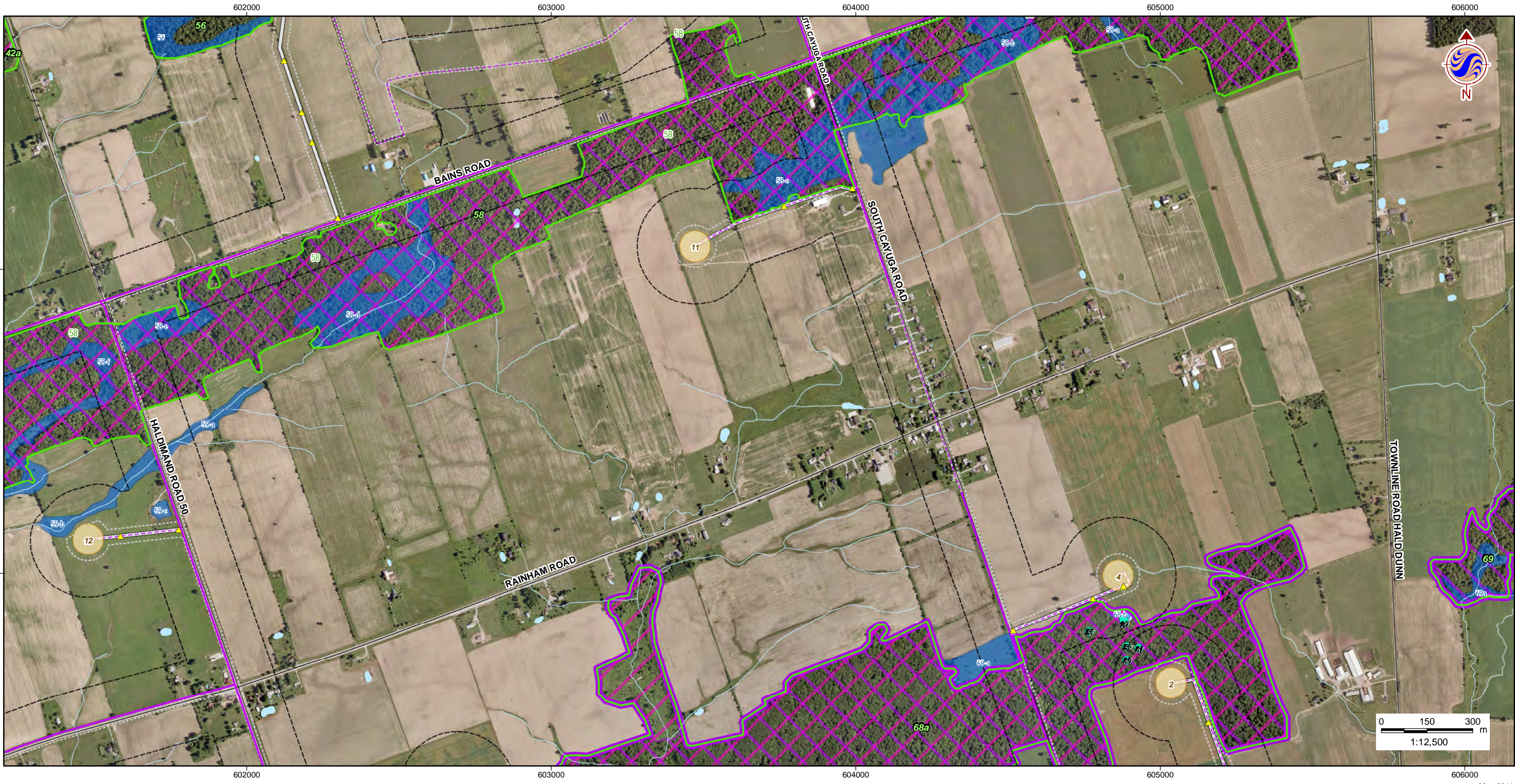
Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
13.11

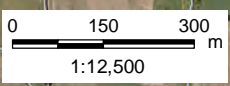
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**SIGNIFICANT NATURAL
FEATURES - W11**





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| <ul style="list-style-type: none"> Study Area Zone of Investigation Constructable Area Wind Project Location Proposed Turbine Location Access Road Overhead Collector Line Underground Collector Line Solar Project Location Solar Lands | <ul style="list-style-type: none"> Transmission Line Overhead Transmission Line Underground Transmission Line Electrical Transmission Component Existing Features Road Railway Abandoned Railway Transmission Line (MNR) Watercourse (MNR) Waterbody (MNR) | <ul style="list-style-type: none"> Wetland (MNR) Provincially Significant Wetland Non-Provincially Significant Wetland Significant Natural Features Significant Woodland Significant Wetland Significant Valleyland Significant Wildlife Habitat Deer Wintering Area Habitat for Declining/Area-Sensitive Grassland Species | <ul style="list-style-type: none"> Seep Vernal Pool Rare Vegetation Community Snapping Turtle Habitat Animal Movement Corridor Waterfowl Stopover Migratory Landbird Habitat Habitat for Declining Woodland Species Area-Sensitive Species Woodland Habitat Short-Eared Owl Habitat Culverts Wildlife & Flow Culvert Other Culvert |
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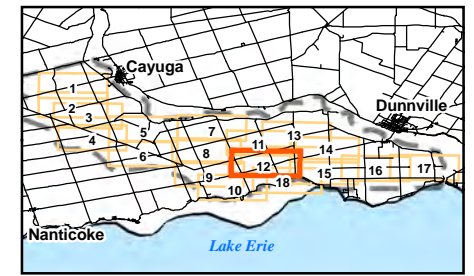
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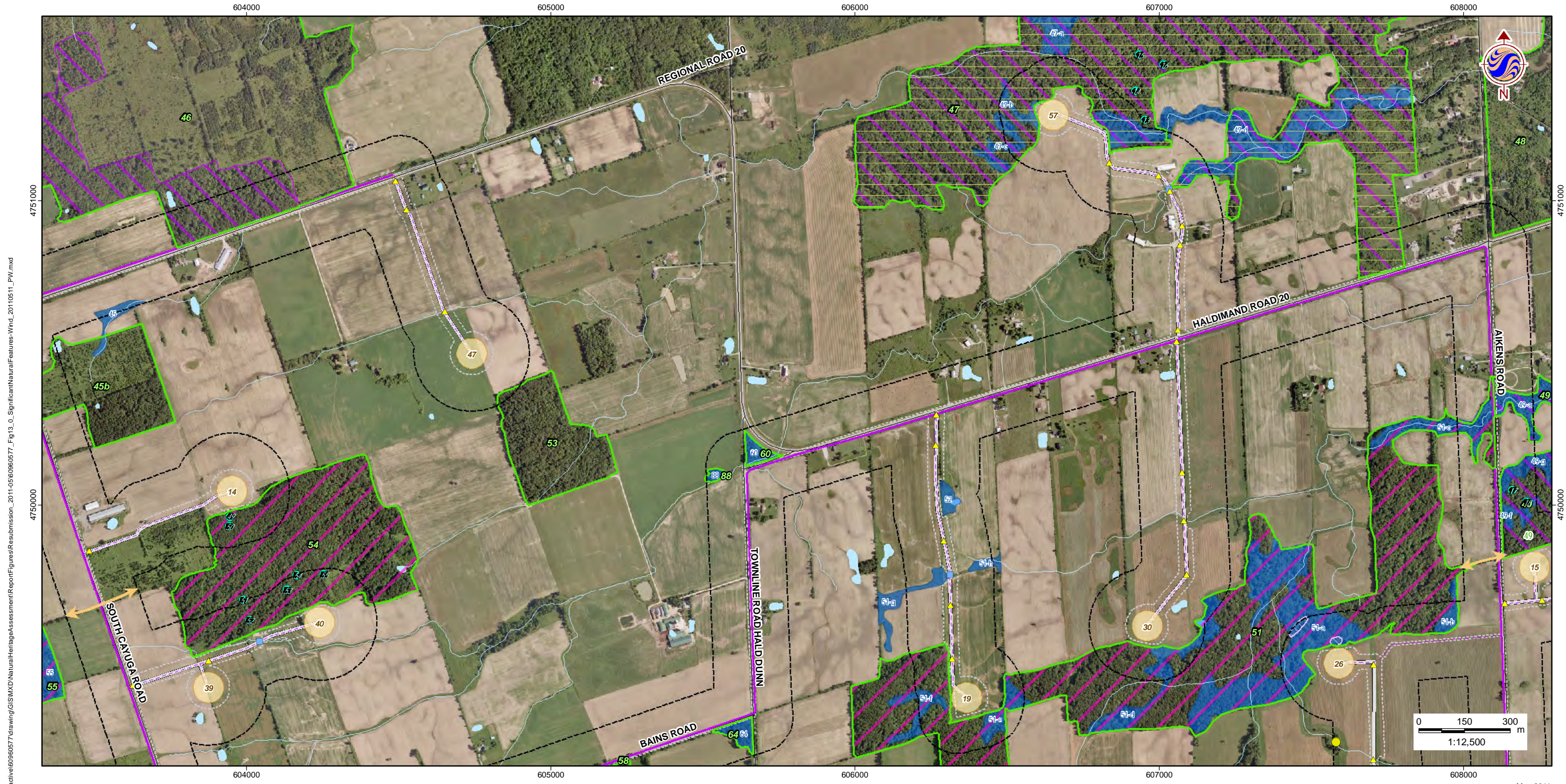
Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
13.12

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Title
**SIGNIFICANT NATURAL
FEATURES - W12**





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| <ul style="list-style-type: none"> Study Area Zone of Investigation Constructable Area Wind Project Location Proposed Turbine Location Access Road Overhead Collector Line Underground Collector Line Solar Project Location Solar Lands | <ul style="list-style-type: none"> Transmission Line Overhead Transmission Line Underground Transmission Line Electrical Transmission Component Existing Features Road Railway Abandoned Railway Transmission Line (MNR) Watercourse (MNR) Waterbody (MNR) | <ul style="list-style-type: none"> Wetland (MNR) Provincially Significant Wetland Non-Provincially Significant Wetland Significant Natural Features Significant Woodland Significant Wetland Significant Valleyland Significant Wildlife Habitat Deer Wintering Area Habitat for Declining/Area-Sensitive Grassland Species | <ul style="list-style-type: none"> Seep Vernal Pool Rare Vegetation Community Snapping Turtle Habitat Animal Movement Corridor Waterfowl Stopover Migratory Landbird Habitat Habitat for Declining Woodland Species Area-Sensitive Species Woodland Habitat Short-Eared Owl Habitat Culverts Wildlife & Flow Culvert Other Culvert |
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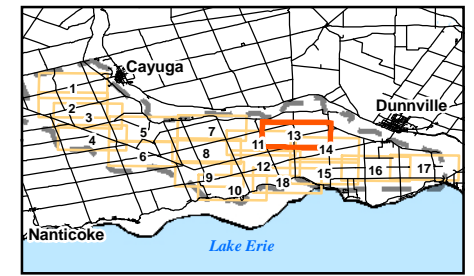
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**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

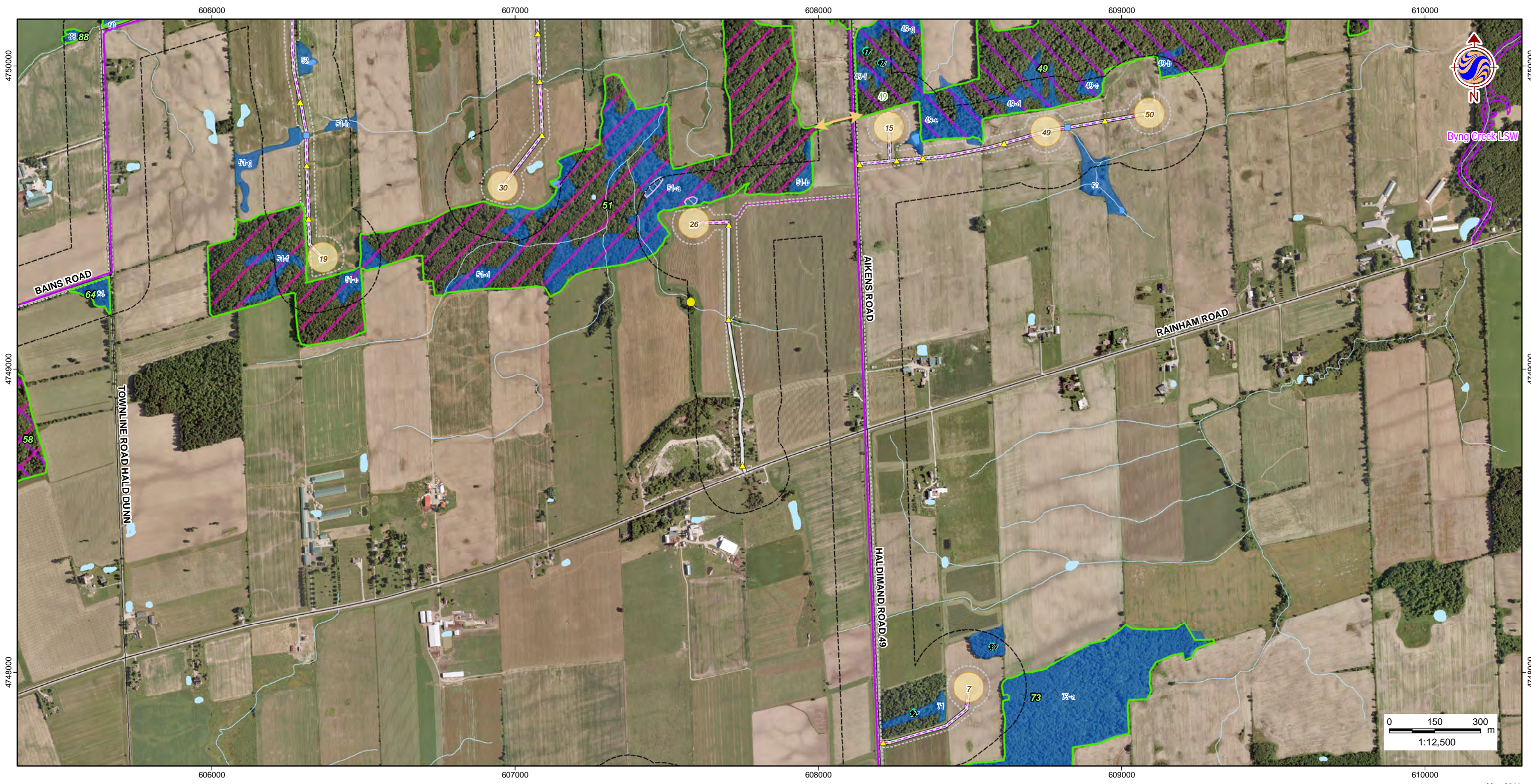
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Title
**SIGNIFICANT NATURAL
FEATURES - W13**



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| <ul style="list-style-type: none"> Study Area Zone of Investigation Constructable Area Wind Project Location Proposed Turbine Location Access Road Overhead Collector Line Underground Collector Line Solar Project Location Solar Lands | <ul style="list-style-type: none"> Transmission Line Overhead Transmission Line Underground Transmission Line Electrical Transmission Component Existing Features Road Railway Abandoned Railway Transmission Line (MNR) Watercourse (MNR) Waterbody (MNR) | <ul style="list-style-type: none"> Wetland (MNR) Provincially Significant Wetland Non-Provincially Significant Wetland Significant Natural Features Significant Woodland Significant Wetland Significant Valleyland Significant Wildlife Habitat Deer Wintering Area Habitat for Declining/Area-Sensitive Grassland Species | <ul style="list-style-type: none"> Seep Vernal Pool Rare Vegetation Community Snapping Turtle Habitat Animal Movement Corridor Waterfowl Stopover Migratory Landbird Habitat Habitat for Declining Woodland Species Area-Sensitive Species Woodland Habitat Short-Eared Owl Habitat Culverts Wildlife & Flow Culvert Other Culvert |
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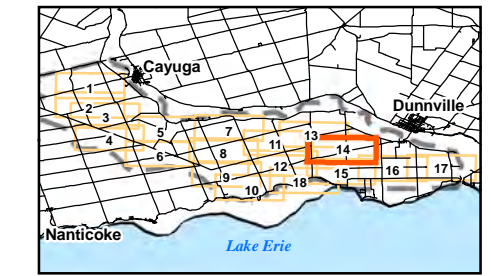
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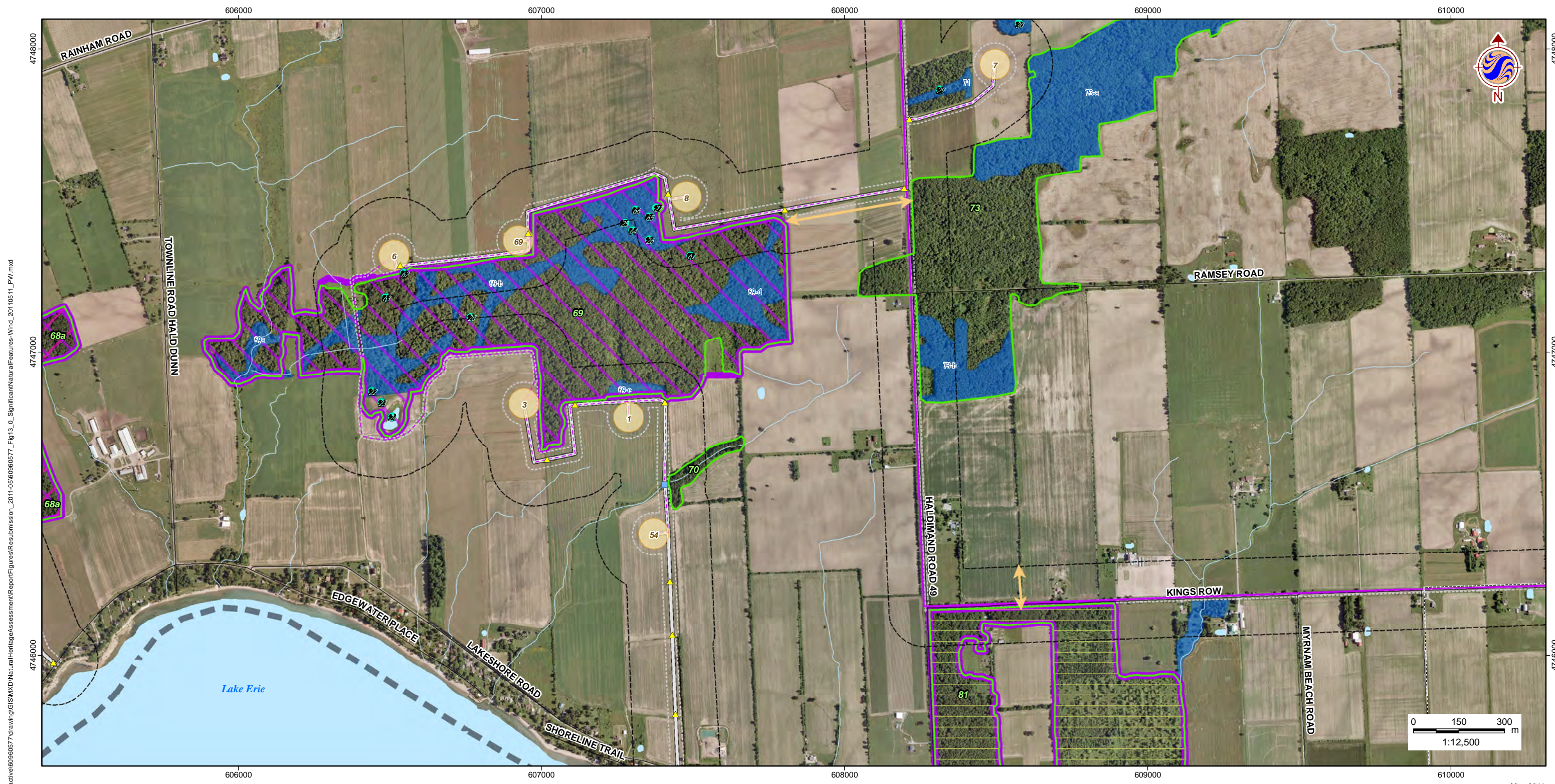
Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
13.14

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Title
**SIGNIFICANT NATURAL
FEATURES - W14**





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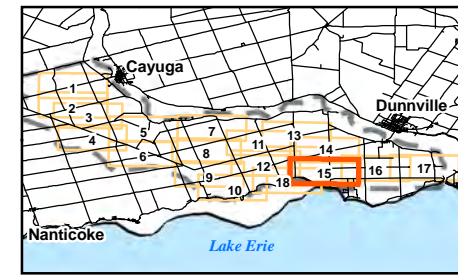
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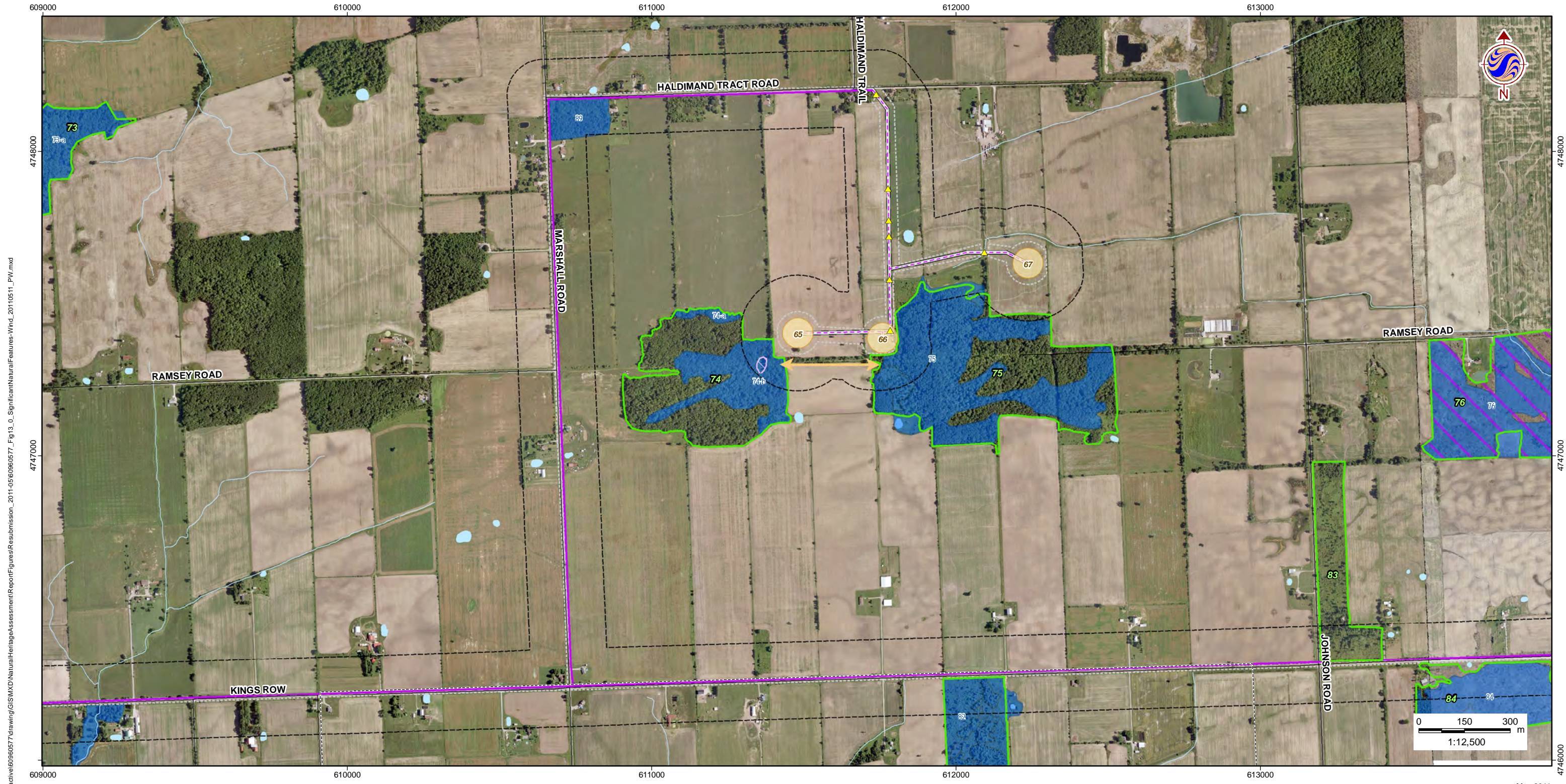
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**SAMSUNG, PATTERN & KEPCO (SPK)
 GRAND RENEWABLE ENERGY PARK**

Figure No.
13.15 *DRAFT*

Title
**SIGNIFICANT NATURAL
 FEATURES - W15**





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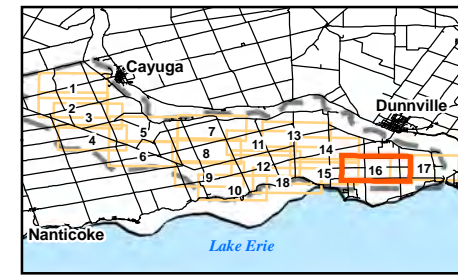
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Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

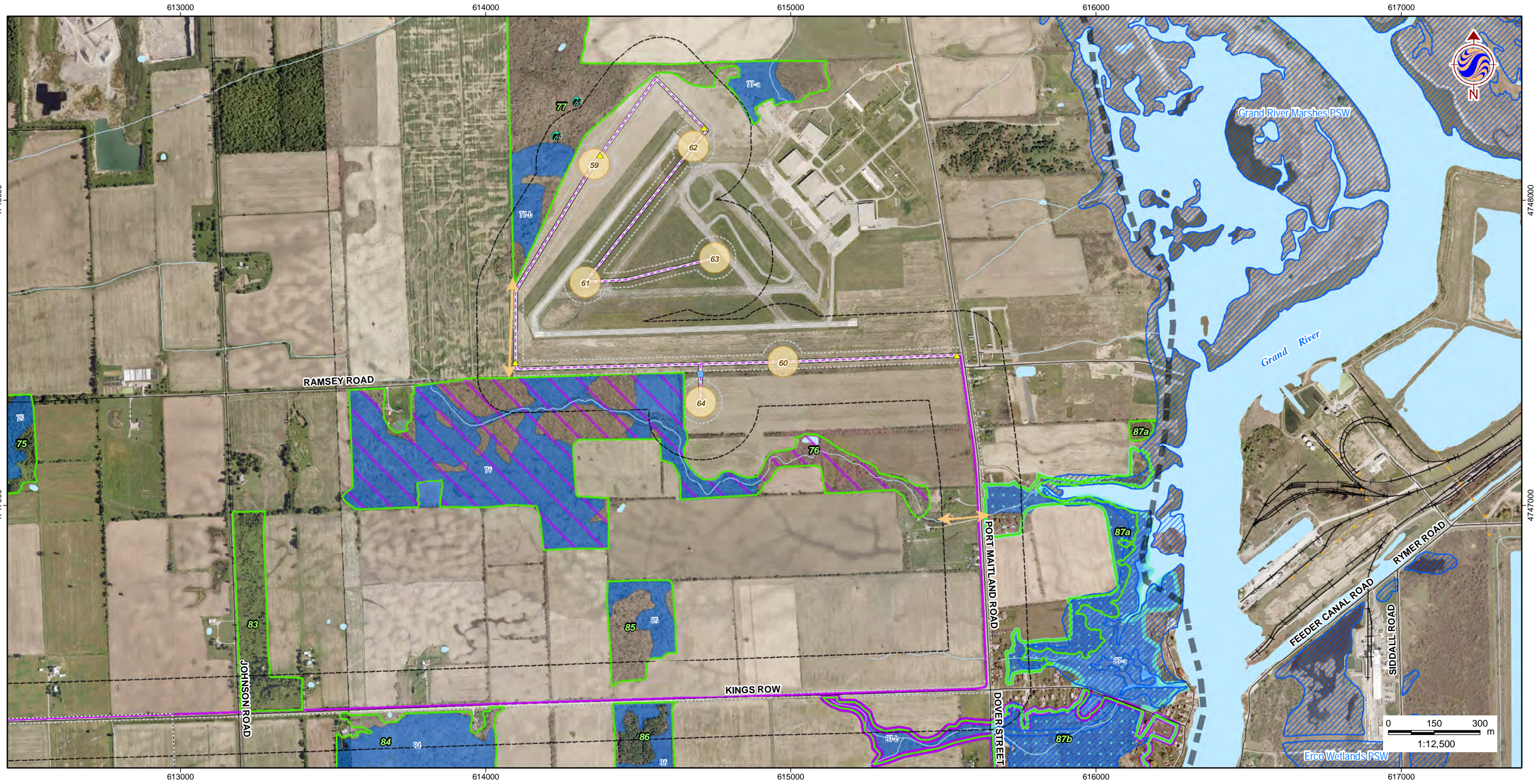
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Title
**SIGNIFICANT NATURAL
FEATURES - W16**



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| <ul style="list-style-type: none"> Study Area Zone of Investigation Constructable Area Wind Project Location Proposed Turbine Location Access Road Overhead Collector Line Underground Collector Line Solar Project Location Solar Lands | <ul style="list-style-type: none"> Transmission Line Overhead Transmission Line Underground Transmission Line Electrical Transmission Component Existing Features Road Railway Abandoned Railway Transmission Line (MNR) Watercourse (MNR) Waterbody (MNR) | <ul style="list-style-type: none"> Wetland (MNR) Provincially Significant Wetland Non-Provincially Significant Wetland Significant Natural Features Significant Woodland Significant Wetland Significant Valleyland Significant Wildlife Habitat Deer Wintering Area Habitat for Declining/Area-Sensitive Grassland Species | <ul style="list-style-type: none"> Seep Vernal Pool Rare Vegetation Community Snapping Turtle Habitat Animal Movement Corridor Waterfowl Stopover Migratory Landbird Habitat Habitat for Declining Woodland Species Area-Sensitive Species Woodland Habitat Short-Eared Owl Habitat Culverts Wildlife & Flow Culvert Other Culvert |
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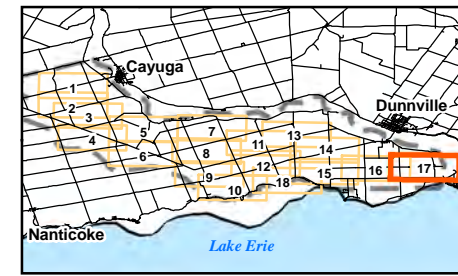
1. Coordinate System: UTM NAD 83 - Zone 17 (N).
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Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

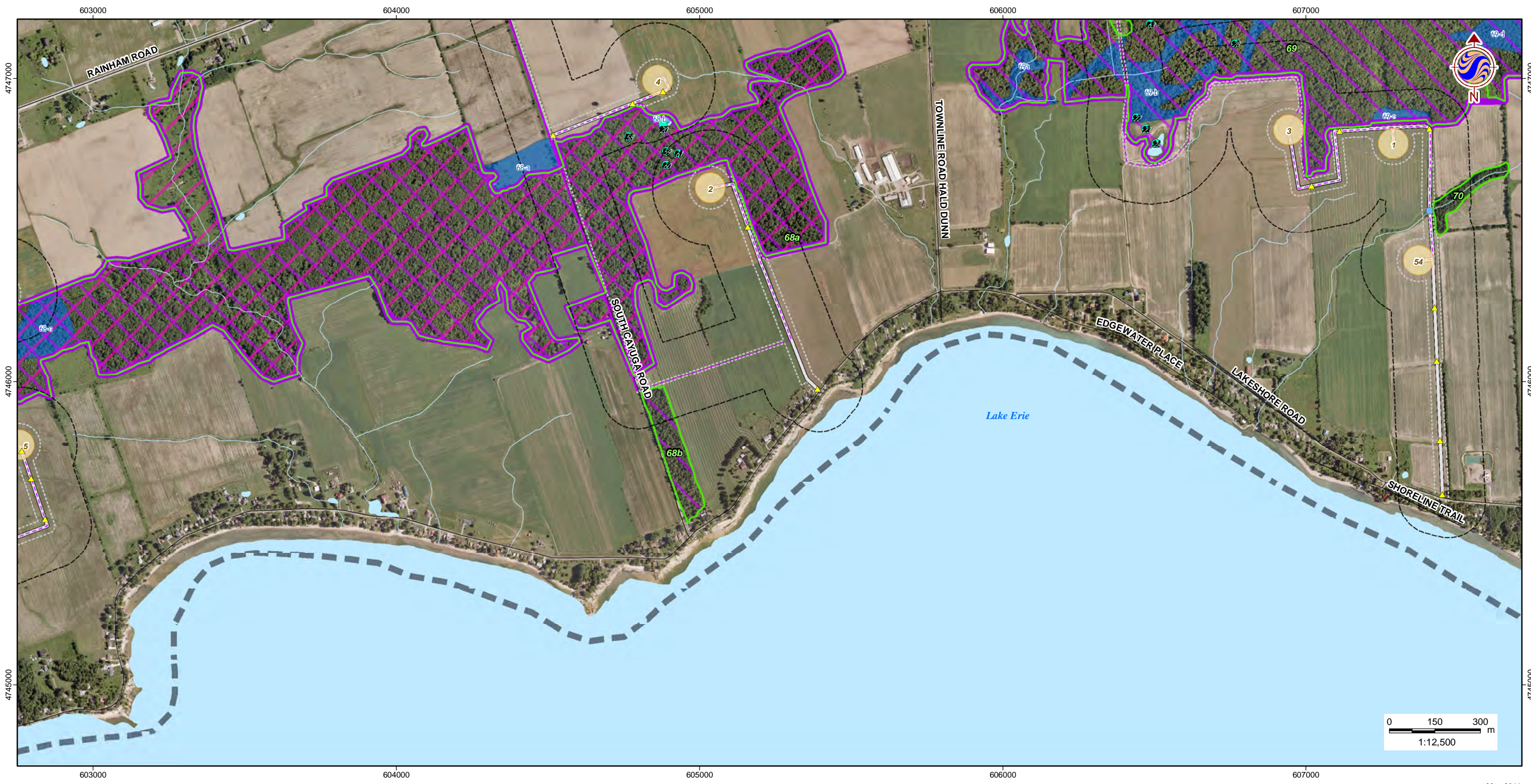
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**SIGNIFICANT NATURAL
FEATURES - W17**



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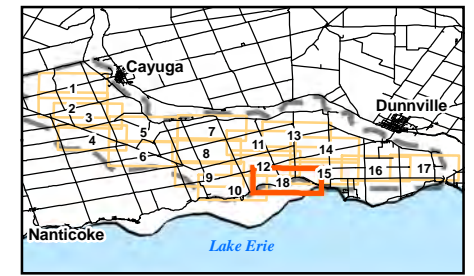


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| <ul style="list-style-type: none"> Study Area Zone of Investigation Constructable Area Wind Project Location Proposed Turbine Location Access Road Overhead Collector Line Underground Collector Line Solar Project Location Solar Lands | <ul style="list-style-type: none"> Transmission Line Overhead Transmission Line Underground Transmission Line Electrical Transmission Component Existing Features Road Railway Abandoned Railway Transmission Line (MNR) Watercourse (MNR) Waterbody (MNR) | <ul style="list-style-type: none"> Wetland (MNR) Provincially Significant Wetland Non-Provincially Significant Wetland Significant Natural Features Significant Woodland Significant Wetland Significant Valleyland Significant Wildlife Habitat Deer Wintering Area Habitat for Declining/Area-Sensitive Grassland Species | <ul style="list-style-type: none"> Seep Vernal Pool Rare Vegetation Community Snapping Turtle Habitat Animal Movement Corridor Waterfowl Stopover Migratory Landbird Habitat Habitat for Declining Woodland Species Area-Sensitive Species Woodland Habitat Short-Eared Owl Habitat Culverts Wildlife & Flow Culvert Other Culvert |
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1. Coordinate System: UTM NAD 83 - Zone 17 (N).
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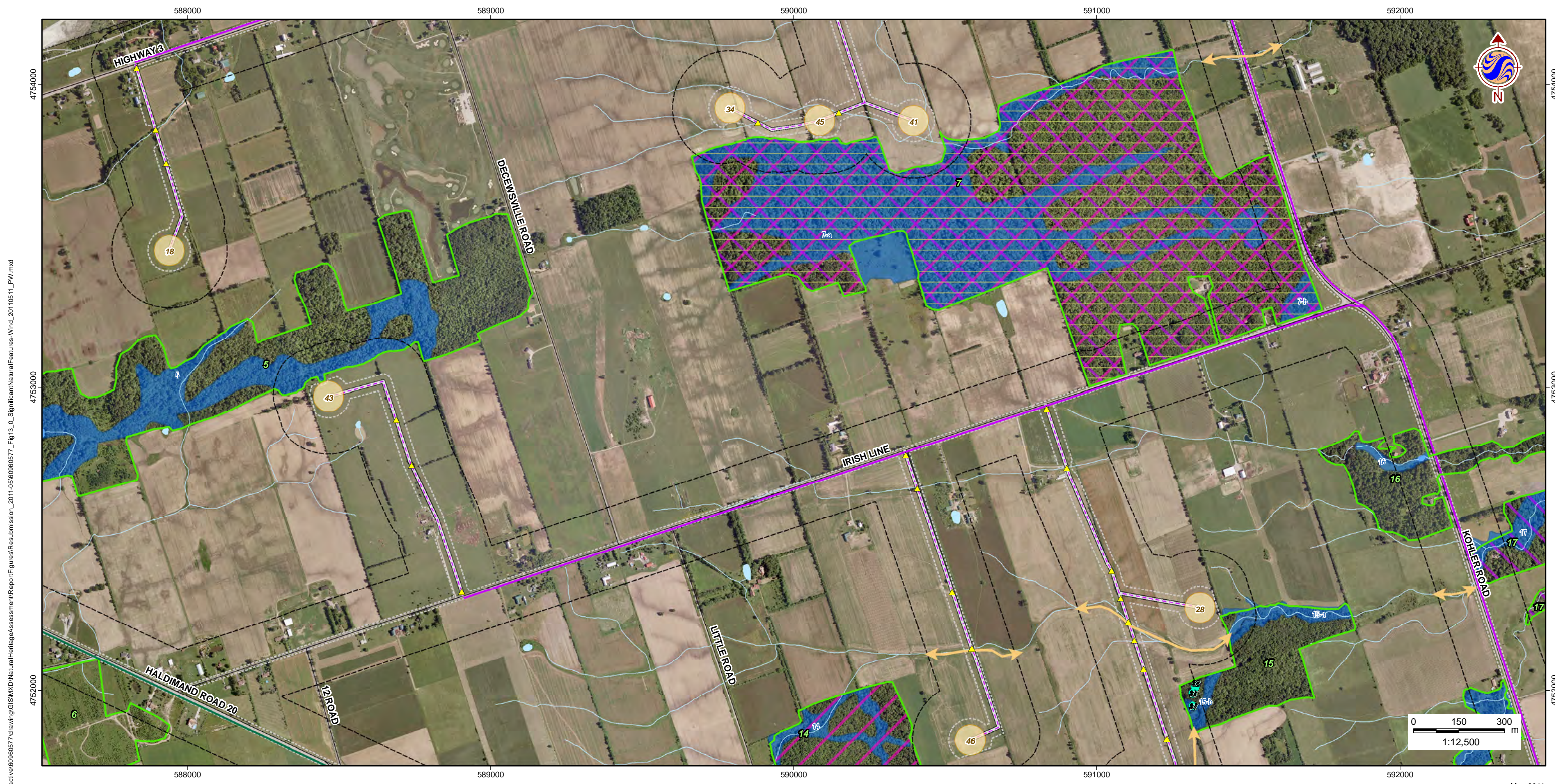


Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
13.18

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**SIGNIFICANT NATURAL
FEATURES - W18**



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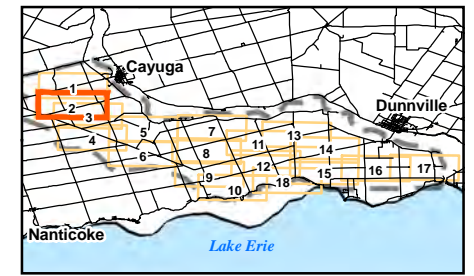
1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queens Printer Ontario, 2011; © Samsung, 2011.
3. Image Source: © Terrapoint, 2011 - Imagery Date: July 2009; Grand River Conservation Authority © First Base Solutions, 2011 - Imagery Date: Spring 2006.

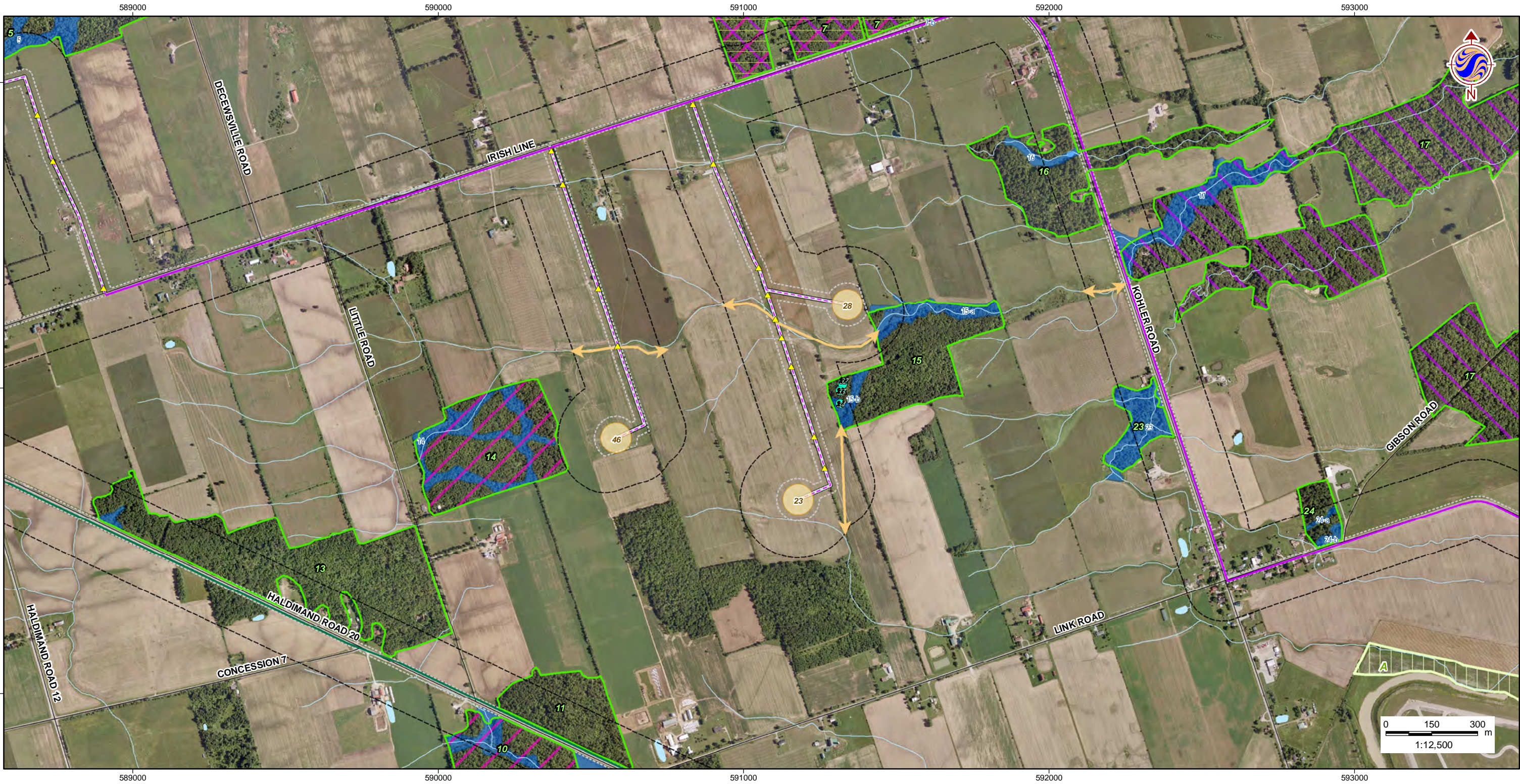
Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
13.2

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**SIGNIFICANT NATURAL
FEATURES - W2**





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| <ul style="list-style-type: none"> Study Area Zone of Investigation Constructable Area Wind Project Location Proposed Turbine Location Access Road Overhead Collector Line Underground Collector Line Solar Project Location Solar Lands | <ul style="list-style-type: none"> Transmission Line Overhead Transmission Line Underground Transmission Line Electrical Transmission Component Existing Features Road Railway Abandoned Railway Transmission Line (MNR) Watercourse (MNR) Waterbody (MNR) | <ul style="list-style-type: none"> Wetland (MNR) Provincially Significant Wetland Non-Provincially Significant Wetland Significant Natural Features Significant Woodland Significant Wetland Significant Valleyland Significant Wildlife Habitat Deer Wintering Area Habitat for Declining/Area-Sensitive Grassland Species | <ul style="list-style-type: none"> Seep Vernal Pool Rare Vegetation Community Snapping Turtle Habitat Animal Movement Corridor Waterfowl Stopover Migratory Landbird Habitat Habitat for Declining Woodland Species Area-Sensitive Species Woodland Habitat Short-Eared Owl Habitat Culverts Wildlife & Flow Culvert Other Culvert |
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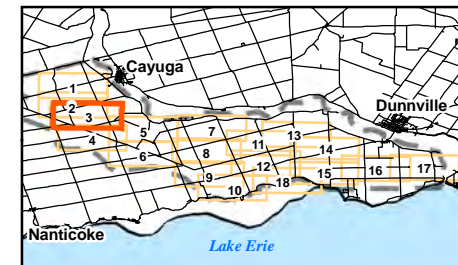
1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queens Printer Ontario, 2011; © Samsung, 2011.
3. Image Source: © Terrapoint, 2011 - Imagery Date: July 2009; Grand River Conservation Authority © First Base Solutions, 2011 - Imagery Date: Spring 2006.

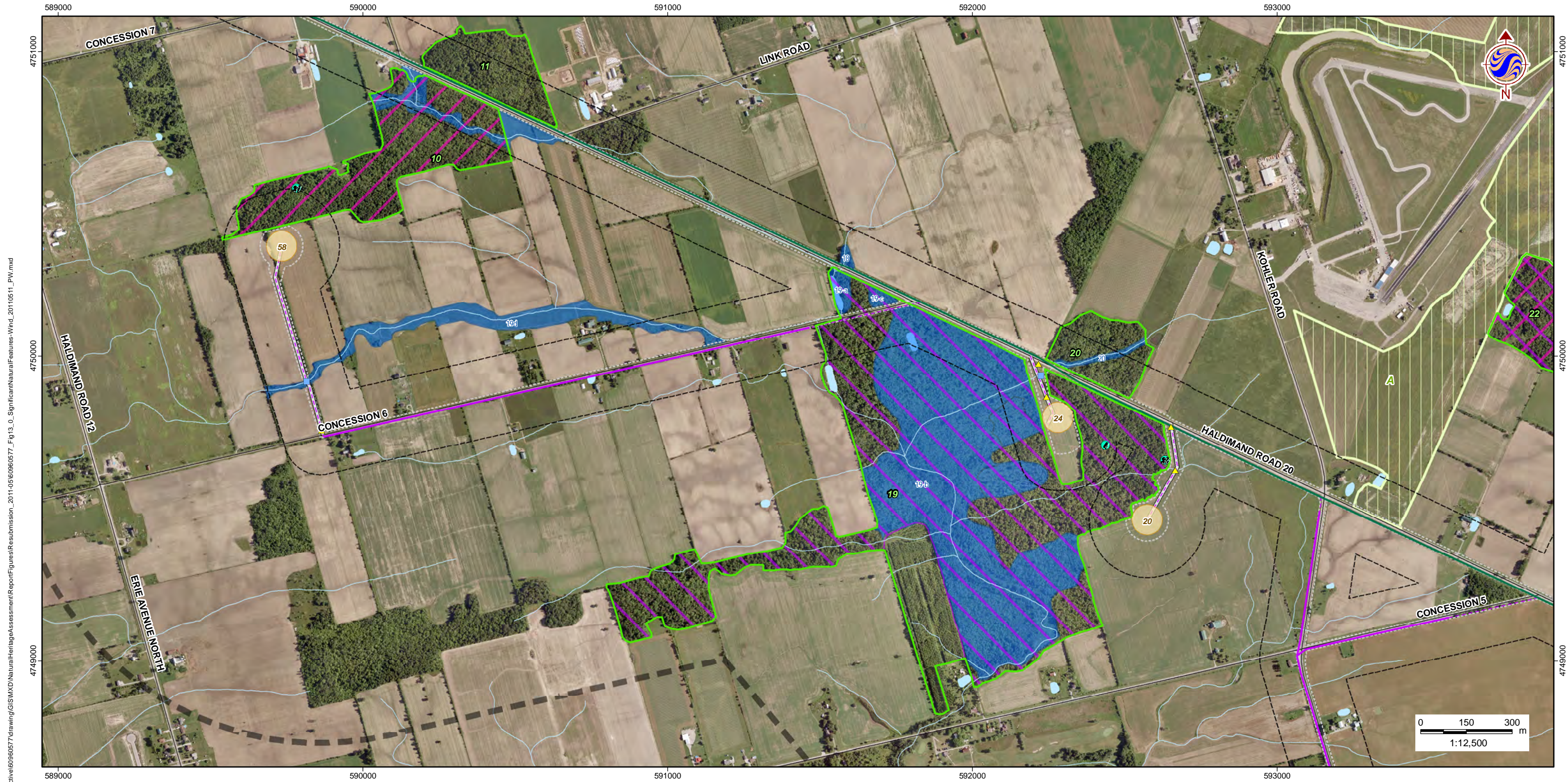
Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
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**SIGNIFICANT NATURAL
FEATURES - W3**





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| <ul style="list-style-type: none"> Study Area Zone of Investigation Constructable Area Wind Project Location Proposed Turbine Location Access Road Overhead Collector Line Underground Collector Line Solar Project Location Solar Lands | <ul style="list-style-type: none"> Transmission Line Overhead Transmission Line Underground Transmission Line Electrical Transmission Component Existing Features Road Railway Abandoned Railway Transmission Line (MNR) Watercourse (MNR) Waterbody (MNR) | <ul style="list-style-type: none"> Wetland (MNR) Provincially Significant Wetland Non-Provincially Significant Wetland Significant Natural Features Significant Woodland Significant Wetland Significant Valleyland Significant Wildlife Habitat Deer Wintering Area Habitat for Declining/Area-Sensitive Grassland Species | <ul style="list-style-type: none"> Seep Vernal Pool Rare Vegetation Community Snapping Turtle Habitat Animal Movement Corridor Waterfowl Stopover Migratory Landbird Habitat Habitat for Declining Woodland Species Area-Sensitive Species Woodland Habitat Short-Eared Owl Habitat Culverts Wildlife & Flow Culvert Other Culvert |
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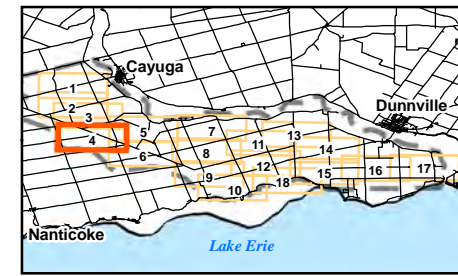
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Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
13.4

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**SIGNIFICANT NATURAL
FEATURES - W4**





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| <ul style="list-style-type: none"> Study Area Zone of Investigation Constructable Area Wind Project Location Proposed Turbine Location Access Road Overhead Collector Line Underground Collector Line Solar Project Location Solar Lands | <ul style="list-style-type: none"> Transmission Line Overhead Transmission Line Underground Transmission Line Electrical Transmission Component Existing Features Road Railway Abandoned Railway Transmission Line (MNR) Watercourse (MNR) Waterbody (MNR) | <ul style="list-style-type: none"> Wetland (MNR) Provincially Significant Wetland Non-Provincially Significant Wetland Significant Natural Features Significant Woodland Significant Wetland Significant Valleyland Significant Wildlife Habitat Deer Wintering Area Habitat for Declining/Area-Sensitive Grassland Species | <ul style="list-style-type: none"> Seep Vernal Pool Rare Vegetation Community Snapping Turtle Habitat Animal Movement Corridor Waterfowl Stopover Migratory Landbird Habitat Habitat for Declining Woodland Species Area-Sensitive Species Woodland Habitat Short-Eared Owl Habitat Culverts Wildlife & Flow Culvert Other Culvert |
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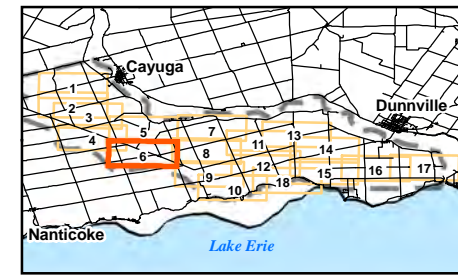
1. Coordinate System: UTM NAD 83 - Zone 17 (N).
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3. Image Source: © Terrapoint, 2011 - Imagery Date: July 2009; Grand River Conservation Authority © First Base Solutions, 2011 - Imagery Date: Spring 2006.

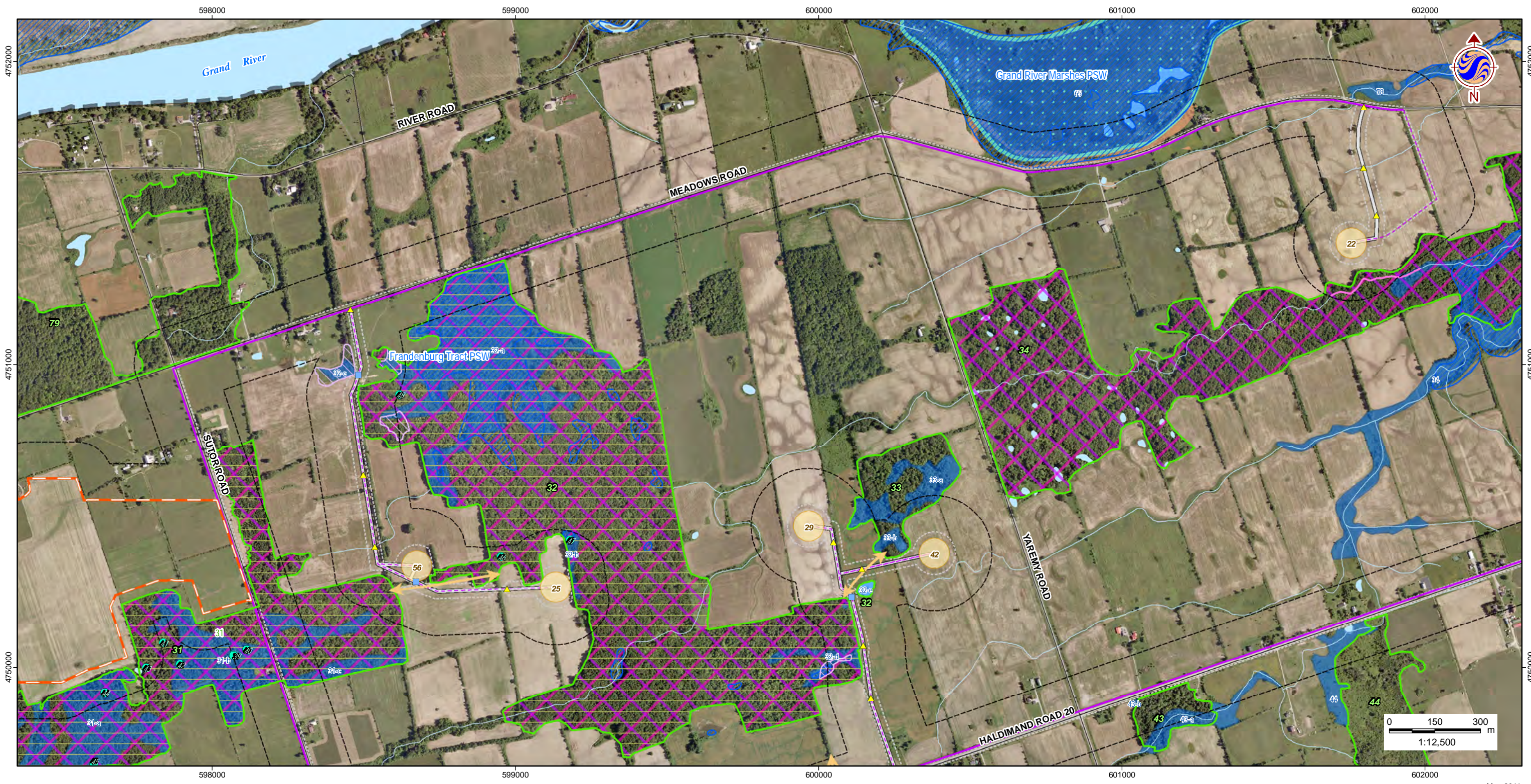
Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
13.6

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**SIGNIFICANT NATURAL
FEATURES - W6**





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| <ul style="list-style-type: none"> Study Area Zone of Investigation Constructable Area Wind Project Location Proposed Turbine Location Access Road Overhead Collector Line Underground Collector Line Solar Project Location Solar Lands | <ul style="list-style-type: none"> Transmission Line Overhead Transmission Line Underground Transmission Line Electrical Transmission Component Existing Features Road Railway Abandoned Railway Transmission Line (MNR) Watercourse (MNR) Waterbody (MNR) | <ul style="list-style-type: none"> Wetland (MNR) Provincially Significant Wetland Non-Provincially Significant Wetland Significant Natural Features Significant Woodland Significant Wetland Significant Valleyland Significant Wildlife Habitat Deer Wintering Area Habitat for Declining/Area-Sensitive Grassland Species | <ul style="list-style-type: none"> Seep Vernal Pool Rare Vegetation Community Snapping Turtle Habitat Animal Movement Corridor Waterfowl Stopover Migratory Landbird Habitat Habitat for Declining Woodland Species Area-Sensitive Species Woodland Habitat Short-Eared Owl Habitat Culverts Wildlife & Flow Culvert Other Culvert |
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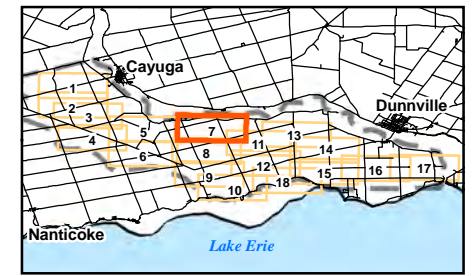
1. Coordinate System: UTM NAD 83 - Zone 17 (N).
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3. Image Source: © Terrapoint, 2011 - Imagery Date: July 2009; Grand River Conservation Authority © First Base Solutions, 2011 - Imagery Date: Spring 2006.

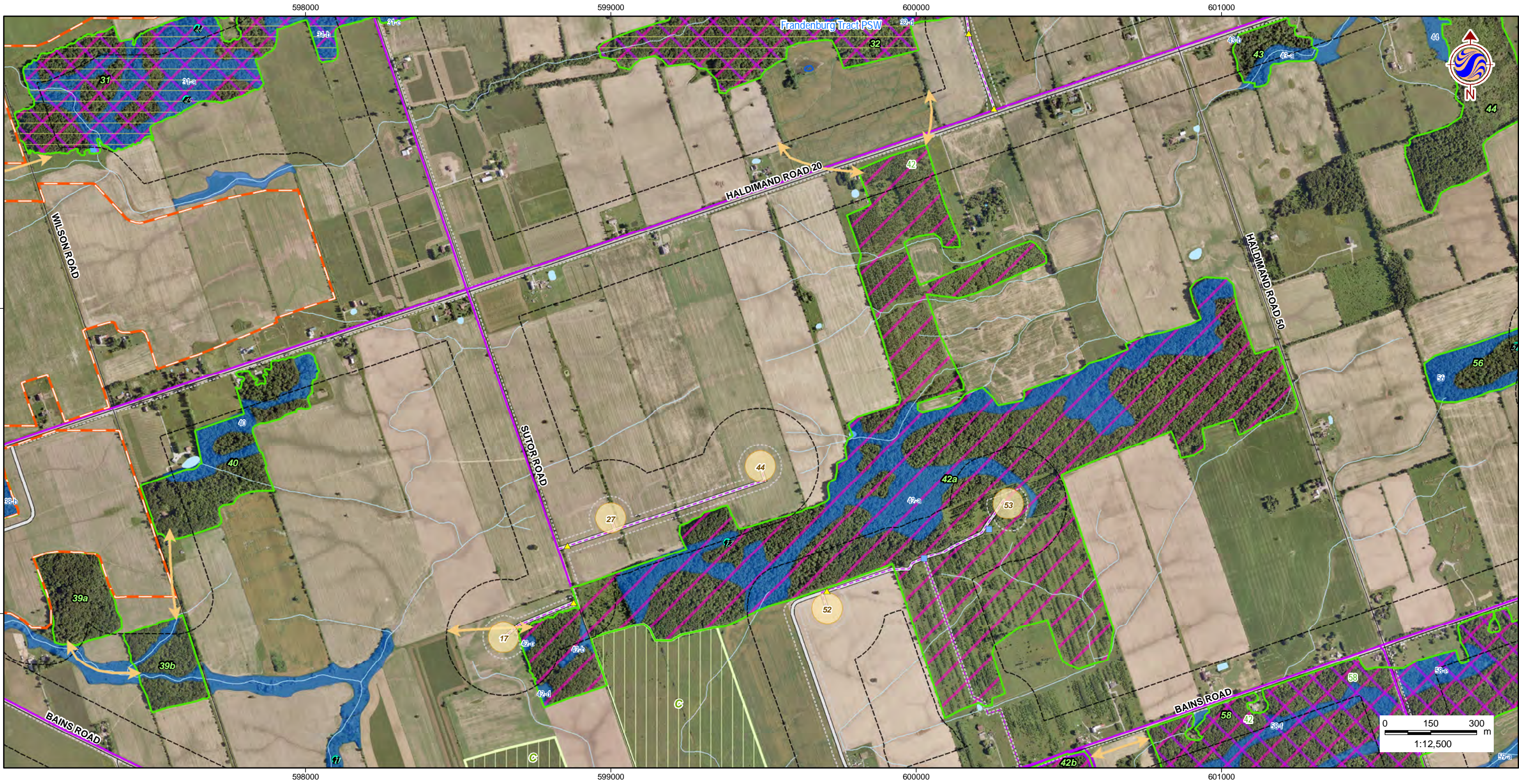
Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
13.7

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**SIGNIFICANT NATURAL
FEATURES - W7**





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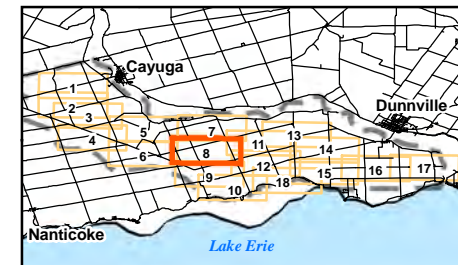
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Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
13.8

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**SIGNIFICANT NATURAL
FEATURES - W8**





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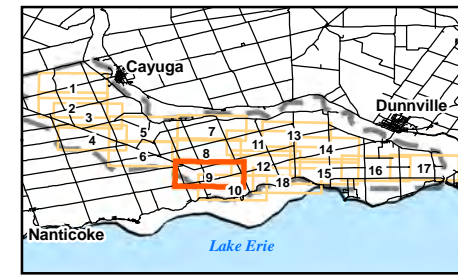
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Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
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Title
**SIGNIFICANT NATURAL
FEATURES - W9**





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Legend

- Study Area
- Zone of Investigation
- Constructable Area
- Wind Project Location**
- Proposed Turbine Location
- Access Road
- Overhead Collector Line
- Underground Collector Line
- Solar Project Location**
- Solar Lands
- Transmission Line**
- Overhead Transmission Line
- Underground Transmission Line
- Electrical Transmission Component
- Existing Features**
- Road
- Railway
- Abandoned Railway
- Transmission Line (MNR)
- Watercourse (MNR)
- Waterbody (MNR)

- Wetland (MNR)**
- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Significant Natural Features**
- Significant Woodland
- Significant Wetland
- Significant Valleyland
- Significant Wildlife Habitat**
- Deer Wintering Area
- Habitat for Declining/Area-Sensitive Grassland Species
- Winter Raptor Roosting & Feeding Area

- Seep
- Vernal Pool
- Rare Vegetation Community
- Snapping Turtle Habitat
- Animal Movement Corridor
- Waterfowl Stopover
- Migratory Landbird Habitat
- Habitat for Declining Woodland Species
- Area-Sensitive Species Woodland Habitat
- Short-Eared Owl Habitat
- Culverts**
- Wildlife & Flow Culvert
- Other Culvert

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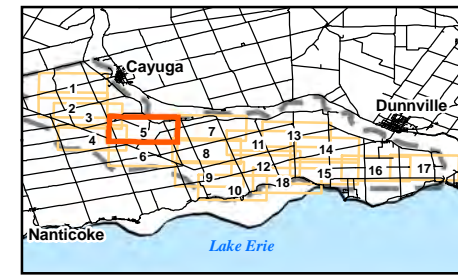
1. Coordinate System: UTM NAD 83 - Zone 17 (N).
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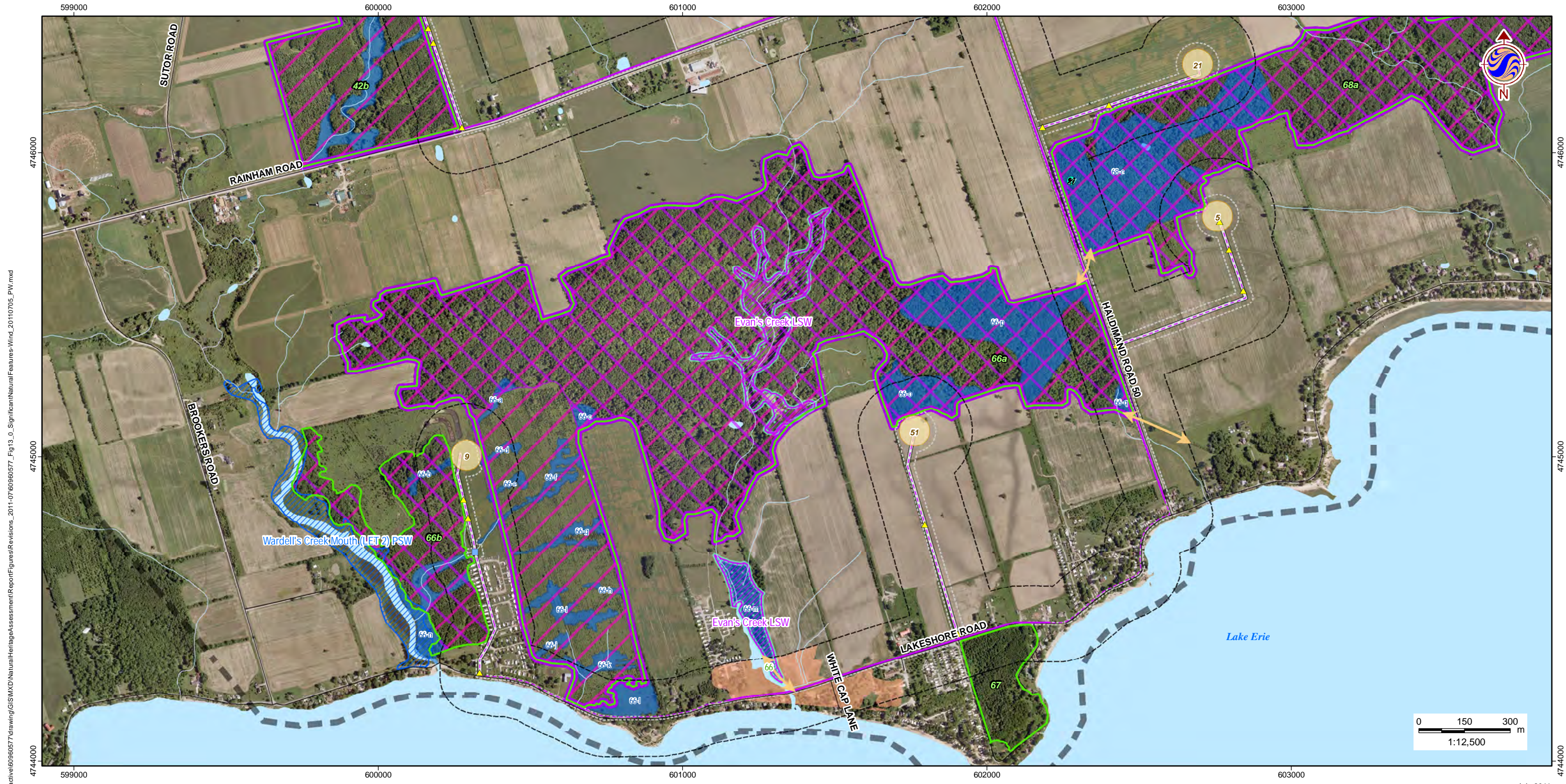
Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
13.5

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Title
**SIGNIFICANT NATURAL
FEATURES - W5**





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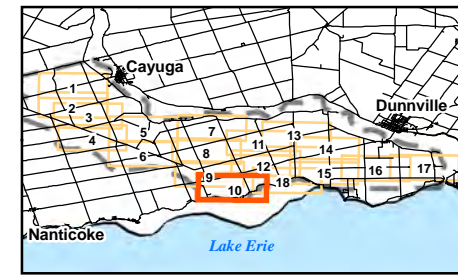
1. Coordinate System: UTM NAD 83 - Zone 17 (N).
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Client/Project
SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK

Figure No.
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Title
SIGNIFICANT NATURAL FEATURES - W10





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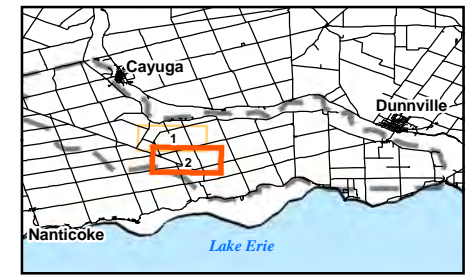
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3. Image Source: © Terrapoint, 2011 - Imagery Date: July 2009; Grand River Conservation Authority © First Base Solutions, 2011 - Imagery Date: Spring 2006.

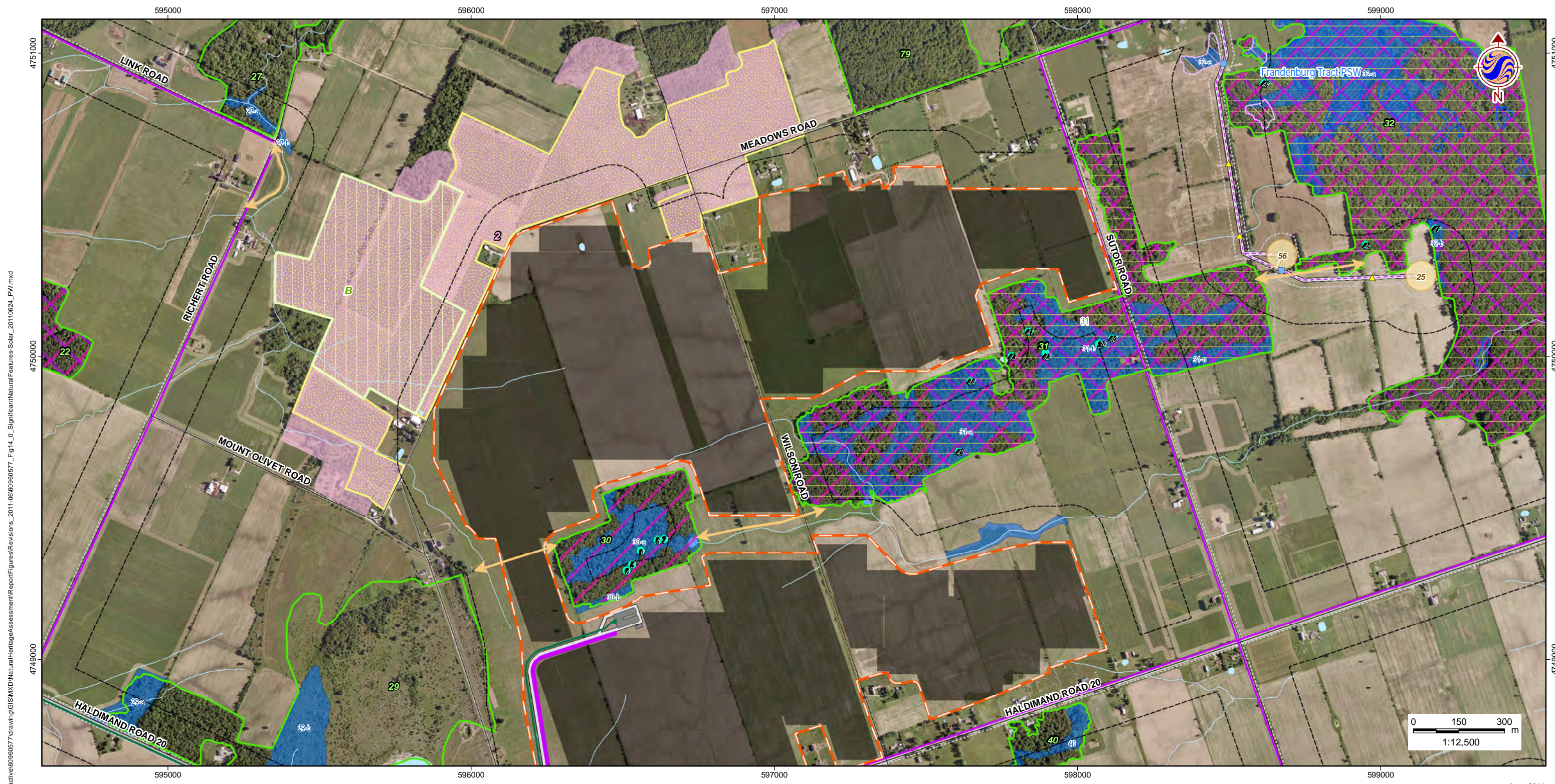
Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
14.2

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Title
**SIGNIFICANT NATURAL
FEATURES - S2**





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| <ul style="list-style-type: none"> Study Area Zone of Investigation Constructable Area Wind Project Location Proposed Turbine Location Access Road Overhead Collector Line Underground Collector Line Solar Project Location Solar Lands Solar Panel Unit | <ul style="list-style-type: none"> Transmission Line Overhead Transmission Line Underground Transmission Line Electrical Transmission Component Existing Features Road Railway Abandoned Railway Transmission Line (MNR) Watercourse (MNR) Waterbody (MNR) | <ul style="list-style-type: none"> Wetland (MNR) Provincially Significant Wetland Non-Provincially Significant Wetland Significant Natural Features Significant Woodland Significant Wetland Significant Valleyland Significant Wildlife Habitat Deer Wintering Area Habitat for Declining/Area-Sensitive Grassland Species Significant Winter Raptor Feeding & Roosting Habitat | <ul style="list-style-type: none"> Seep Vernal Pool Rare Vegetation Community Snapping Turtle Habitat Animal Movement Corridor Waterfowl Stopover Migratory Landbird Habitat Habitat for Declining Woodland Species Area-Sensitive Species Woodland Habitat Short-Eared Owl Habitat Culverts Wildlife & Flow Culvert Other Culvert |
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Notes

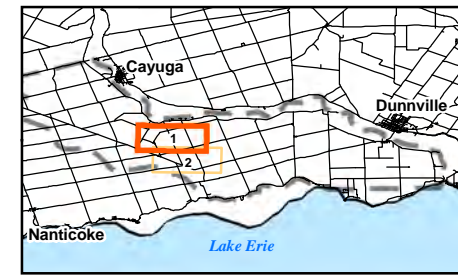
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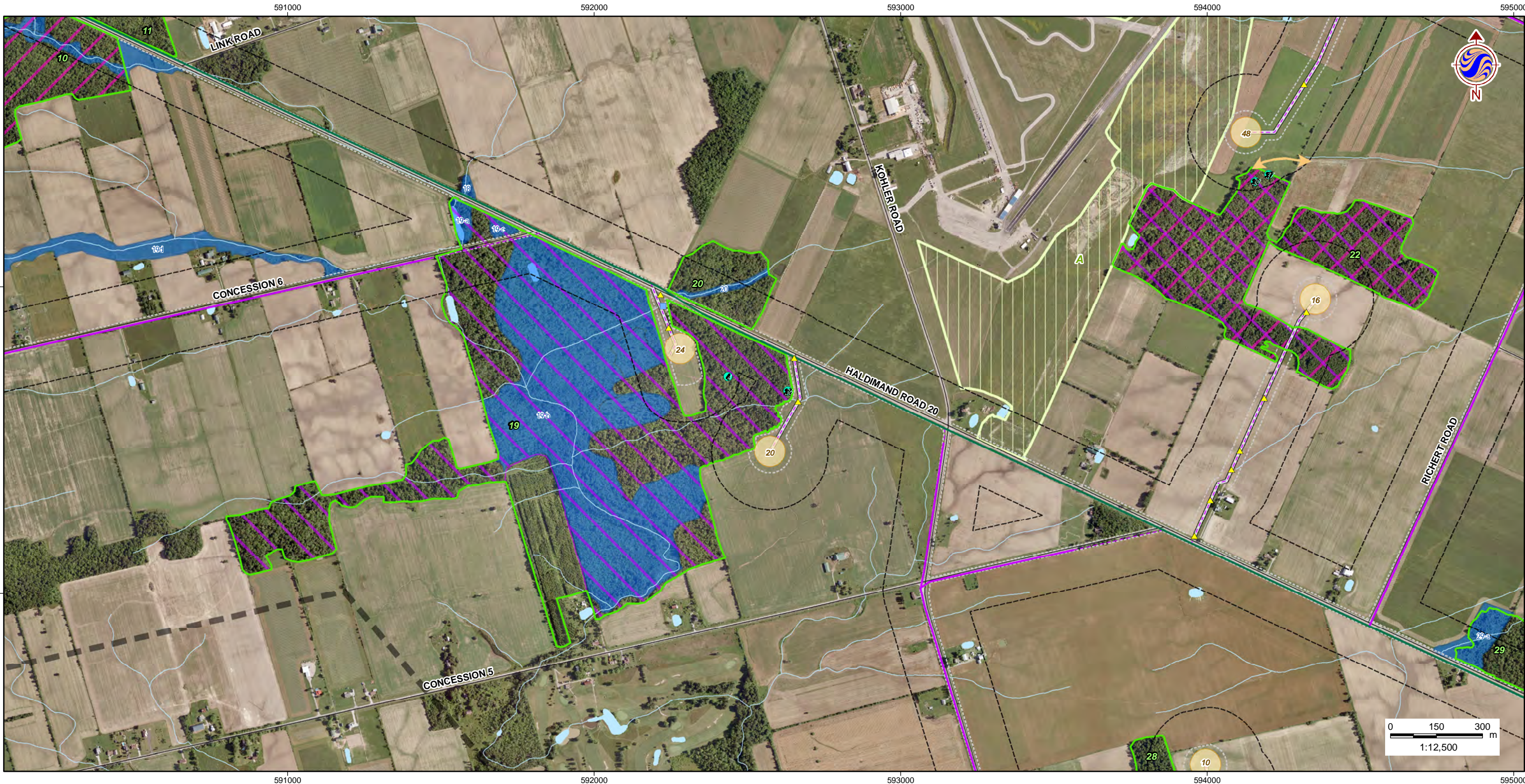
Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
14.1

DRAFT

Title
**SIGNIFICANT NATURAL
FEATURES - S1**





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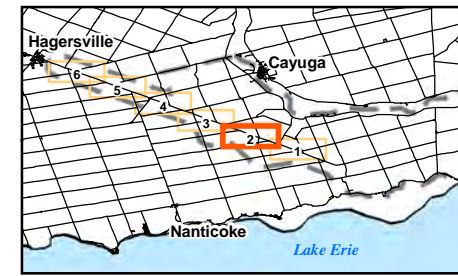


Legend

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| <ul style="list-style-type: none"> Study Area Zone of Investigation Constructable Area Wind Project Location Proposed Turbine Location Access Road Overhead Collector Line Underground Collector Line Solar Project Location Solar Lands | <ul style="list-style-type: none"> Transmission Line Overhead Transmission Line Underground Transmission Line Electrical Transmission Component Existing Features Road Railway Abandoned Railway Transmission Line (MNR) Watercourse (MNR) Waterbody (MNR) | <ul style="list-style-type: none"> Wetland (MNR) Provincially Significant Wetland Non-Provincially Significant Wetland Significant Natural Features Woodland Significant Wetland Significant Valleyland Significant Wildlife Habitat Deer Wintering Area Habitat for Declining/Area-Sensitive Grassland Species | <ul style="list-style-type: none"> Seep Vernal Pool Rare Vegetation Community Snapping Turtle Habitat Animal Movement Corridor Waterfowl Stopover Migratory Landbird Habitat Habitat for Declining Woodland Species Area-Sensitive Species Woodland Habitat Short-Eared Owl Habitat Culverts Wildlife & Flow Culvert Other Culvert |
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Notes

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Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
 GRAND RENEWABLE ENERGY PARK**

Figure No.
15.2

DRAFT

Title
**SIGNIFICANT NATURAL
 FEATURES - T2**

May 2011
 160960577

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Legend

- Study Area
- Zone of Investigation
- Constructable Area
- Wind Project Location**
- Proposed Turbine Location
- Access Road
- Overhead Collector Line
- Underground Collector Line
- Solar Project Location**
- Solar Lands

- Transmission Line**
- Overhead Transmission Line
- Underground Transmission Line
- Electrical Transmission Component
- Existing Features**
- Road
- Railway
- Abandoned Railway
- Transmission Line (MNR)
- Watercourse (MNR)
- Waterbody (MNR)

- Wetland (MNR)**
- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Significant Natural Features**
- Woodland
- Significant Wetland
- Significant Valleyland
- Significant Wildlife Habitat**
- Deer Wintering Area
- Habitat for Declining/Area-Sensitive Grassland Species

- Seep
- Vernal Pool
- Rare Vegetation Community
- Snapping Turtle Habitat
- Animal Movement Corridor
- Waterfowl Stopover
- Migratory Landbird Habitat
- Habitat for Declining Woodland Species
- Area-Sensitive Species Woodland Habitat
- Short-Eared Owl Habitat
- Culverts**
- Wildlife & Flow Culvert
- Other Culvert

Notes

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Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
 GRAND RENEWABLE ENERGY PARK**

Figure No.
15.3

Title
**SIGNIFICANT NATURAL
 FEATURES - T3**

DRAFT

May 2011
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May 2011
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Legend

- Study Area
- Zone of Investigation
- Constructable Area
- Wind Project Location**
- Proposed Turbine Location
- Access Road
- Overhead Collector Line
- Underground Collector Line
- Solar Project Location**
- Solar Lands

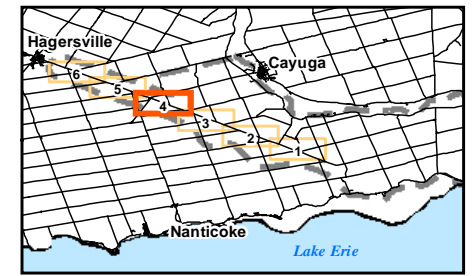
- Transmission Line**
- Overhead Transmission Line
- Underground Transmission Line
- Electrical Transmission Component
- Existing Features**
- Road
- Railway
- Abandoned Railway
- Transmission Line (MNR)
- Watercourse (MNR)
- Waterbody (MNR)

- Wetland (MNR)**
- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Significant Natural Features**
- Woodland
- Significant Wetland
- Significant Valleyland
- Significant Wildlife Habitat**
- Deer Wintering Area
- Habitat for Declining/Area-Sensitive Grassland Species

- Seep
- Vernal Pool
- Rare Vegetation Community
- Snapping Turtle Habitat
- Animal Movement Corridor
- Waterfowl Stopover
- Migratory Landbird Habitat
- Habitat for Declining Woodland Species
- Area-Sensitive Species Woodland Habitat
- Short-Eared Owl Habitat
- Culverts**
- Wildlife & Flow Culvert
- Other Culvert

Notes

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Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
15.4

DRAFT

Title
**SIGNIFICANT NATURAL
FEATURES - T4**



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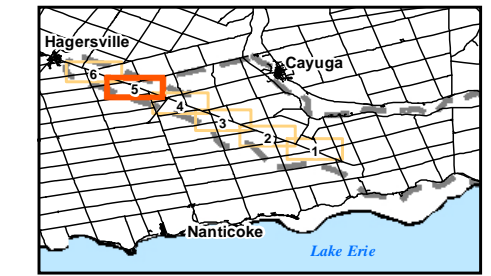


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| <ul style="list-style-type: none"> Study Area Zone of Investigation Constructable Area Wind Project Location Proposed Turbine Location Access Road Overhead Collector Line Underground Collector Line Solar Project Location Solar Lands | <ul style="list-style-type: none"> Transmission Line Overhead Transmission Line Underground Transmission Line Electrical Transmission Component Existing Features Road Railway Abandoned Railway Transmission Line (MNR) Watercourse (MNR) Waterbody (MNR) | <ul style="list-style-type: none"> Wetland (MNR) Provincially Significant Wetland Non-Provincially Significant Wetland Significant Natural Features Woodland Significant Wetland Significant Valleyland Significant Wildlife Habitat Deer Wintering Area Habitat for Declining/Area-Sensitive Grassland Species | <ul style="list-style-type: none"> Seep Vernal Pool Rare Vegetation Community Snapping Turtle Habitat Animal Movement Corridor Waterfowl Stopover Migratory Landbird Habitat Habitat for Declining Woodland Species Area-Sensitive Species Woodland Habitat Short-Eared Owl Habitat Culverts Wildlife & Flow Culvert Other Culvert |
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Notes

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Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
 GRAND RENEWABLE ENERGY PARK**

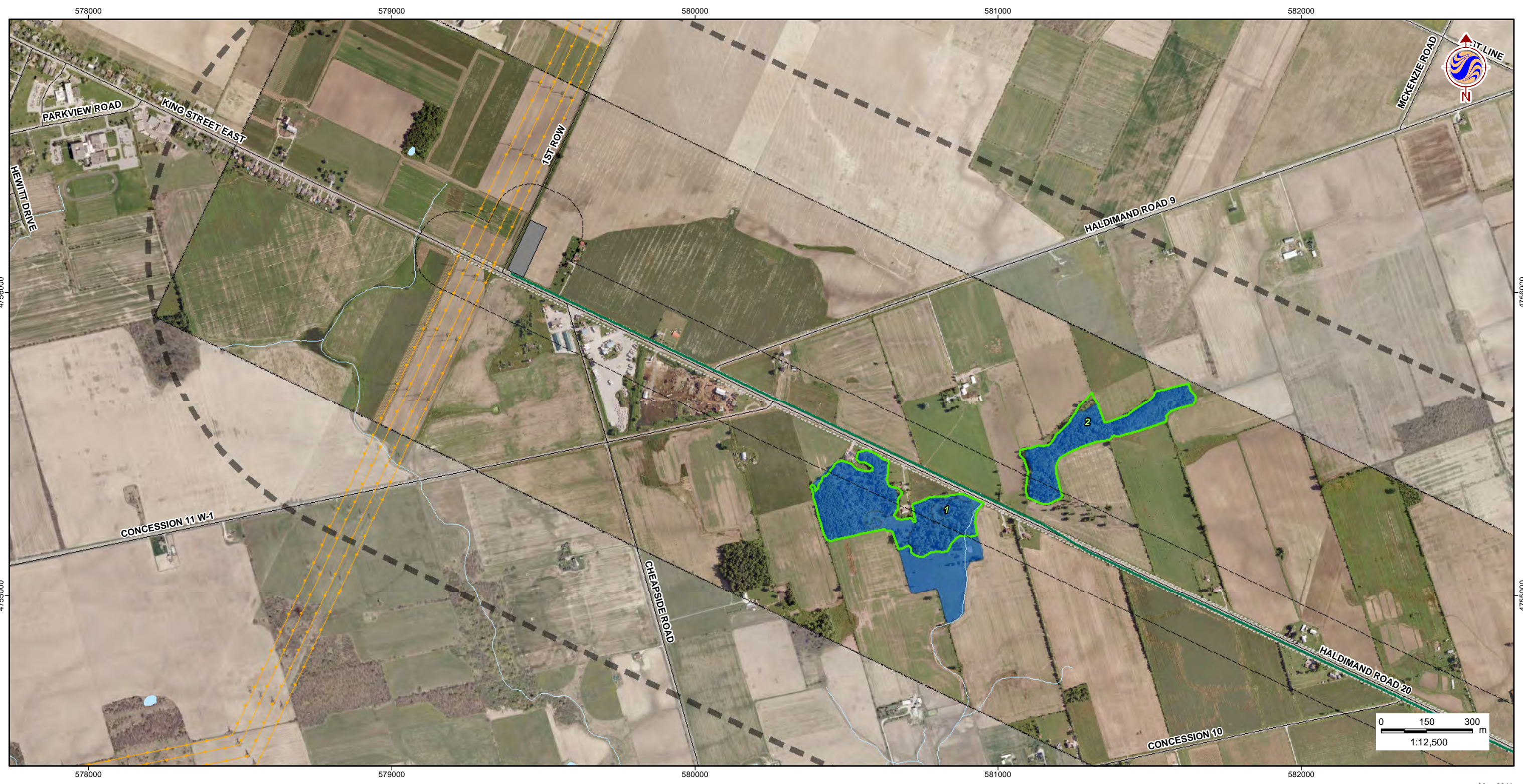
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Title
**SIGNIFICANT NATURAL
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May 2011
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Legend

- Study Area
- Zone of Investigation
- Constructable Area
- Wind Project Location**
- Proposed Turbine Location
- Access Road
- Overhead Collector Line
- Underground Collector Line
- Solar Project Location**
- Solar Lands

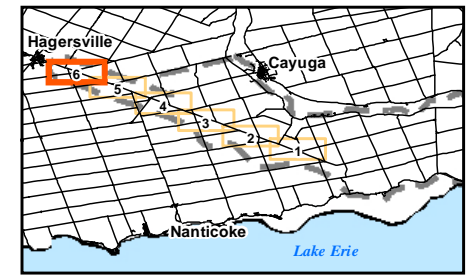
- Transmission Line**
- Overhead Transmission Line
- Underground Transmission Line
- Electrical Transmission Component
- Existing Features**
- Road
- Railway
- Abandoned Railway
- Transmission Line (MNR)
- Watercourse (MNR)
- Waterbody (MNR)

- Wetland (MNR)**
- Provincially Significant Wetland
- Non-Provincially Significant Wetland
- Significant Natural Features**
- Woodland
- Significant Wetland
- Significant Valleyland
- Significant Wildlife Habitat**
- Deer Wintering Area
- Habitat for Declining/Area-Sensitive Grassland Species

- Seep
- Vernal Pool
- Rare Vegetation Community
- Snapping Turtle Habitat
- Animal Movement Corridor
- Waterfowl Stopover
- Migratory Landbird Habitat
- Habitat for Declining Woodland Species
- Area-Sensitive Species Woodland Habitat
- Short-Eared Owl Habitat
- Culverts**
- Wildlife & Flow Culvert
- Other Culvert

Notes

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**SAMSUNG, PATTERN & KEPKO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
15.6

DRAFT

Title
**SIGNIFICANT NATURAL
FEATURES - T6**



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July 2011
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| <ul style="list-style-type: none"> Study Area Zone of Investigation Constructable Area Wind Project Location Proposed Turbine Location Access Road Overhead Collector Line Underground Collector Line Solar Project Location Solar Lands | <ul style="list-style-type: none"> Transmission Line Overhead Transmission Line Underground Transmission Line Electrical Transmission Component Existing Features Road Railway Abandoned Railway Transmission Line (MNR) Watercourse (MNR) Waterbody (MNR) | <ul style="list-style-type: none"> Wetland (MNR) Provincially Significant Wetland Non-Provincially Significant Wetland Significant Natural Features Woodland Significant Wetland Significant Valleyland Significant Wildlife Habitat Deer Wintering Area Habitat for Declining/Area-Sensitive Grassland Species | <ul style="list-style-type: none"> Seep Vernal Pool Rare Vegetation Community Snapping Turtle Habitat Animal Movement Corridor Waterfowl Stopover Migratory Landbird Habitat Habitat for Declining Woodland Species Area-Sensitive Species Woodland Habitat Short-Eared Owl Habitat Culverts Wildlife & Flow Culvert Other Culvert |
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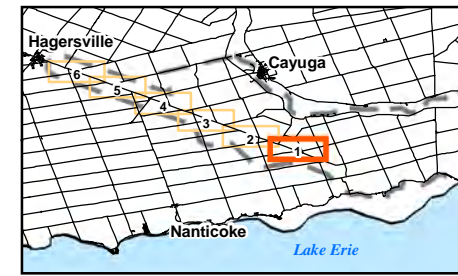
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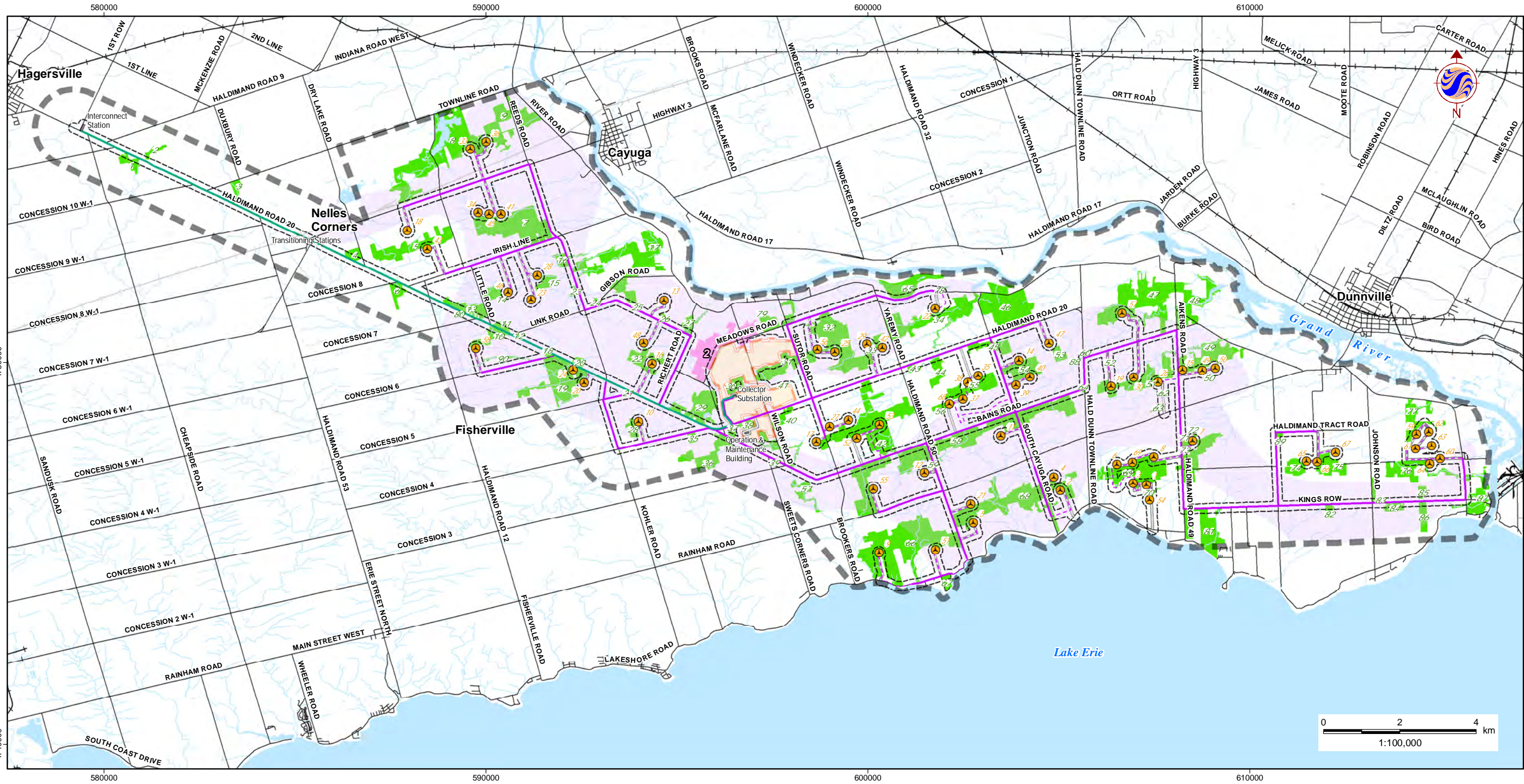
Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
15.1

DRAFT

Title
**SIGNIFICANT NATURAL
FEATURES - T1**





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June 2011
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Legend

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| | Study Area | | Transmission Line | | Waterbody (MNR) |
| | Zone of Investigation | | Overhead Transmission Line | | Natural Feature |
| | Wind Project Location | | Underground Transmission Line | | Winter Raptor Concentration Area |
| | Proposed Turbine Location | | Electrical Transmission Component | | Significant Winter Raptor Feeding & Roosting Habitat |
| | Access Road | | Existing Features | | |
| | Overhead Collector Line | | Road | | |
| | Underground Collector Line | | Railway | | |
| | Solar Project Location | | Abandoned Railway | | |
| | Solar Lands | | Watercourse (MNR) | | |

Notes

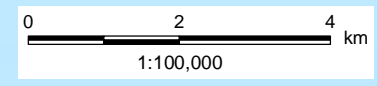
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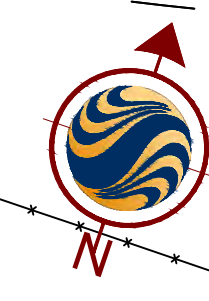
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SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK

Figure No.
16.0

DRAFT

Title
**SIGNIFICANT WINTER
RAPTOR HABITAT**





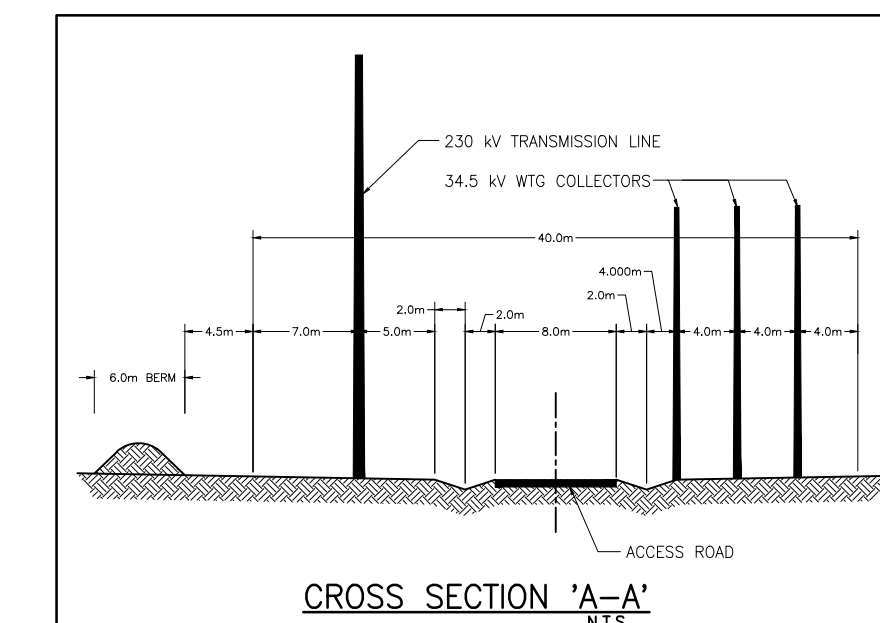
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11.01.25

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Client/Project
SAMSUNG RENEWABLE ENERGY INC.

GRAND RENEWABLE ENERGY PARK

Haldimand, Ontario

Title
**COLLECTOR SUBSTATION AREA
GENERAL ARRANGEMENT**

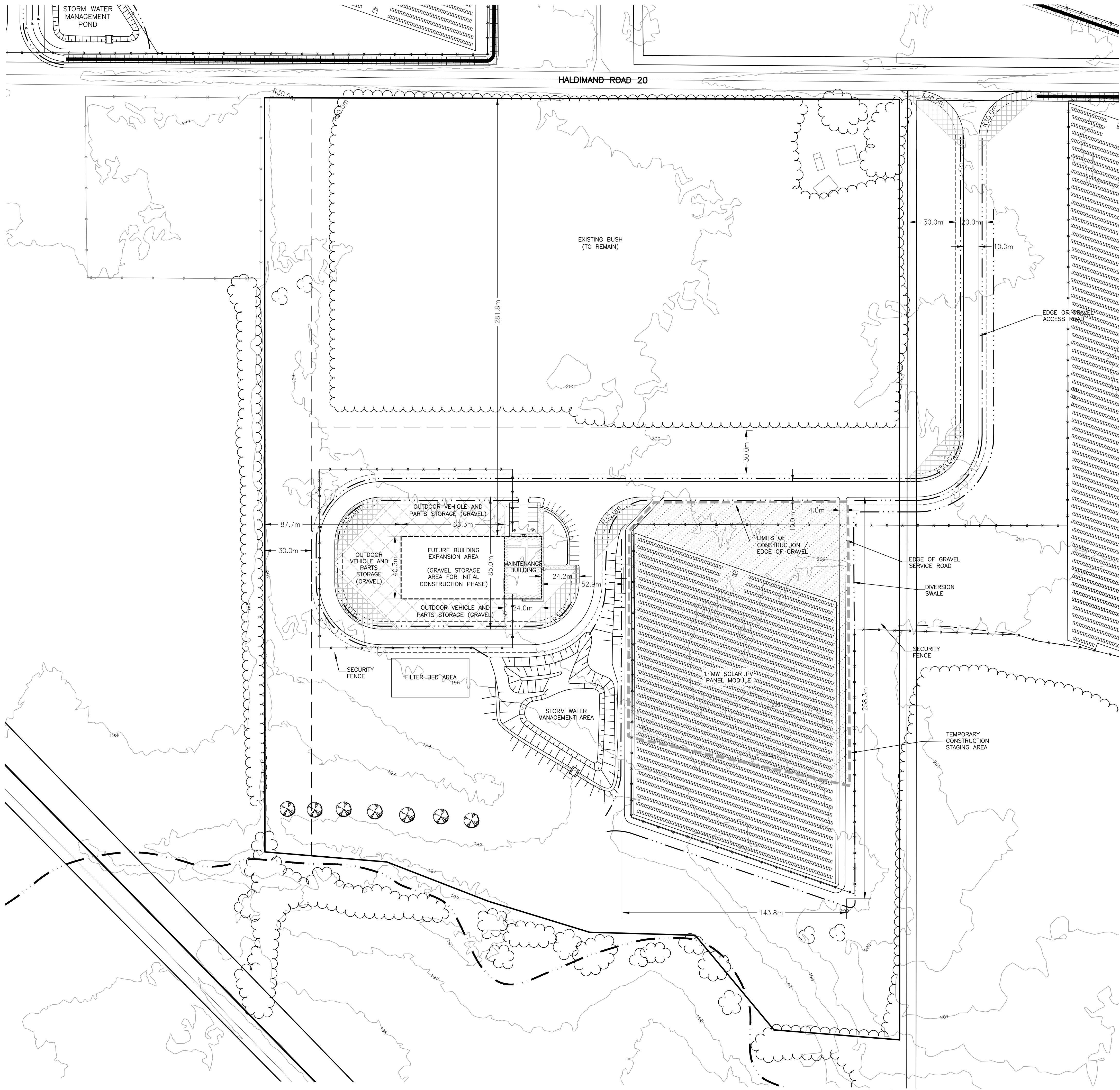
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Drawing No. Sheet Revision

17.1

1 of 2

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2	O&M BUILDING AND PARKING UPDATED	KS	TT	11.05.18
1	SUBSTATION REMOVED / SOLAR ADDED	KS	TT	11.01.25
Revision		By	Appd.	YY.MM.DD

B	PRELIMINARY - NOT FOR CONSTRUCTION	KS	TT	11.01.25
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Issued		By	Appd.	YY.MM.DD

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Permit-Seal

PRELIMINARY
 FOR DISCUSSION PURPOSES ONLY

Client/Project
SAMSUNG RENEWABLE ENERGY INC.

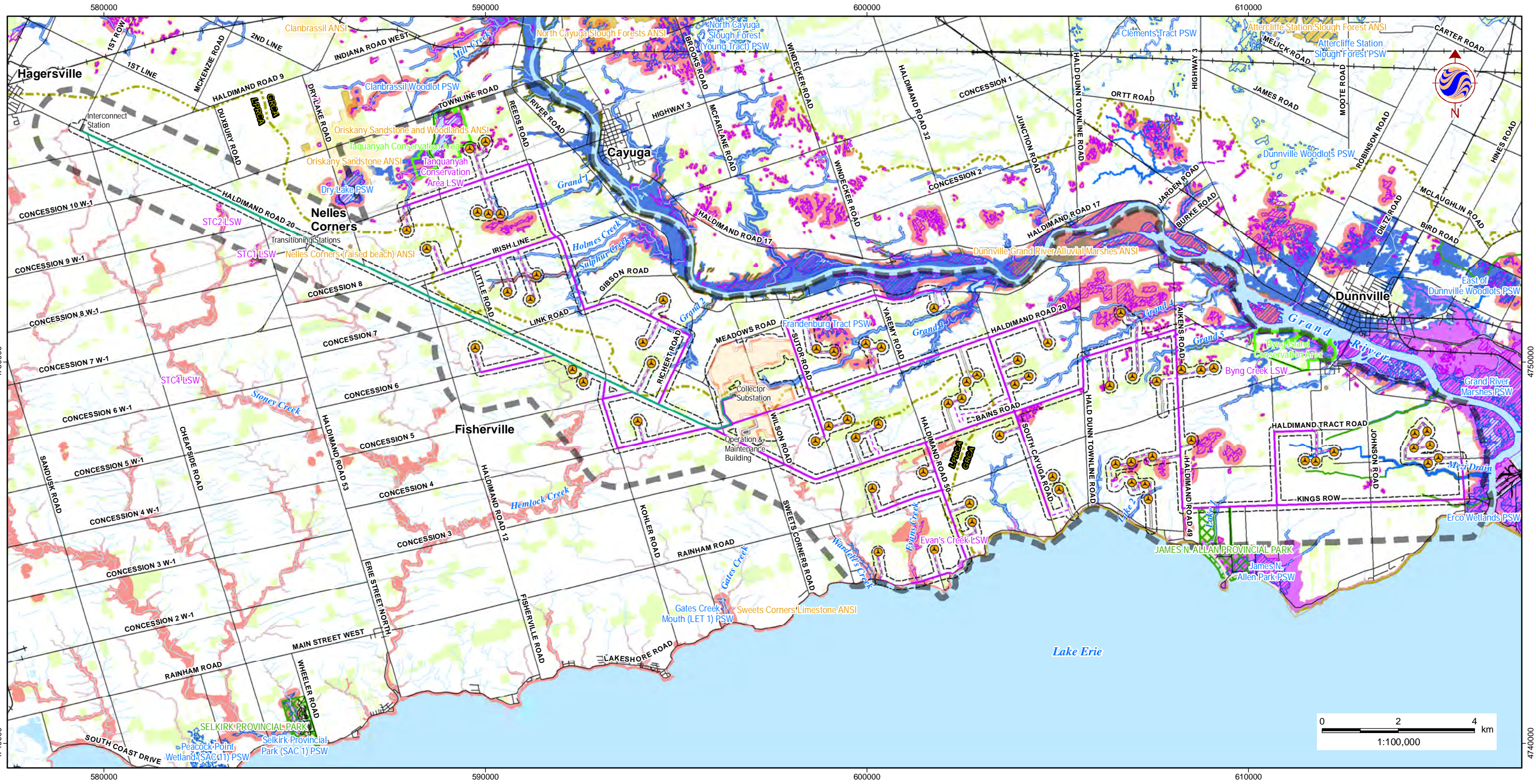
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Haldimand, Ontario

Title
**OPERATION AND MAINTENANCE BUILDING
 GENERAL ARRANGEMENT**

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May 2011
160960577



Stantec

Legend

	Study Area		Road
	Zone of Investigation		Railway
Wind Project Location			
	Proposed Turbine Location		Abandoned Railway
	Access Road		Watercourse (MNR)
	Overhead Collector Line		Waterbody (MNR)
	Underground Collector Line		Wooded Area (MNR)
Solar Project Location			
	Solar Lands		Provincial Park (MNR)
Transmission Line			
	Overhead Transmission Line		Regulation Limit (GRCA/LPRCA)
	Underground Transmission Line		Conservation Authority (GRCA)
	Electrical Transmission Component		Wetland (GRCA)
			Regulatory Floodplain (GRCA)
			River Slopes and Erosion Allowances (GRCA)

	Watershed Boundary		Area of Natural and Scientific Interest - ANSI (MNR)
	River Valley Slope (GRCA)		Life Science, Provincially Significant
	Dynamic Beach (GRCA)		Earth Science, Provincially Significant
	Lake Erie Flood Hazard (GRCA)		Earth Science, Regionally Significant
	Shoreline Erosion Hazard (GRCA)	Wetland (MNR)	
Wetland (MNR)			
	Provincially Significant Wetland		Non-Provincially Significant Wetland
Drainage Classification (GRCA)			
	Cool/Coldwater		Warmwater
	Warmwater		Intermittent
	Intermittent		

Notes

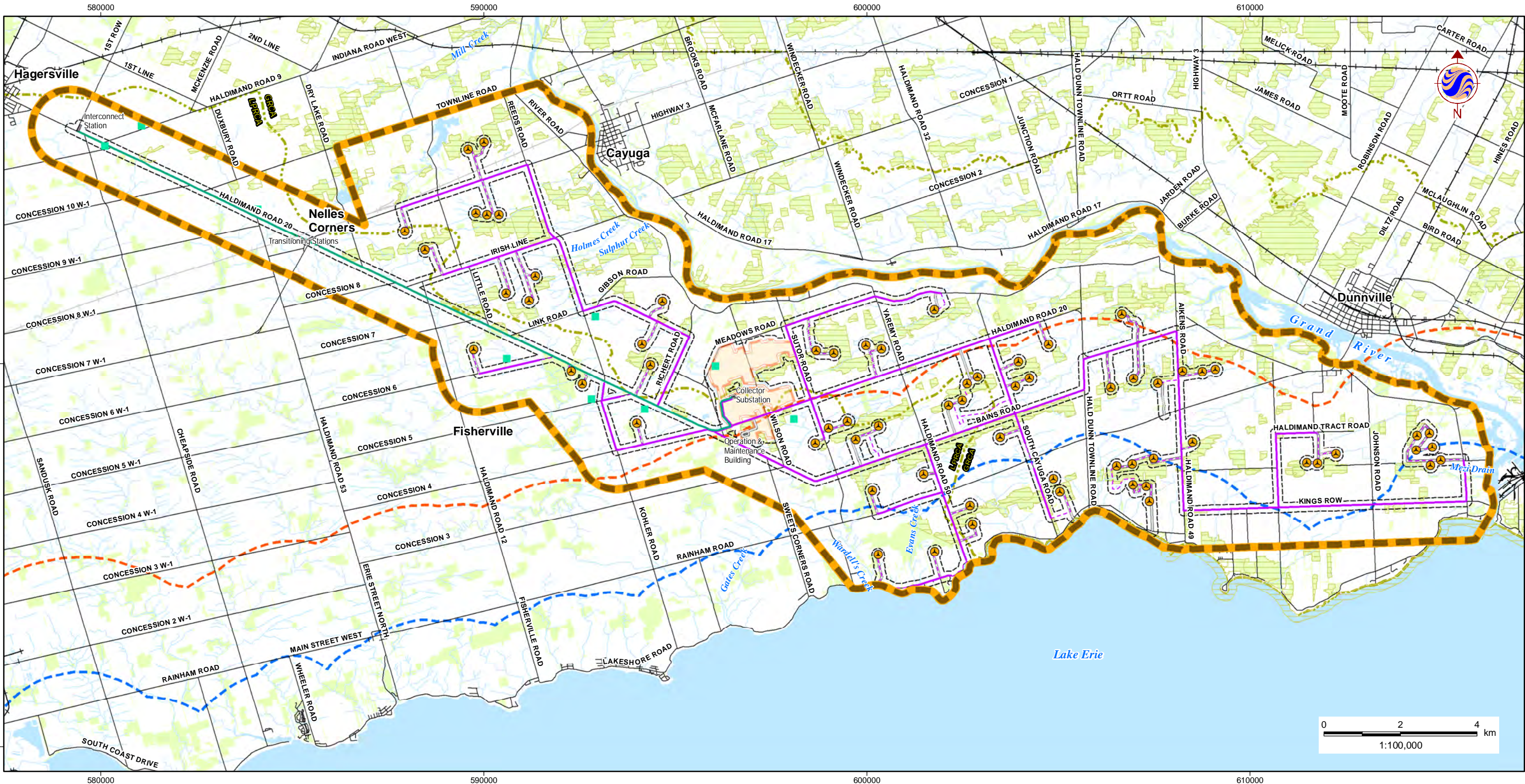
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Client/Project
SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK

Figure No.
2.1

DRAFT

Title
RECOGNIZED NATURAL FEATURES



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July 2011
160960577



Stantec

Legend

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|--|-----------------------------------|--|--------------------------|--|--------------------|
| | Study Area | | Existing Features | | 2km from Shoreline |
| | Zone of Investigation | | Road | | 5km from Shoreline |
| | Wind Project Location | | Railway | | |
| | Proposed Turbine Location | | Abandoned Railway | | |
| | Access Road | | Watercourse (MNR) | | |
| | Overhead Collector Line | | Waterbody (MNR) | | |
| | Underground Collector Line | | Wooded Area (MNR) | | |
| | Solar Project Location | | Watershed Boundary | | |
| | Solar Lands | | | | |
| | Transmission Line | | | | |
| | Overhead Transmission Line | | | | |
| | Underground Transmission Line | | | | |
| | Electrical Transmission Component | | | | |

Notes

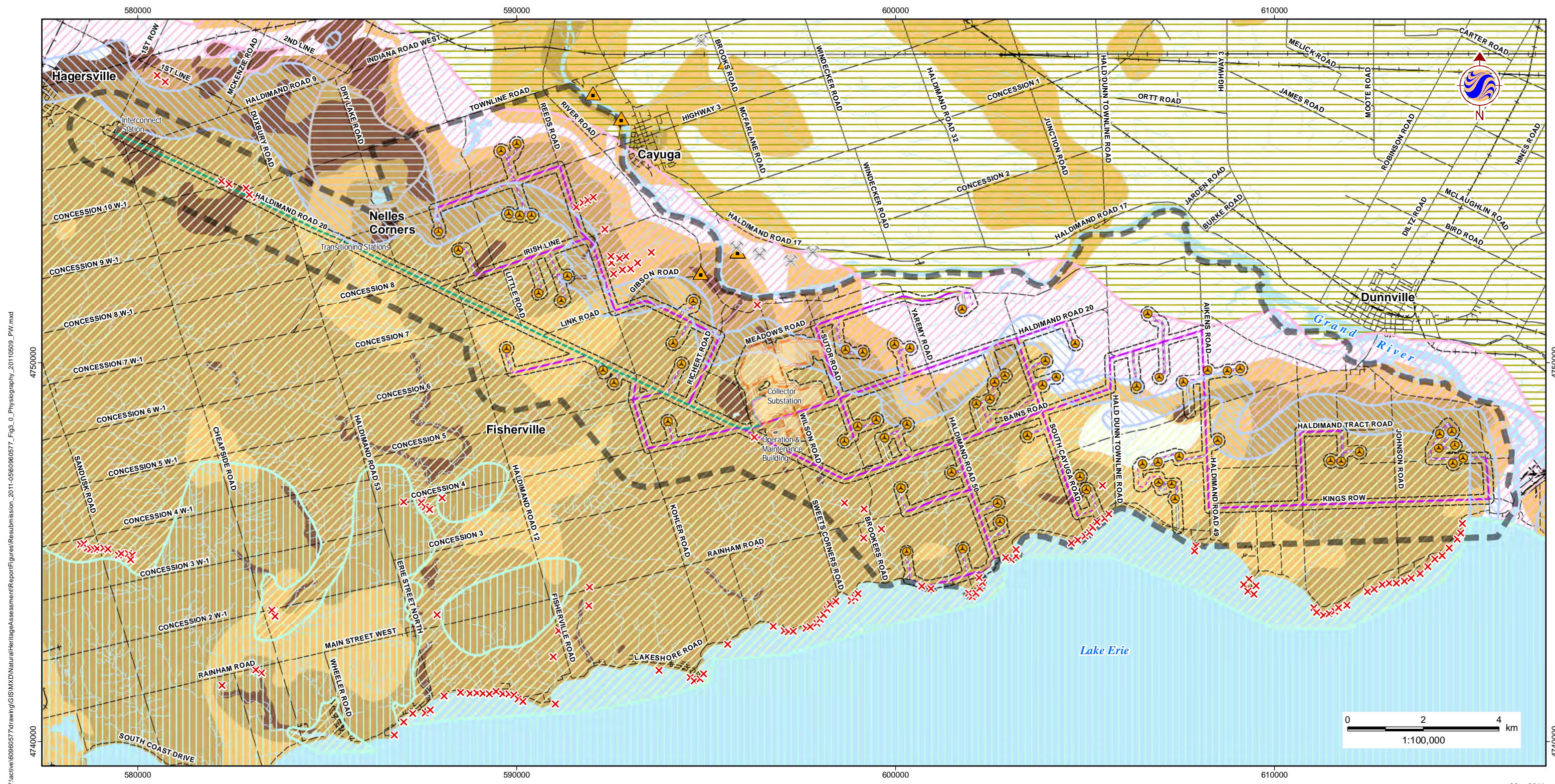
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Client/Project
SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK

Figure No.
2.2

DRAFT

Title
**RECOGNIZED WILDLIFE
HABITAT FEATURES**



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Legend

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|------------------------------|-----------------------------------|--------------------------|------------------------------------------|
| | Study Area | | Solar Project Location |
| | Zone of Investigation | | Solar Lands |
| Wind Project Location | | Existing Features | |
| | Proposed Turbine Location | | Road |
| | Access Road | | Railway |
| | Overhead Collector Line | | Abandoned Railway |
| | Underground Collector Line | | Watercourse (MNR) |
| | Overhead Transmission Line | | Waterbody (MNR) |
| | Underground Transmission Line | | Abandoned Mine Site (MNDM) |
| | Electrical Transmission Component | | Abandoned Mine Features/Structure (MNDM) |
| | | | Isolated Bedrock Outcrop |

Geological Formation (MNDM)

- | | |
|------------------------|----------------------------------------------------|
| | Bertie |
| | Bois Blanc |
| | Dundee |
| | Onondaga |
| | Oriskany |
| | Salina |
| Drift Thickness | |
| | Bedrock covered by more than 50 feet of overburden |
| | Bedrock covered by 25-50 feet of overburden |
| | Bedrock covered by 3-25 feet of overburden |
| | Bedrock covered by less than 3 feet of overburden |

Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Data Sources: Ontario Ministry of Natural Resources © Queens Printer Ontario, 2011; © Samsung, 2011.
3. All bedrock data illustrated on this map were derived from OGS Aggregate Resources Inventory Papers 059, 064, and 067 published from 1984-1985.

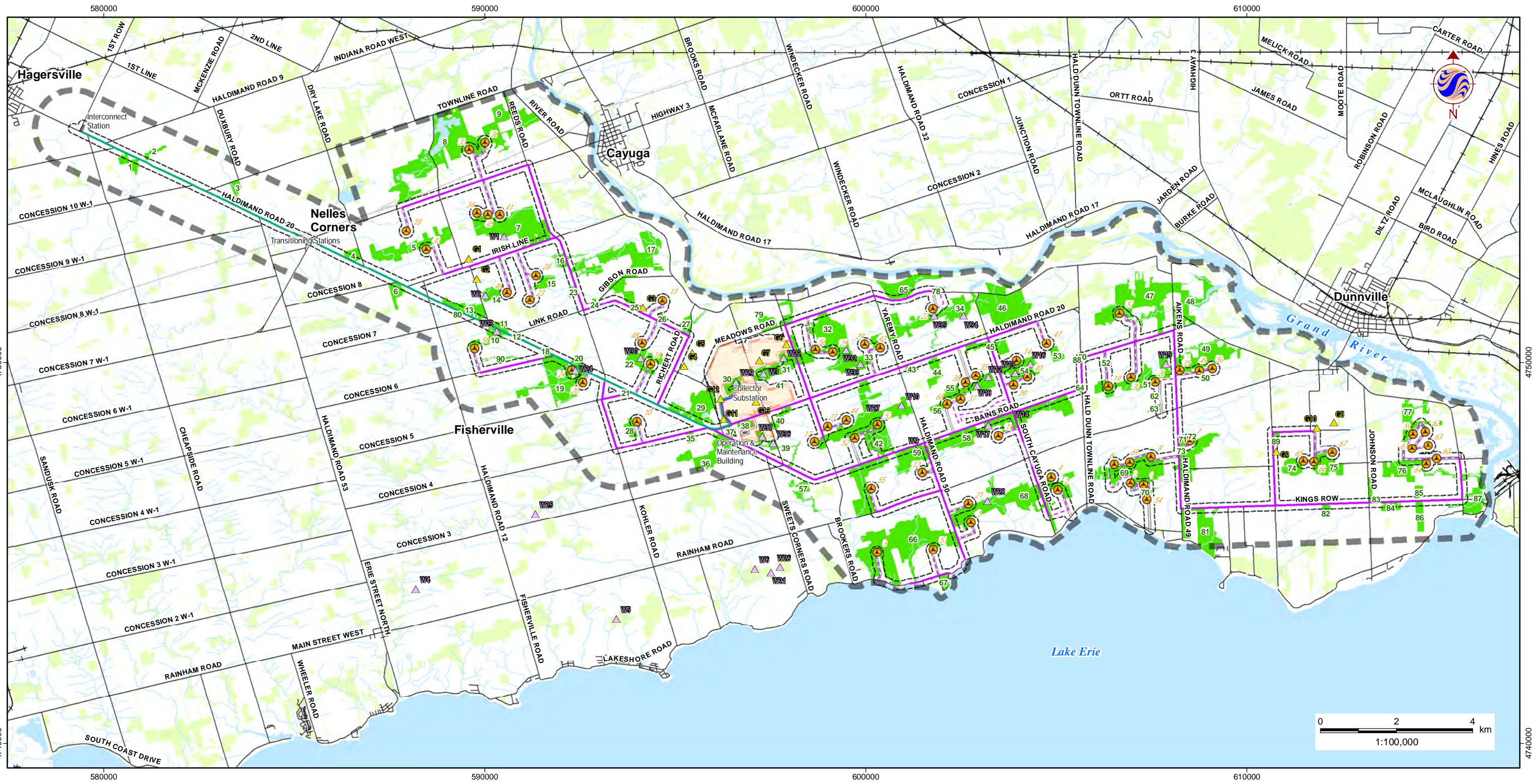
Client/Project
SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK

Figure No.
3.0

Title
PHYSIOGRAPHY

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May 2011
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Legend

- | | | | | | |
|-------------------------------|----------------------------|--|-----------------------------------|--|---------------------------------|
| | Study Area | | Overhead Transmission Line | | Waterbody (MNR) |
| | Zone of Investigation | | Underground Transmission Line | | Wooded Area (MNR) |
| Wind Project Location | | | Electrical Transmission Component | | Natural Feature |
| | Proposed Turbine Location | | Road | | Grassland Point Count (Stantec) |
| | Access Road | | Railway | | Woodland Point Count (Stantec) |
| | Overhead Collector Line | | Abandoned Railway | | |
| | Underground Collector Line | | Watercourse (MNR) | | |
| Solar Project Location | | | | | |
| | Solar Lands | | | | |

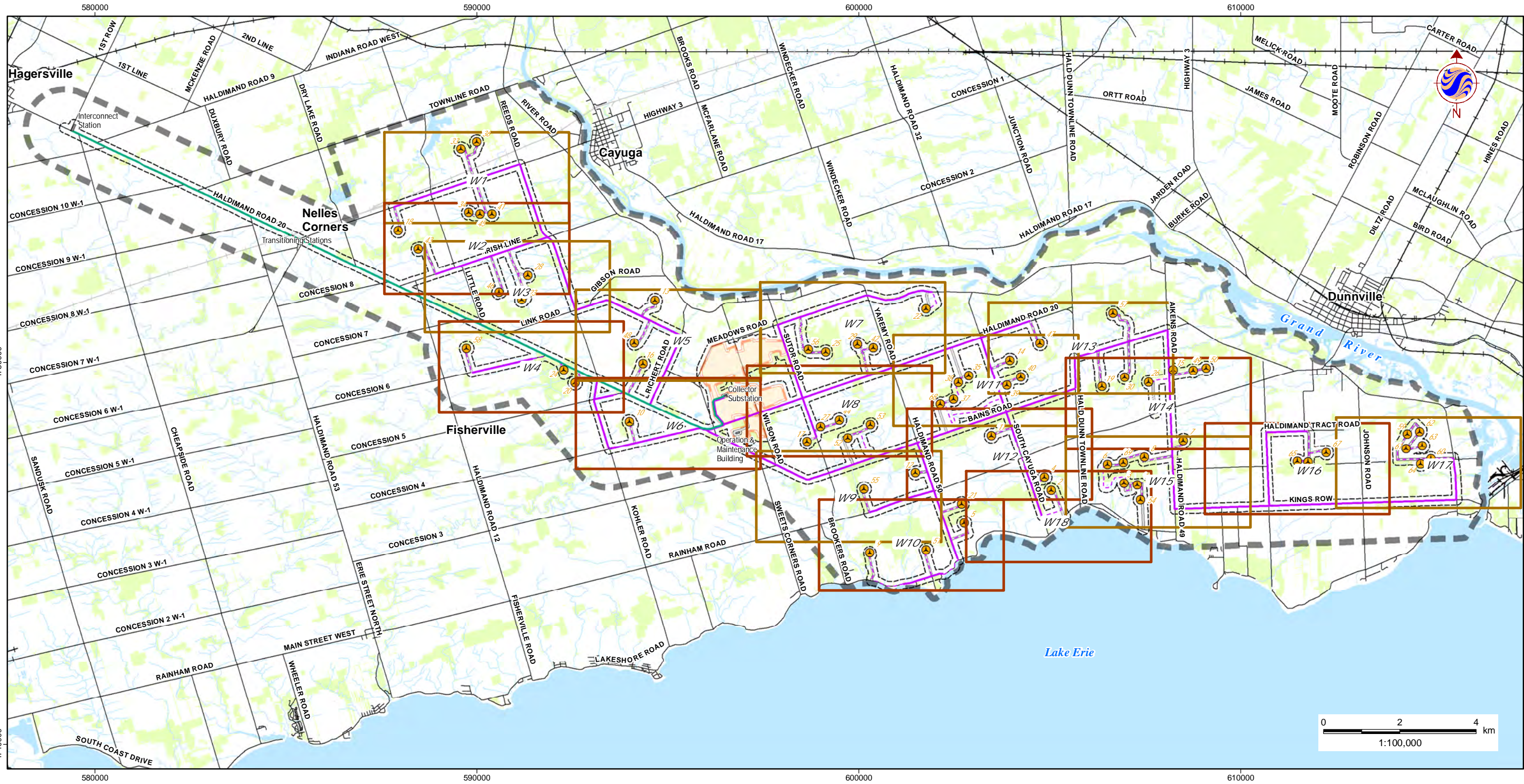
Notes

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Client/Project
SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK

Figure No.
4.0 DRAFT

Title
**BIRD SURVEY
LOCATIONS - 2010**



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May 2011
160960577



Legend

- | | | | | | |
|-------------------------------|----------------------------|--------------------------|-----------------------------------|--|-------------------|
| | Study Area | | Overhead Transmission Line | | Waterbody (MNR) |
| | Zone of Investigation | | Underground Transmission Line | | Wooded Area (MNR) |
| Wind Project Location | | | | | |
| | Proposed Turbine Location | | Electrical Transmission Component | | |
| | Access Road | Existing Features | | | |
| | Overhead Collector Line | | Road | | Railway |
| | Underground Collector Line | | Abandoned Railway | | Watercourse (MNR) |
| Solar Project Location | | | | | |
| | Solar Lands | | | | |

Notes

- Coordinate System: UTM NAD 83 - Zone 17 (N).
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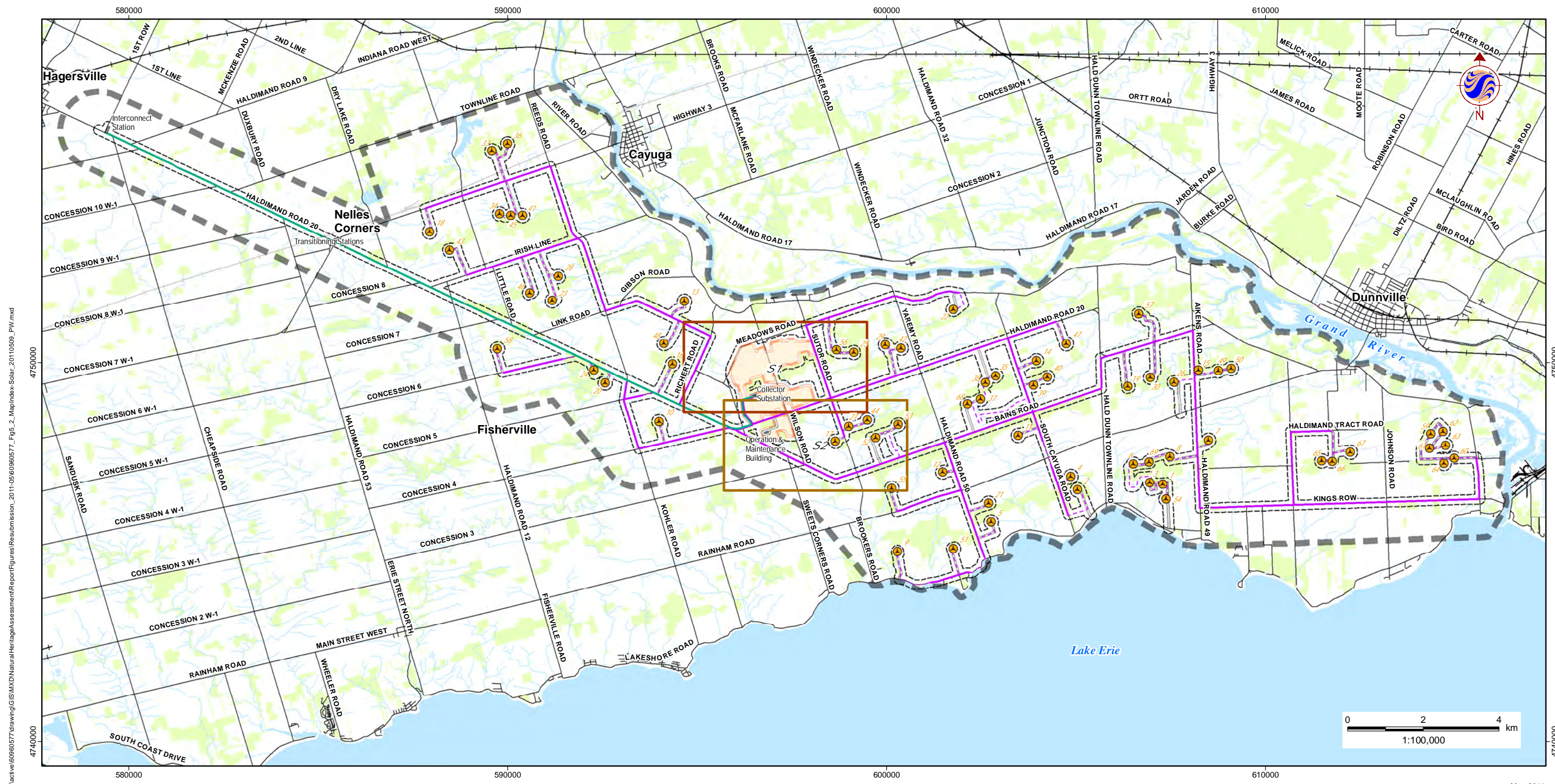
Client/Project
SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK

Figure No.
5.1

Title

**MAPPING INDEX -
WIND PROJECT**

DRAFT



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Legend

- | | | | | | |
|-------------------------------|----------------------------|--------------------------|-----------------------------------|--|-------------------|
| | Study Area | | Overhead Transmission Line | | Waterbody (MNR) |
| | Zone of Investigation | | Underground Transmission Line | | Wooded Area (MNR) |
| Wind Project Location | | | | | |
| | Proposed Turbine Location | | Electrical Transmission Component | | |
| | Access Road | Existing Features | | | |
| | Overhead Collector Line | | Road | | Railway |
| | Underground Collector Line | | Abandoned Railway | | Watercourse (MNR) |
| Solar Project Location | | | | | |
| | Solar Lands | | | | |

Notes

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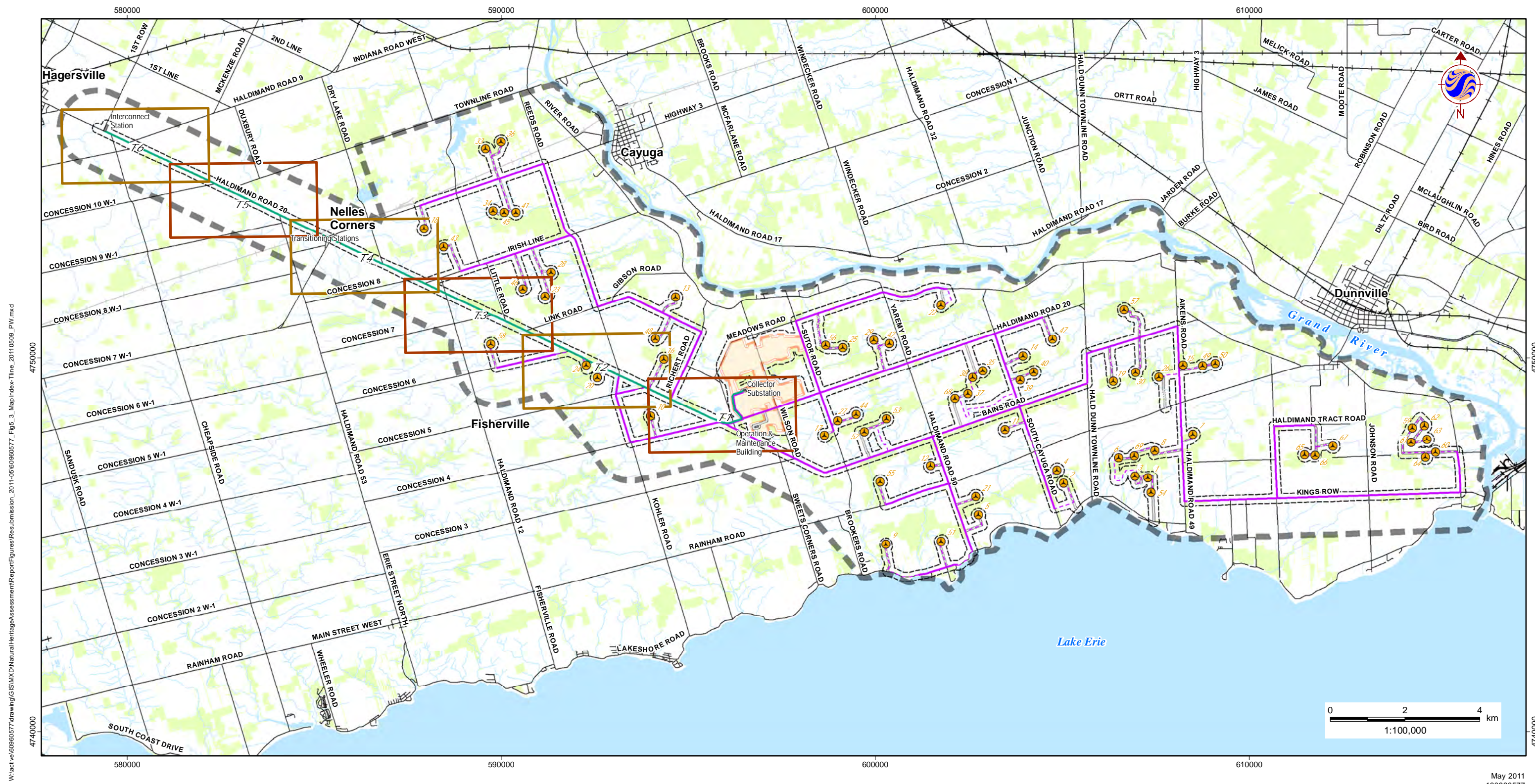
Client/Project
 SAMSUNG, PATTERN & KEPCO (SPK)
 GRAND RENEWABLE ENERGY PARK

Figure No.
 5.2

Title

**MAPPING INDEX -
 SOLAR PROJECT**

DRAFT



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May 2011
160960577



Legend

- | | | | | | |
|-------------------------------|----------------------------|--------------------------|-----------------------------------|--|-------------------|
| | Study Area | | Overhead Transmission Line | | Waterbody (MNR) |
| | Zone of Investigation | | Underground Transmission Line | | Wooded Area (MNR) |
| Wind Project Location | | | | | |
| | Proposed Turbine Location | | Electrical Transmission Component | | |
| | Access Road | Existing Features | | | |
| | Overhead Collector Line | | Road | | Railway |
| | Underground Collector Line | | Abandoned Railway | | Watercourse (MNR) |
| Solar Project Location | | | | | |
| | Solar Lands | | | | |

Notes

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Client/Project
SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK

Figure No.
5.3

Title

**MAPPING INDEX -
TRANSMISSION LINE**

DRAFT



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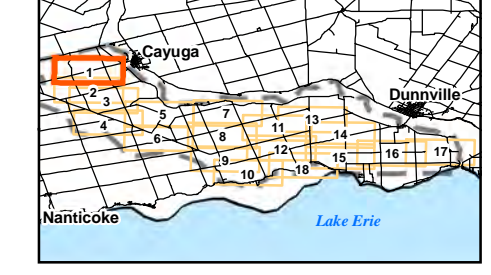
Legend	
	Study Area
	Zone of Investigation
	Constructable Area
Wind Project Location	
	Proposed Turbine Location
	Access Road
	Overhead Collector Line
	Underground Collector Line
Solar Project Location	
	Solar Lands
Transmission Line	
	Overhead Transmission Line
	Underground Transmission Line
	Electrical Transmission Component
Existing Features	
	Road
	Railway
	Abandoned Railway
	Transmission Line (MNR)
	Watercourse (MNR)
	Waterbody (MNR)
	Natural Feature
	Vegetation Community (ELC)

Forest Communities (FO)	
FOM-2-2	Dry-fresh White Pine - Sugar Maple Mixed Forest
FOD	Deciduous Forest
FOD1-1	Dry-fresh Red Oak Deciduous Forest
FOD2-1	Dry-fresh Oak - Red Maple Deciduous Forest
FOD2-2	Dry-fresh Oak - Hickory Deciduous Forest
FOD2-4	Dry-fresh Oak - Hardwood Deciduous Forest
FOD3-1	Dry-fresh Poplar Deciduous Forest
FOD4-1	Dry-fresh Beech Deciduous Forest
FOD4-2	Dry-fresh White Ash Deciduous Forest
FOD5	Dry-fresh Sugar Maple Deciduous Forest Ecosite
FOD5-1	Dry-fresh Sugar Maple Deciduous Forest
FOD5-2	Dry-fresh Sugar Maple - Beech Deciduous Forest
FOD5-3	Dry-fresh Sugar Maple - Oak Deciduous Forest
FOD5-8	Dry-fresh Sugar Maple - White Ash Deciduous Forest
FOD5-9	Dry-fresh Sugar Maple-Red Maple Deciduous Forest
FOD5-11	Dry-fresh Sugar Maple - Oak - Beech Deciduous Forest
FOD5-12	Dry-fresh Sugar Maple - Hickory - Beech Deciduous Forest
FOD6-1	Fresh-moist Sugar Maple - Lowland Ash Deciduous Forest
FOD6-5	Fresh-moist Sugar Maple - Hardwood Deciduous Forest
FOD6-6	Fresh-moist Sugar Maple - Hickory Deciduous Forest
FOD7-1	Fresh - moist White Elm Lowland Deciduous Forest
FOD7-2	Fresh-moist Ash Lowland Deciduous Forest
FOD7-4	Fresh-moist Black Walnut Lowland Deciduous Forest
FOD9-1	Fresh-moist Oak - Sugar Maple Deciduous Forest
FOD9-3	Fresh-moist Bur Oak Deciduous Forest
FOD9-4	Fresh-moist Shagbark Hickory Deciduous Forest
FOD9-6	Fresh-moist Red Oak - Shagbark Hickory Deciduous Forest

Cultural Communities (CU)	
CUP1-4	Hybrid Poplar Deciduous Plantation
CUP2	Mixed Plantation
CUP3-1	Red Pine Coniferous Plantation
CUP3-2	White Pine Coniferous Plantation
CUP3-12	White Pine - White/Norway Spruce Coniferous Plantation
CUP3-13	White Pine Coniferous Plantation
CUM1	Mineral Cultural Meadow
CUS1-1	Hawthorn Cultural Savannah
CUT1-1	Mineral Cultural Thicket
CUT1-1	Sumac Cultural Thicket
CUT1-4	Gray Dogwood Cultural Thicket
CUT1-7	European Buckthorn - Sweet Cherry Cultural thicket
CUM1	Mineral Cultural Woodland
CUM1-1	Red Cedar Mineral Cultural Woodland
CUM1-3	Ash - Sumac Mineral Cultural Woodland
CUM1-4	Green Ash Mineral Cultural Woodland
CUM1-5	Norway Maple Mineral Cultural Woodland
CUM1-6	White Elm Cultural Woodland
CUM1-7	Red maple Mineral Cultural Woodland
CUM1-11	White Pine Cultural Woodland

Swamp Communities (SW)	
SWD	Deciduous Swamp
SWD1-1	Swamp Oak Mineral Deciduous Swamp
SWD1-2	Bur Oak Mineral Deciduous Swamp
SWD2-2	Green Ash Mineral Deciduous Swamp
SWD2-3	Ash - Hardwood Mineral Deciduous Swamp
SWD2-4	Green Ash - Red Maple Mineral Deciduous Swamp
SWD3-1	Red Maple Mineral Deciduous Swamp
SWD3-2	Silver Maple Mineral Deciduous Swamp
SWD3-3	Swamp Maple Mineral Deciduous Swamp
Marsh Communities (MA)	
MAM2	Mineral Meadow Marsh
MAM2-2	Reed Canary Grass Mineral Meadow Marsh
MAM2-9	Jewelweed Mineral Meadow Marsh
MAM2-10	Forb Mineral Meadow Marsh
MAM2-11	Forb - Graminoid Mineral Meadow Marsh
MAS2-1	Cattail Mineral Shallow Marsh
MAS2-8	Rice Cut-grass Mineral Shallow Marsh
Open Water (OA)	
OA	Open Aquatic
Shallow Water (SA)	
SAM1-2	Duckweed Mixed Shallow Aquatic
Other	
HR	Hedgerow
D	Disturbed
Res	Residential

- Notes**
- Coordinate System: UTM NAD 83 - Zone 17 (N).
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Client/Project
SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK

Figure No.
6.1

Title
ELC VEGETATION COMMUNITIES - W1

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Legend

- Study Area
- Zone of Investigation
- Constructable Area
- Wind Project Location**
- Proposed Turbine Location
- Access Road
- Overhead Collector Line
- Underground Collector Line
- Solar Project Location**
- Solar Lands
- Transmission Line**
- Overhead Transmission Line
- Underground Transmission Line
- Electrical Transmission Component
- Existing Features**
- Road
- Railway
- Abandoned Railway
- Transmission Line (MNR)
- Watercourse (MNR)
- Waterbody (MNR)
- Natural Feature
- Vegetation Community (ELC)

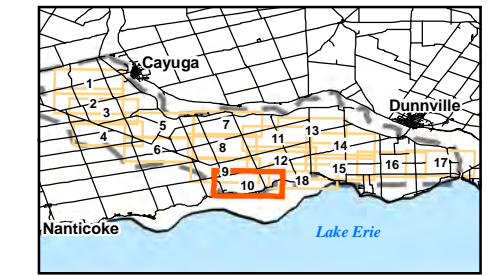
- Forest Communities (FO)**
- FOM 2-2 - Dry-fresh White Pine - Sugar Maple Mixed Forest
 - FOD - Deciduous Forest
 - FOD1-1 - Dry-fresh Red Oak Deciduous Forest
 - FOD2-1 - Dry-fresh Oak - Red Maple Deciduous Forest
 - FOD2-2 - Dry-fresh Oak - Hickory Deciduous Forest
 - FOD2-4 - Dry-fresh Oak - Hardwood Deciduous Forest
 - FOD 3-1 - Dry-fresh Poplar Deciduous Forest
 - FOD4-1 - Dry-fresh Beech Deciduous Forest
 - FOD4-2 - Dry-fresh White Ash Deciduous Forest
 - FOD5 - Dry-fresh Sugar Maple Deciduous Forest Ecosite
 - FOD5-1 - Dry-fresh Sugar Maple Deciduous Forest
 - FOD5-2 - Dry-fresh Sugar Maple - Beech Deciduous Forest
 - FOD5-3 - Dry-fresh Sugar Maple - Oak Deciduous Forest
 - FOD5-8 - Dry-fresh Sugar Maple - White Ash Deciduous Forest
 - FOD5-9 - Dry-fresh Sugar Maple-Red Maple Deciduous Forest
 - FOD5-11 - Dry-fresh Sugar Maple - Oak - Beech Deciduous Forest
 - FOD5-12 - Dry-fresh Sugar Maple - Hickory - Beech Deciduous Forest
 - FOD6-1 - Fresh-moist Sugar Maple - Lowland Ash Deciduous Forest
 - FOD6-5 - Fresh-moist Sugar Maple - Hardwood Deciduous Forest
 - FOD6-6 - Fresh-moist Sugar Maple - Hickory Deciduous Forest
 - FOD7-1 - Fresh - moist White Elm Lowland Deciduous Forest
 - FOD7-2 - Fresh-moist Ash Lowland Deciduous Forest
 - FOD7-4 - Fresh-moist Black Walnut Lowland Deciduous Forest
 - FOD9-1 - Fresh-moist Oak - Sugar Maple Deciduous Forest
 - FOD9-3 - Fresh-moist Bur Oak Deciduous Forest
 - FOD9-4 - Fresh-moist Shagbark Hickory Deciduous Forest
 - FOD9-6 - Fresh-moist Red Oak - Shagbark Hickory Deciduous Forest

- Cultural Communities (CU)**
- CUP1-4 - Hybrid Poplar Deciduous Plantation
 - CUP2 - Mixed Plantation
 - CUP3-1 - Red Pine Coniferous Plantation
 - CUP3-2 - White Pine Coniferous Plantation
 - CUP3-12 - White Pine - White/Norway Spruce Coniferous Plantation
 - CUP3-13 - White Spruce Coniferous Plantation
 - CUM1 - Mineral Cultural Meadow
 - CUS1-1 - Hawthorn Cultural Savannah
 - CUT1-1 - Mineral Cultural Thicket
 - CUT1-1 - Sumac Cultural Thicket
 - CUT1-4 - Gray Dogwood Cultural Thicket
 - CUT1-7 - European Buckthorn - Sweet Cherry Cultural thicket
 - CUM1 - Mineral Cultural Woodland
 - CUM1-1 - Red Cedar Mineral Cultural Woodland
 - CUM1-3 - Ash - Sumac Mineral Cultural Woodland
 - CUM1-4 - Green Ash Mineral Cultural Woodland
 - CUM1-5 - Norway Maple Mineral Cultural Woodland
 - CUM1-6 - White Elm Cultural Woodland
 - CUM1-7 - Red maple Mineral Cultural Woodland
 - CUM1-11 - White Pine Cultural Woodland
- Swamp Communities (SW)**
- SWD - Deciduous Swamp
 - SWD1-1 - Swamp Oak Mineral Deciduous Swamp
 - SWD1-2 - Bur Oak Mineral Deciduous Swamp
 - SWD2-2 - Green Ash Mineral Deciduous Swamp
 - SWD2-3 - Ash - Hardwood Mineral Deciduous Swamp
 - SWD2-4 - Green Ash - Red Maple Mineral Deciduous Swamp
 - SWD3-1 - Red Maple Mineral Deciduous Swamp
 - SWD3-2 - Silver Maple Mineral Deciduous Swamp
 - SWD3-3 - Swamp Maple Mineral Deciduous Swamp

- Marsh Communities (MA)**
- MAM2 - Mineral Meadow Marsh
 - MAM2-2 - Reed Canary Grass Mineral Meadow Marsh
 - MAM2-9 - Jewelweed Mineral Meadow Marsh
 - MAM2-10 - Forb Mineral Meadow Marsh
 - MAM2-11 - Forb - Graminoid Mineral Meadow Marsh
 - MAS2-1 - Cattail Mineral Shallow Marsh
 - MAS2-8 - Rice Cut-grass Mineral Shallow Marsh
- Open Water (OA)**
- OA - Open Aquatic
- Shallow Water (SA)**
- SAM1-2 - Duckweed Mixed Shallow Aquatic
- HR - Hedgerow
D - Disturbed
Res - Residential

Notes

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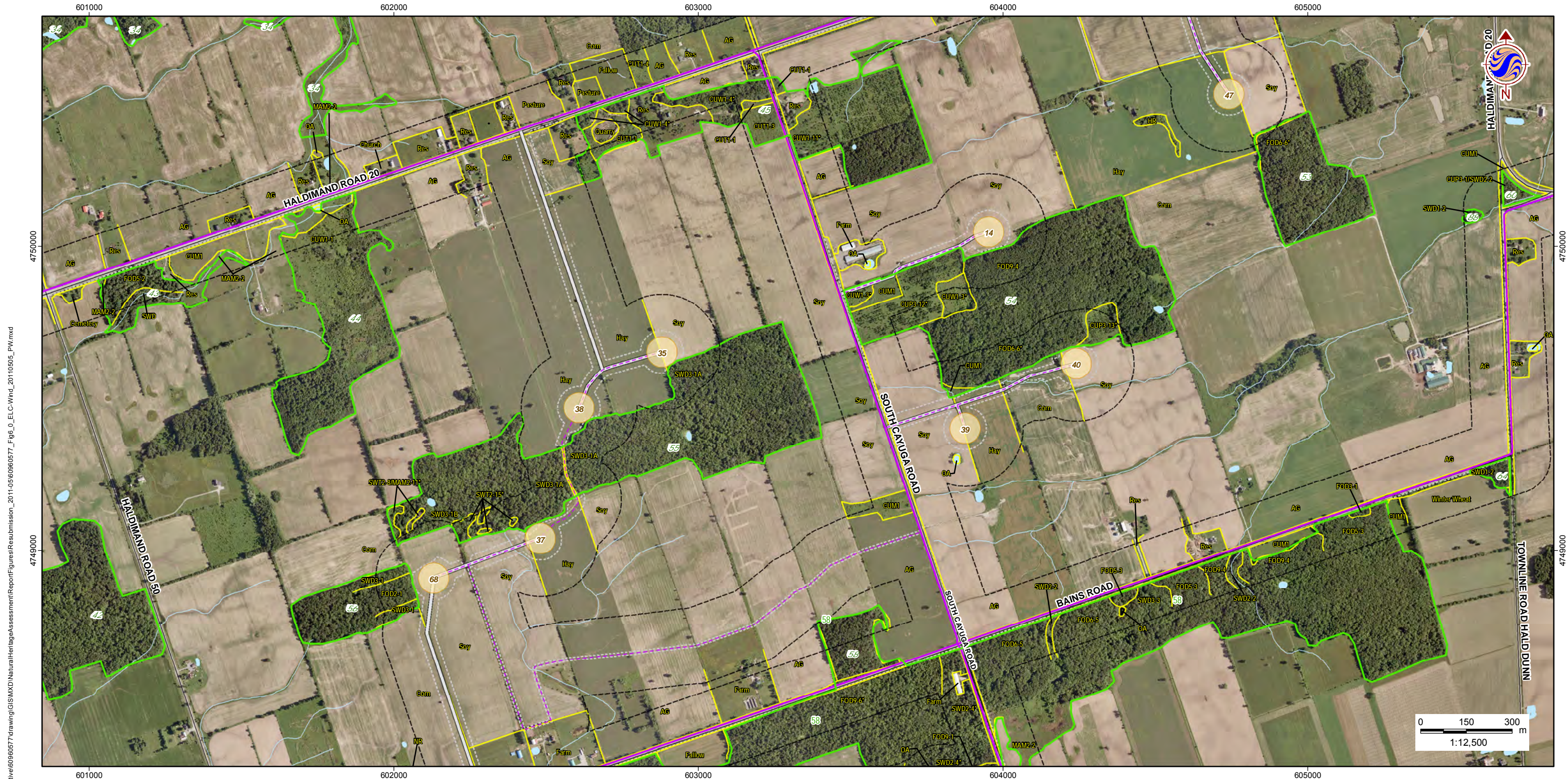
Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
6.10

Title
**ELC VEGETATION
COMMUNITIES - W10**

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160960577



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Legend

- Study Area
 - Zone of Investigation
 - Constructable Area
 - Wind Project Location**
 - Proposed Turbine Location
 - Access Road
 - Overhead Collector Line
 - Underground Collector Line
 - Solar Project Location**
 - Solar Lands
 - Transmission Line**
 - Overhead Transmission Line
 - Underground Transmission Line
 - Electrical Transmission Component
- Existing Features**
 - Road
 - Railway
 - Abandoned Railway
 - Transmission Line (MNR)
 - Watercourse (MNR)
 - Waterbody (MNR)
 - Natural Feature
 - Vegetation Community (ELC)

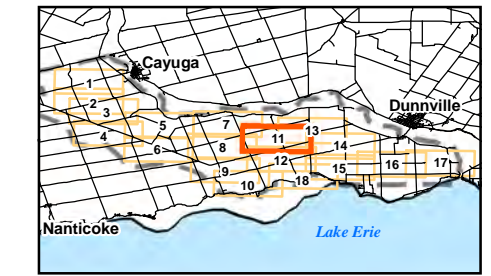
- Forest Communities (FO)**
- FOM 2-2 - Dry-fresh White Pine - Sugar Maple Mixed Forest
- FOD - Deciduous Forest
- FOD1-1 - Dry-fresh Red Oak Deciduous Forest
- FOD2-1 - Dry-fresh Oak - Red Maple Deciduous Forest
- FOD2-2 - Dry-fresh Oak - Hickory Deciduous Forest
- FOD2-4 - Dry-fresh Oak - Hardwood Deciduous Forest
- FOD3-1 - Dry-fresh Poplar Deciduous Forest
- FOD4-1 - Dry-fresh Beech Deciduous Forest
- FOD4-2 - Dry-fresh White Ash Deciduous Forest
- FOD5 - Dry-fresh Sugar Maple Deciduous Forest Ecosite
- FOD5-1 - Dry-fresh Sugar Maple Deciduous Forest
- FOD5-2 - Dry-fresh Sugar Maple - Beech Deciduous Forest
- FOD5-3 - Dry-fresh Sugar Maple - Oak Deciduous Forest
- FOD5-8 - Dry-fresh Sugar Maple - White Ash Deciduous Forest
- FOD5-9 - Dry-fresh Sugar Maple-Red Maple Deciduous Forest
- FOD5-11 - Dry-fresh Sugar Maple - Oak - Beech Deciduous Forest
- FOD5-12 - Dry-fresh Sugar Maple - Hickory - Beech Deciduous Forest
- FOD6-1 - Fresh-moist Sugar Maple - Lowland Ash Deciduous Forest
- FOD6-5 - Fresh-moist Sugar Maple - Hardwood Deciduous Forest
- FOD6-6 - Fresh-moist Sugar Maple - Hickory Deciduous Forest
- FOD7-1 - Fresh - moist White Elm Lowland Deciduous Forest
- FOD7-2 - Fresh-moist Ash Lowland Deciduous Forest
- FOD7-4 - Fresh-moist Black Walnut Lowland Deciduous Forest
- FOD9-1 - Fresh-moist Oak - Sugar Maple Deciduous Forest
- FOD9-3 - Fresh-moist Bur Oak Deciduous Forest
- FOD9-4 - Fresh-moist Shagbark Hickory Deciduous Forest
- FOD9-6 - Fresh-moist Red Oak - Shagbark Hickory Deciduous Forest

- Cultural Communities (CU)**
- CUP1-4 - Hybrid Poplar Deciduous Plantation
- CUP2 - Mixed Plantation
- CUP3-1 - Red Pine Coniferous Plantation
- CUP3-2 - White Pine Coniferous Plantation
- CUP3-12 - White Pine - White/Norway Spruce Coniferous Plantation
- CUP3-13 - White Spruce Coniferous Plantation
- CUM1 - Mineral Cultural Meadow
- CUS1-1 - Hawthorn Cultural Savannah
- CUT1 - Mineral Cultural Thicket
- CUT1-1 - Sumac Cultural Thicket
- CUT1-4 - Gray Dogwood Cultural Thicket
- CUT1-7 - European Buckthorn - Sweet Cherry Cultural thicket
- CUM1 - Mineral Cultural Woodland
- CUM1-1 - Red Cedar Mineral Cultural Woodland
- CUM1-3 - Ash - Sumac Mineral Cultural Woodland
- CUM1-4 - Green Ash Mineral Cultural Woodland
- CUM1-5 - Norway Maple Mineral Cultural Woodland
- CUM1-6 - White Elm Cultural Woodland
- CUM1-7 - Red maple Mineral Cultural Woodland
- CUM1-11 - White Pine Cultural Woodland
- Swamp Communities (SW)**
- SWD - Deciduous Swamp
- SWD1-1 - Swamp Oak Mineral Deciduous Swamp
- SWD1-2 - Bur Oak Mineral Deciduous Swamp
- SWD2-2 - Green Ash Mineral Deciduous Swamp
- SWD2-3 - Ash - Hardwood Mineral Deciduous Swamp
- SWD2-4 - Green Ash - Red Maple Mineral Deciduous Swamp
- SWD3-1 - Red Maple Mineral Deciduous Swamp
- SWD3-2 - Silver Maple Mineral Deciduous Swamp
- SWD3-3 - Swamp Maple Mineral Deciduous Swamp

- SWD4-1 - Willow Mineral Deciduous Swamp
- SWD4-2 - White Elm Mineral Deciduous Swamp
- SWD4-6 - Green Ash - Swamp Maple Mineral Deciduous Swamp
- SWT - Thicket Swamp
- SWT2 - Mineral Thicket Swamp
- SWT2-4 - Buttonbush Mineral Thicket Swamp
- SWT2-5 - Red Osier Dogwood Mineral Thicket Swamp
- SWT2-8 - Silky Dogwood Mineral Thicket Swamp
- SWT2-9 - Gray Dogwood Mineral Thicket Swamp
- SWT2-13 - Willow - Dogwood Mineral Thicket Swamp
- SWT2-14 - Winterberry - Buttonbush Mineral Thicket Swamp
- SWT2-15 - Red Maple Mineral Thicket Swamp
- SWT3-7 - Winterberry Organic Thicket Swamp
- Marsh Communities (MA)**
- MAM2 - Mineral Meadow Marsh
- MAM2-2 - Reed Canary Grass Mineral Meadow Marsh
- MAM2-9 - Jewelweed Mineral Meadow Marsh
- MAM2-10 - Forb Mineral Meadow Marsh
- MAM2-11 - Forb - Graminoid Mineral Meadow Marsh
- MAS2-1 - Cattail Mineral Shallow Marsh
- MAS2-8 - Rice Cut-grass Mineral Shallow Marsh
- Open Water (OA)**
- OA - Open Aquatic
- Shallow Water (SA)**
- SAM1-2 - Duckweed Mixed Shallow Aquatic
- HR - Hedgerow
- D - Disturbed
- Res - Residential

Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
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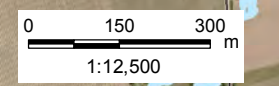


Client/Project
**SAMSUNG, PATTERN & KEPKO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
6.11

Title
**ELC VEGETATION
COMMUNITIES - W11**

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Legend

- Study Area
- Zone of Investigation
- Constructable Area
- Wind Project Location**
- Proposed Turbine Location
- Access Road
- Overhead Collector Line
- Underground Collector Line
- Solar Project Location**
- Solar Lands
- Transmission Line**
- Overhead Transmission Line
- Underground Transmission Line
- Electrical Transmission Component
- Existing Features**
- Road
- Railway
- Abandoned Railway
- Transmission Line (MNR)
- Watercourse (MNR)
- Waterbody (MNR)
- Natural Feature
- Vegetation Community (ELC)

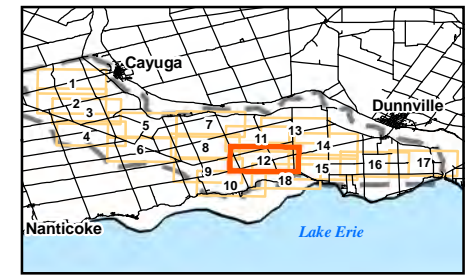
- Forest Communities (FO)**
- FOM 2-2 - Dry-fresh White Pine - Sugar Maple Mixed Forest
 - FOD - Deciduous Forest
 - FOD1-1 - Dry-fresh Red Oak Deciduous Forest
 - FOD2-1 - Dry-fresh Oak - Red Maple Deciduous Forest
 - FOD2-2 - Dry-fresh Oak - Hickory Deciduous Forest
 - FOD2-4 - Dry-fresh Oak - Hardwood Deciduous Forest
 - FOD3-1 - Dry-fresh Poplar Deciduous Forest
 - FOD4-1 - Dry-fresh Beech Deciduous Forest
 - FOD4-2 - Dry-fresh White Ash Deciduous Forest
 - FOD5 - Dry-fresh Sugar Maple Deciduous Forest Ecosite
 - FOD5-1 - Dry-fresh Sugar Maple Deciduous Forest
 - FOD5-2 - Dry-fresh Sugar Maple - Beech Deciduous Forest
 - FOD5-3 - Dry-fresh Sugar Maple - Oak Deciduous Forest
 - FOD5-8 - Dry-fresh Sugar Maple - White Ash Deciduous Forest
 - FOD5-9 - Dry-fresh Sugar Maple-Red Maple Deciduous Forest
 - FOD5-11 - Dry-fresh Sugar Maple - Oak - Beech Deciduous Forest
 - FOD5-12 - Dry-fresh Sugar Maple - Hickory - Beech Deciduous Forest
 - FOD6-1 - Fresh-moist Sugar Maple - Lowland Ash Deciduous Forest
 - FOD6-5 - Fresh-moist Sugar Maple - Hardwood Deciduous Forest
 - FOD6-6 - Fresh-moist Sugar Maple - Hickory Deciduous Forest
 - FOD7-1 - Fresh - moist White Elm Lowland Deciduous Forest
 - FOD7-2 - Fresh-moist Ash Lowland Deciduous Forest
 - FOD7-4 - Fresh-moist Black Walnut Lowland Deciduous Forest
 - FOD9-1 - Fresh-moist Oak - Sugar Maple Deciduous Forest
 - FOD9-3 - Fresh-moist Bur Oak Deciduous Forest
 - FOD9-4 - Fresh-moist Shagbark Hickory Deciduous Forest
 - FOD9-6 - Fresh-moist Red Oak - Shagbark Hickory Deciduous Forest

- Cultural Communities (CU)**
- CUP1-4 - Hybrid Poplar Deciduous Plantation
 - CUP2 - Mixed Plantation
 - CUP3-1 - Red Pine Coniferous Plantation
 - CUP3-2 - White Pine Coniferous Plantation
 - CUP3-12 - White Pine - White/Norway Spruce Coniferous Plantation
 - CUP3-13 - White Spruce Coniferous Plantation
 - CUM1 - Mineral Cultural Meadow
 - CUS1-1 - Hawthorn Cultural Savannah
 - CUT1 - Mineral Cultural Thicket
 - CUT1-1 - Sumac Cultural Thicket
 - CUT1-4 - Gray Dogwood Cultural Thicket
 - CUT1-7 - European Buckthorn - Sweet Cherry Cultural thicket
 - CUM1 - Mineral Cultural Woodland
 - CUM1-1 - Red Cedar Mineral Cultural Woodland
 - CUM1-3 - Ash - Sumac Mineral Cultural Woodland
 - CUM1-4 - Green Ash Mineral Cultural Woodland
 - CUM1-5 - Norway Maple Mineral Cultural Woodland
 - CUM1-6 - White Elm Cultural Woodland
 - CUM1-7 - Red maple Mineral Cultural Woodland
 - CUM1-11 - White Pine Cultural Woodland
- Swamp Communities (SW)**
- SWD - Deciduous Swamp
 - SWD1-1 - Swamp Oak Mineral Deciduous Swamp
 - SWD1-2 - Bur Oak Mineral Deciduous Swamp
 - SWD2-2 - Green Ash Mineral Deciduous Swamp
 - SWD2-3 - Ash - Hardwood Mineral Deciduous Swamp
 - SWD2-4 - Green Ash - Red Maple Mineral Deciduous Swamp
 - SWD3-1 - Red Maple Mineral Deciduous Swamp
 - SWD3-2 - Silver Maple Mineral Deciduous Swamp
 - SWD3-3 - Swamp Maple Mineral Deciduous Swamp

- Marsh Communities (MA)**
- MAM2 - Mineral Meadow Marsh
 - MAM2-2 - Reed Canary Grass Mineral Meadow Marsh
 - MAM2-9 - Jewelweed Mineral Meadow Marsh
 - MAM2-10 - Forb Mineral Meadow Marsh
 - MAM2-11 - Forb - Graminoid Mineral Meadow Marsh
 - MAS2-1 - Cattail Mineral Shallow Marsh
 - MAS2-8 - Rice Cut-grass Mineral Shallow Marsh
- Open Water (OA)**
- OA - Open Aquatic
- Shallow Water (SA)**
- SAM1-2 - Duckweed Mixed Shallow Aquatic
- Other Symbols:**
- HR - Hedgerow
 - D - Disturbed
 - Res - Residential

Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
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Client/Project
**SAMSUNG, PATTERN & KEPKO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
6.12

DRAFT

Title
**ELC VEGETATION
COMMUNITIES - W12**

May 2011
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May 2011
160960577



Legend

- Study Area
- Zone of Investigation
- Constructable Area
- Wind Project Location**
- Proposed Turbine Location
- Access Road
- Overhead Collector Line
- Underground Collector Line
- Solar Project Location**
- Solar Lands
- Transmission Line**
- Overhead Transmission Line
- Underground Transmission Line
- Electrical Transmission Component
- Existing Features**
- Road
- Railway
- Abandoned Railway
- Transmission Line (MNR)
- Watercourse (MNR)
- Waterbody (MNR)
- Natural Feature
- Vegetation Community (ELC)

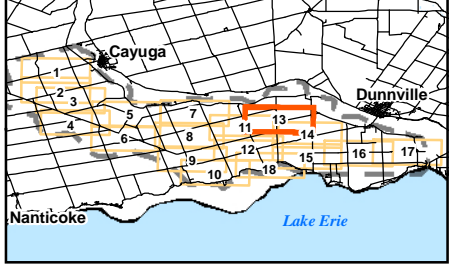
- Forest Communities (FO)**
- FOM 2-2 - Dry-fresh White Pine - Sugar Maple Mixed Forest
 - FOD - Deciduous Forest
 - FOD1-1 - Dry-fresh Red Oak Deciduous Forest
 - FOD2-1 - Dry-fresh Oak - Red Maple Deciduous Forest
 - FOD2-2 - Dry-fresh Oak - Hickory Deciduous Forest
 - FOD2-4 - Dry-fresh Oak - Hardwood Deciduous Forest
 - FOD3-1 - Dry-fresh Poplar Deciduous Forest
 - FOD4-1 - Dry-fresh Beech Deciduous Forest
 - FOD4-2 - Dry-fresh White Ash Deciduous Forest
 - FOD5 - Dry-fresh Sugar Maple Deciduous Forest Ecosite
 - FOD5-1 - Dry-fresh Sugar Maple Deciduous Forest
 - FOD5-2 - Dry-fresh Sugar Maple - Beech Deciduous Forest
 - FOD5-3 - Dry-fresh Sugar Maple - Oak Deciduous Forest
 - FOD5-8 - Dry-fresh Sugar Maple - White Ash Deciduous Forest
 - FOD5-9 - Dry-fresh Sugar Maple-Red Maple Deciduous Forest
 - FOD5-11 - Dry-fresh Sugar Maple - Oak - Beech Deciduous Forest
 - FOD5-12 - Dry-fresh Sugar Maple - Hickory - Beech Deciduous Forest
 - FOD6-1 - Fresh-moist Sugar Maple - Lowland Ash Deciduous Forest
 - FOD6-5 - Fresh-moist Sugar Maple - Hardwood Deciduous Forest
 - FOD6-6 - Fresh-moist Sugar Maple - Hickory Deciduous Forest
 - FOD7-1 - Fresh - moist White Elm Lowland Deciduous Forest
 - FOD7-2 - Fresh-moist Ash Lowland Deciduous Forest
 - FOD7-4 - Fresh-moist Black Walnut Lowland Deciduous Forest
 - FOD9-1 - Fresh-moist Oak - Sugar Maple Deciduous Forest
 - FOD9-3 - Fresh-moist Bur Oak Deciduous Forest
 - FOD9-4 - Fresh-moist Shagbark Hickory Deciduous Forest
 - FOD9-6 - Fresh-moist Red Oak - Shagbark Hickory Deciduous Forest

- Cultural Communities (CU)**
- CUP1-4 - Hybrid Poplar Deciduous Plantation
 - CUP2 - Mixed Plantation
 - CUP3-1 - Red Pine Coniferous Plantation
 - CUP3-2 - White Pine Coniferous Plantation
 - CUP3-12 - White Pine - White/Norway Spruce Coniferous Plantation
 - CUP3-13 - White Spruce Coniferous Plantation
 - CUM1 - Mineral Cultural Meadow
 - CUS1-1 - Hawthorn Cultural Savannah
 - CUT1-1 - Mineral Cultural Thicket
 - CUT1-1 - Sumac Cultural Thicket
 - CUT1-4 - Gray Dogwood Cultural Thicket
 - CUT1-7 - European Buckthorn - Sweet Cherry Cultural thicket
 - CUM1 - Mineral Cultural Woodland
 - CUM1-1 - Red Cedar Mineral Cultural Woodland
 - CUM1-3 - Ash - Sumac Mineral Cultural Woodland
 - CUM1-4 - Green Ash Mineral Cultural Woodland
 - CUM1-5 - Norway Maple Mineral Cultural Woodland
 - CUM1-6 - White Elm Cultural Woodland
 - CUM1-7 - Red maple Mineral Cultural Woodland
 - CUM1-11 - White Pine Cultural Woodland
- Swamp Communities (SW)**
- SWD - Deciduous Swamp
 - SWD1-1 - Swamp Oak Mineral Deciduous Swamp
 - SWD1-2 - Bur Oak Mineral Deciduous Swamp
 - SWD2-2 - Green Ash Mineral Deciduous Swamp
 - SWD2-3 - Ash - Hardwood Mineral Deciduous Swamp
 - SWD2-4 - Green Ash - Red Maple Mineral Deciduous Swamp
 - SWD3-1 - Red Maple Mineral Deciduous Swamp
 - SWD3-2 - Silver Maple Mineral Deciduous Swamp
 - SWD3-3 - Swamp Maple Mineral Deciduous Swamp

- Marsh Communities (MA)**
- MAM2 - Mineral Meadow Marsh
 - MAM2-2 - Reed Canary Grass Mineral Meadow Marsh
 - MAM2-9 - Jewelweed Mineral Meadow Marsh
 - MAM2-10 - Forb Mineral Meadow Marsh
 - MAM2-11 - Forb - Graminoid Mineral Meadow Marsh
 - MAS2-1 - Cattail Mineral Shallow Marsh
 - MAS2-8 - Rice Cut-grass Mineral Shallow Marsh
- Open Water (OA)**
- OA - Open Aquatic
- Shallow Water (SA)**
- SAM1-2 - Duckweed Mixed Shallow Aquatic
- Other Features:**
- HR - Hedgehog
 - D - Disturbed
 - Res - Residential

Notes

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Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
6.13

DRAFT

Title
**ELC VEGETATION
COMMUNITIES - W13**



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Legend

- Study Area
- Zone of Investigation
- Constructable Area
- Wind Project Location**
- Proposed Turbine Location
- Access Road
- Overhead Collector Line
- Underground Collector Line
- Solar Project Location**
- Solar Lands
- Transmission Line**
- Overhead Transmission Line
- Underground Transmission Line
- Electrical Transmission Component
- Existing Features**
- Road
- Railway
- Abandoned Railway
- Transmission Line (MNR)
- Watercourse (MNR)
- Waterbody (MNR)
- Natural Feature
- Vegetation Community (ELC)

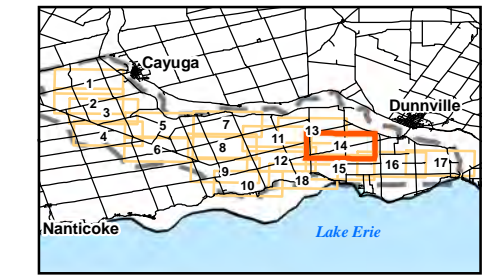
- Forest Communities (FO)**
- FOM 2-2 - Dry-fresh White Pine - Sugar Maple Mixed Forest
 - FOD - Deciduous Forest
 - FOD1-1 - Dry-fresh Red Oak Deciduous Forest
 - FOD2-1 - Dry-fresh Oak - Red Maple Deciduous Forest
 - FOD2-2 - Dry-fresh Oak - Hickory Deciduous Forest
 - FOD2-4 - Dry-fresh Oak - Hardwood Deciduous Forest
 - FOD3-1 - Dry-fresh Poplar Deciduous Forest
 - FOD4-1 - Dry-fresh Beech Deciduous Forest
 - FOD4-2 - Dry-fresh White Ash Deciduous Forest
 - FOD5 - Dry-fresh Sugar Maple Deciduous Forest Ecosite
 - FOD5-1 - Dry-fresh Sugar Maple Deciduous Forest
 - FOD5-2 - Dry-fresh Sugar Maple - Beech Deciduous Forest
 - FOD5-3 - Dry-fresh Sugar Maple - Oak Deciduous Forest
 - FOD5-8 - Dry-fresh Sugar Maple - White Ash Deciduous Forest
 - FOD5-9 - Dry-fresh Sugar Maple-Red Maple Deciduous Forest
 - FOD5-11 - Dry-fresh Sugar Maple - Oak - Beech Deciduous Forest
 - FOD5-12 - Dry-fresh Sugar Maple - Hickory - Beech Deciduous Forest
 - FOD6-1 - Fresh-moist Sugar Maple - Lowland Ash Deciduous Forest
 - FOD6-5 - Fresh-moist Sugar Maple - Hardwood Deciduous Forest
 - FOD6-6 - Fresh-moist Sugar Maple - Hickory Deciduous Forest
 - FOD7-1 - Fresh - moist White Elm Lowland Deciduous Forest
 - FOD7-2 - Fresh-moist Ash Lowland Deciduous Forest
 - FOD7-4 - Fresh-moist Black Walnut Lowland Deciduous Forest
 - FOD9-1 - Fresh-moist Oak - Sugar Maple Deciduous Forest
 - FOD9-3 - Fresh-moist Bur Oak Deciduous Forest
 - FOD9-4 - Fresh-moist Shagbark Hickory Deciduous Forest
 - FOD9-6 - Fresh-moist Red Oak - Shagbark Hickory Deciduous Forest

- Cultural Communities (CU)**
- CUP1-4 - Hybrid Poplar Deciduous Plantation
 - CUP2 - Mixed Plantation
 - CUP3-1 - Red Pine Coniferous Plantation
 - CUP3-2 - White Pine Coniferous Plantation
 - CUP3-12 - White Pine - White/Norway Spruce Coniferous Plantation
 - CUP3-13 - White Spruce Coniferous Plantation
 - CUM1 - Mineral Cultural Meadow
 - CUS1-1 - Hawthorn Cultural Savannah
 - CUT1-1 - Mineral Cultural Thicket
 - CUT1-1 - Sumac Cultural Thicket
 - CUT1-4 - Gray Dogwood Cultural Thicket
 - CUT1-7 - European Buckthorn - Sweet Cherry Cultural thicket
 - CUM1 - Mineral Cultural Woodland
 - CUM1-1 - Red Cedar Mineral Cultural Woodland
 - CUM1-3 - Ash - Sumac Mineral Cultural Woodland
 - CUM1-4 - Green Ash Mineral Cultural Woodland
 - CUM1-5 - Norway Maple Mineral Cultural Woodland
 - CUM1-6 - White Elm Cultural Woodland
 - CUM1-7 - Red maple Mineral Cultural Woodland
 - CUM1-11 - White Pine Cultural Woodland
- Swamp Communities (SW)**
- SWD - Deciduous Swamp
 - SWD1-1 - Swamp Oak Mineral Deciduous Swamp
 - SWD1-2 - Bur Oak Mineral Deciduous Swamp
 - SWD2-2 - Green Ash Mineral Deciduous Swamp
 - SWD2-3 - Ash - Hardwood Mineral Deciduous Swamp
 - SWD2-4 - Green Ash - Red Maple Mineral Deciduous Swamp
 - SWD3-1 - Red Maple Mineral Deciduous Swamp
 - SWD3-2 - Silver Maple Mineral Deciduous Swamp
 - SWD3-3 - Swamp Maple Mineral Deciduous Swamp

- Marsh Communities (MA)**
- MAM2 - Mineral Meadow Marsh
 - MAM2-2 - Reed Canary Grass Mineral Meadow Marsh
 - MAM2-9 - Jewelweed Mineral Meadow Marsh
 - MAM2-10 - Forb Mineral Meadow Marsh
 - MAM2-11 - Forb - Graminoid Mineral Meadow Marsh
 - MAM2-1 - Cattail Mineral Shallow Marsh
 - MAM2-8 - Rice Cut-grass Mineral Shallow Marsh
- Open Water (OA)**
- OA - Open Aquatic
- Shallow Water (SA)**
- SAM1-2 - Duckweed Mixed Shallow Aquatic
- HR - Hedgerow
D - Disturbed
Res - Residential

Notes

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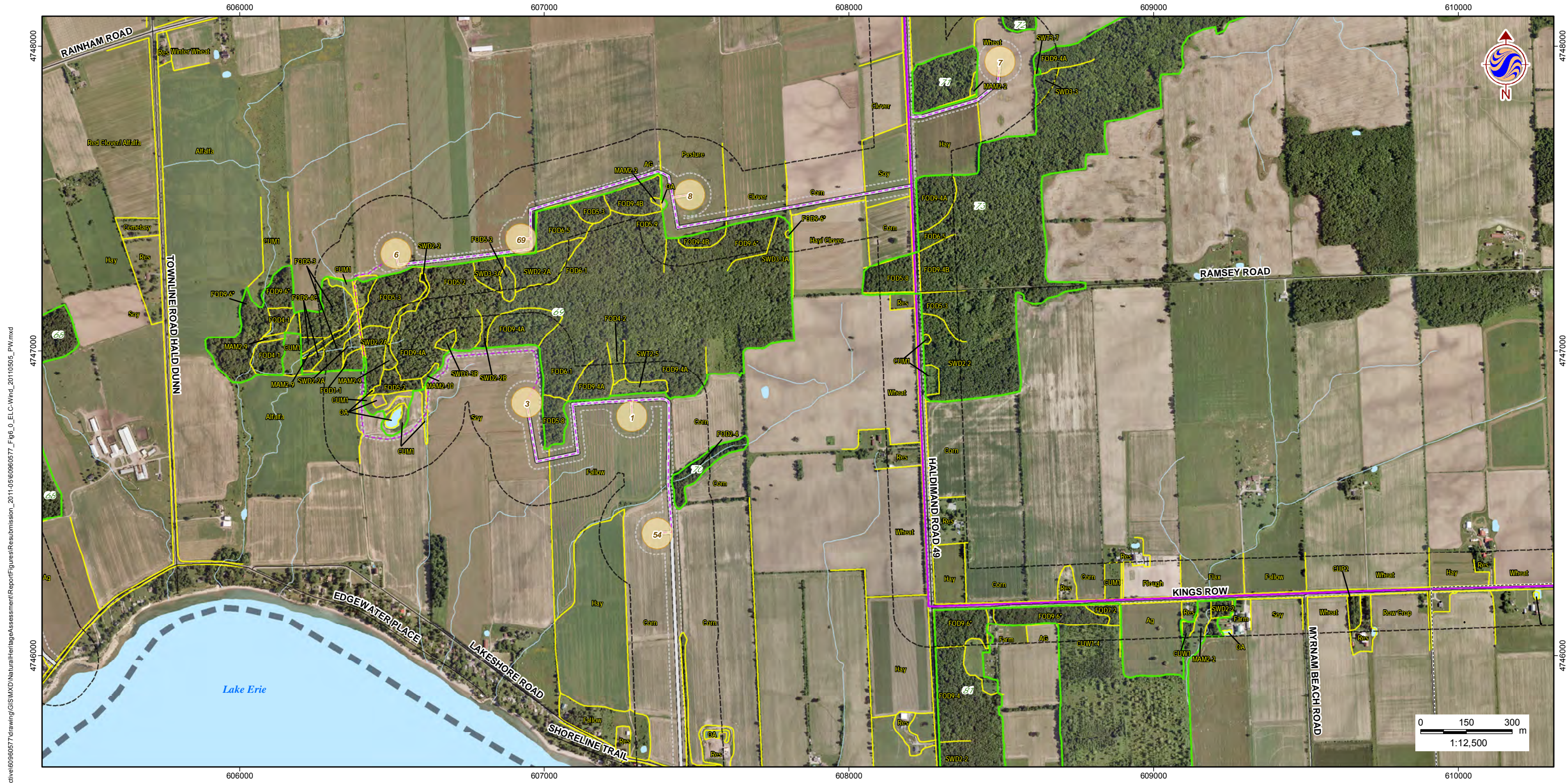
Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
6.14

Title
**ELC VEGETATION
COMMUNITIES - W14**

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May 2011
160960577



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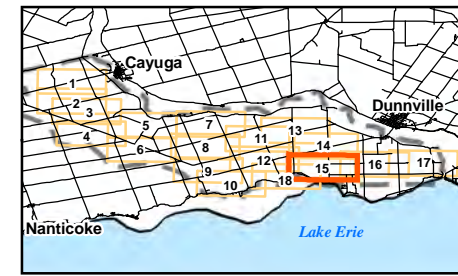
- Legend**
- Study Area
 - Zone of Investigation
 - Constructable Area
 - Wind Project Location**
 - Proposed Turbine Location
 - Access Road
 - Overhead Collector Line
 - Underground Collector Line
 - Solar Project Location**
 - Solar Lands
 - Transmission Line**
 - Overhead Transmission Line
 - Underground Transmission Line
 - Electrical Transmission Component
- Existing Features**
- Road
 - Railway
 - Abandoned Railway
 - Transmission Line (MNR)
 - Watercourse (MNR)
 - Waterbody (MNR)
 - Natural Feature
 - Vegetation Community (ELC)

- Forest Communities (FO)**
- FOM 2-2 - Dry-fresh White Pine - Sugar Maple Mixed Forest
 - FOD - Deciduous Forest
 - FOD1-1 - Dry-fresh Red Oak Deciduous Forest
 - FOD2-1 - Dry-fresh Oak - Red Maple Deciduous Forest
 - FOD2-2 - Dry-fresh Oak - Hickory Deciduous Forest
 - FOD2-4 - Dry-fresh Oak - Hardwood Deciduous Forest
 - FOD3-1 - Dry-fresh Poplar Deciduous Forest
 - FOD4-1 - Dry-fresh Beech Deciduous Forest
 - FOD4-2 - Dry-fresh White Ash Deciduous Forest
 - FOD5 - Dry-fresh Sugar Maple Deciduous Forest Ecosite
 - FOD5-1 - Dry-fresh Sugar Maple Deciduous Forest
 - FOD5-2 - Dry-fresh Sugar Maple - Beech Deciduous Forest
 - FOD5-3 - Dry-fresh Sugar Maple - Oak Deciduous Forest
 - FOD5-8 - Dry-fresh Sugar Maple - White Ash Deciduous Forest
 - FOD5-9 - Dry-fresh Sugar Maple-Red Maple Deciduous Forest
 - FOD5-11 - Dry-fresh Sugar Maple - Oak - Beech Deciduous Forest
 - FOD5-12 - Dry-fresh Sugar Maple - Hickory - Beech Deciduous Forest
 - FOD6-1 - Fresh-moist Sugar Maple - Lowland Ash Deciduous Forest
 - FOD6-5 - Fresh-moist Sugar Maple - Hardwood Deciduous Forest
 - FOD6-6 - Fresh-moist Sugar Maple - Hickory Deciduous Forest
 - FOD7-1 - Fresh - moist White Elm Lowland Deciduous Forest
 - FOD7-2 - Fresh-moist Ash Lowland Deciduous Forest
 - FOD7-4 - Fresh-moist Black Walnut Lowland Deciduous Forest
 - FOD9-1 - Fresh-moist Oak - Sugar Maple Deciduous Forest
 - FOD9-3 - Fresh-moist Bur Oak Deciduous Forest
 - FOD9-4 - Fresh-moist Shagbark Hickory Deciduous Forest
 - FOD9-6 - Fresh-moist Red Oak - Shagbark Hickory Deciduous Forest

- Cultural Communities (CU)**
- CUP1-4 - Hybrid Poplar Deciduous Plantation
 - CUP2 - Mixed Plantation
 - CUP3-1 - Red Pine Coniferous Plantation
 - CUP3-2 - White Pine Coniferous Plantation
 - CUP3-12 - White Pine - White/Norway Spruce Coniferous Plantation
 - CUP3-13 - White Spruce Coniferous Plantation
 - CUM1 - Mineral Cultural Meadow
 - CUS1-1 - Hawthorn Cultural Savannah
 - CUT1 - Mineral Cultural Thicket
 - CUT1-1 - Sumac Cultural Thicket
 - CUT1-4 - Gray Dogwood Cultural Thicket
 - CUT1-7 - European Buckthorn - Sweet Cherry Cultural thicket
 - CUM1 - Mineral Cultural Woodland
 - CUM1-1 - Red Cedar Mineral Cultural Woodland
 - CUM1-3 - Ash - Sumac Mineral Cultural Woodland
 - CUM1-4 - Green Ash Mineral Cultural Woodland
 - CUM1-5 - Norway Maple Mineral Cultural Woodland
 - CUM1-6 - White Elm Cultural Woodland
 - CUM1-7 - Red maple Mineral Cultural Woodland
 - CUM1-11 - White Pine Cultural Woodland
- Swamp Communities (SW)**
- SWD - Deciduous Swamp
 - SWD1-1 - Swamp Oak Mineral Deciduous Swamp
 - SWD1-2 - Bur Oak Mineral Deciduous Swamp
 - SWD2-2 - Green Ash Mineral Deciduous Swamp
 - SWD2-3 - Ash - Hardwood Mineral Deciduous Swamp
 - SWD2-4 - Green Ash - Red Maple Mineral Deciduous Swamp
 - SWD3-1 - Red Maple Mineral Deciduous Swamp
 - SWD3-2 - Silver Maple Mineral Deciduous Swamp
 - SWD3-3 - Swamp Maple Mineral Deciduous Swamp

- Marsh Communities (MA)**
- MAM2 - Mineral Meadow Marsh
 - MAM2-2 - Reed Canary Grass Mineral Meadow Marsh
 - MAM2-9 - Jewelweed Mineral Meadow Marsh
 - MAM2-10 - Forb Mineral Meadow Marsh
 - MAM2-11 - Forb - Graminoid Mineral Meadow Marsh
 - MAS2-1 - Cattail Mineral Shallow Marsh
 - MAS2-8 - Rice Cut-grass Mineral Shallow Marsh
- Open Water (OA)**
- OA - Open Aquatic
- Shallow Water (SA)**
- SAM1-2 - Duckweed Mixed Shallow Aquatic
- HR - Hedgerow
D - Disturbed
Res - Residential

- Notes**
1. Coordinate System: UTM NAD 83 - Zone 17 (N).
 2. Base features produced under license with the Ontario Ministry of Natural Resources © Queens Printer Ontario, 2011; © Samsung, 2011.
 3. Image Source: © Terrapoint, 2011 - Imagery Date: July 2009; Grand River Conservation Authority © First Base Solutions, 2011 - Imagery Date: Spring 2006.



Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
6.15

Title
**ELC VEGETATION
COMMUNITIES - W15**

DRAFT

May 2011
160960577



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Legend

- Study Area
- Zone of Investigation
- Constructable Area
- Wind Project Location**
- Proposed Turbine Location
- Access Road
- Overhead Collector Line
- Underground Collector Line
- Solar Project Location**
- Solar Lands
- Transmission Line**
- Overhead Transmission Line
- Underground Transmission Line
- Electrical Transmission Component
- Existing Features**
- Road
- Railway
- Abandoned Railway
- Transmission Line (MNR)
- Watercourse (MNR)
- Waterbody (MNR)
- Natural Feature
- Vegetation Community (ELC)

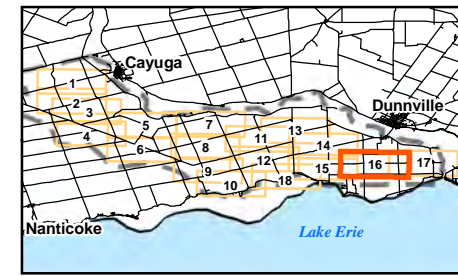
- Forest Communities (FO)**
- FOM 2-2 - Dry-fresh White Pine - Sugar Maple Mixed Forest
 - FOD - Deciduous Forest
 - FOD1-1 - Dry-fresh Red Oak Deciduous Forest
 - FOD2-1 - Dry-fresh Oak - Red Maple Deciduous Forest
 - FOD2-2 - Dry-fresh Oak - Hickory Deciduous Forest
 - FOD2-4 - Dry-fresh Oak - Hardwood Deciduous Forest
 - FOD3-1 - Dry-fresh Poplar Deciduous Forest
 - FOD4-1 - Dry-fresh Beech Deciduous Forest
 - FOD4-2 - Dry-fresh White Ash Deciduous Forest
 - FOD5 - Dry-fresh Sugar Maple Deciduous Forest Ecosite
 - FOD5-1 - Dry-fresh Sugar Maple Deciduous Forest
 - FOD5-2 - Dry-fresh Sugar Maple - Beech Deciduous Forest
 - FOD5-3 - Dry-fresh Sugar Maple - Oak Deciduous Forest
 - FOD5-8 - Dry-fresh Sugar Maple - White Ash Deciduous Forest
 - FOD5-9 - Dry-fresh Sugar Maple-Red Maple Deciduous Forest
 - FOD5-11 - Dry-fresh Sugar Maple - Oak - Beech Deciduous Forest
 - FOD5-12 - Dry-fresh Sugar Maple - Hickory - Beech Deciduous Forest
 - FOD6-1 - Fresh-moist Sugar Maple - Lowland Ash Deciduous Forest
 - FOD6-5 - Fresh-moist Sugar Maple - Hardwood Deciduous Forest
 - FOD6-6 - Fresh-moist Sugar Maple - Hickory Deciduous Forest
 - FOD7-1 - Fresh - moist White Elm Lowland Deciduous Forest
 - FOD7-2 - Fresh-moist Ash Lowland Deciduous Forest
 - FOD7-4 - Fresh-moist Black Walnut Lowland Deciduous Forest
 - FOD9-1 - Fresh-moist Oak - Sugar Maple Deciduous Forest
 - FOD9-3 - Fresh-moist Bur Oak Deciduous Forest
 - FOD9-4 - Fresh-moist Shagbark Hickory Deciduous Forest
 - FOD9-6 - Fresh-moist Red Oak - Shagbark Hickory Deciduous Forest

- Cultural Communities (CU)**
- CUP1-4 - Hybrid Poplar Deciduous Plantation
 - CUP2 - Mixed Plantation
 - CUP3-1 - Red Pine Coniferous Plantation
 - CUP3-2 - White Pine Coniferous Plantation
 - CUP3-12 - White Pine - White/Norway Spruce Coniferous Plantation
 - CUP3-13 - White Spruce Coniferous Plantation
 - CUM1 - Mineral Cultural Meadow
 - CUS1-1 - Hawthorn Cultural Savannah
 - CUT1-1 - Mineral Cultural Thicket
 - CUT1-1 - Sumac Cultural Thicket
 - CUT1-4 - Gray Dogwood Cultural Thicket
 - CUT1-7 - European Buckthorn - Sweet Cherry Cultural thicket
 - CUM1 - Mineral Cultural Woodland
 - CUM1-1 - Red Cedar Mineral Cultural Woodland
 - CUM1-3 - Ash - Sumac Mineral Cultural Woodland
 - CUM1-4 - Green Ash Mineral Cultural Woodland
 - CUM1-5 - Norway Maple Mineral Cultural Woodland
 - CUM1-6 - White Elm Cultural Woodland
 - CUM1-7 - Red maple Mineral Cultural Woodland
 - CUM1-11 - White Pine Cultural Woodland
- Swamp Communities (SW)**
- SWD - Deciduous Swamp
 - SWD1-1 - Swamp Oak Mineral Deciduous Swamp
 - SWD1-2 - Bur Oak Mineral Deciduous Swamp
 - SWD2-2 - Green Ash Mineral Deciduous Swamp
 - SWD2-3 - Ash - Hardwood Mineral Deciduous Swamp
 - SWD2-4 - Green Ash - Red Maple Mineral Deciduous Swamp
 - SWD3-1 - Red Maple Mineral Deciduous Swamp
 - SWD3-2 - Silver Maple Mineral Deciduous Swamp
 - SWD3-3 - Swamp Maple Mineral Deciduous Swamp

- Marsh Communities (MA)**
- MAM2 - Mineral Meadow Marsh
 - MAM2-2 - Reed Canary Grass Mineral Meadow Marsh
 - MAM2-9 - Jewelweed Mineral Meadow Marsh
 - MAM2-10 - Forb Mineral Meadow Marsh
 - MAM2-11 - Forb - Graminoid Mineral Meadow Marsh
 - MAS2-1 - Cattail Mineral Shallow Marsh
 - MAS2-8 - Rice Cut-grass Mineral Shallow Marsh
- Open Water (OA)**
- OA - Open Aquatic
- Shallow Water (SA)**
- SAM1-2 - Duckweed Mixed Shallow Aquatic
- Other Symbols:**
- HR - Hedgerow
 - D - Disturbed
 - Res - Residential

Notes

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Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
6.16

Title
**ELC VEGETATION
COMMUNITIES - W16**

DRAFT

May 2011
160960577

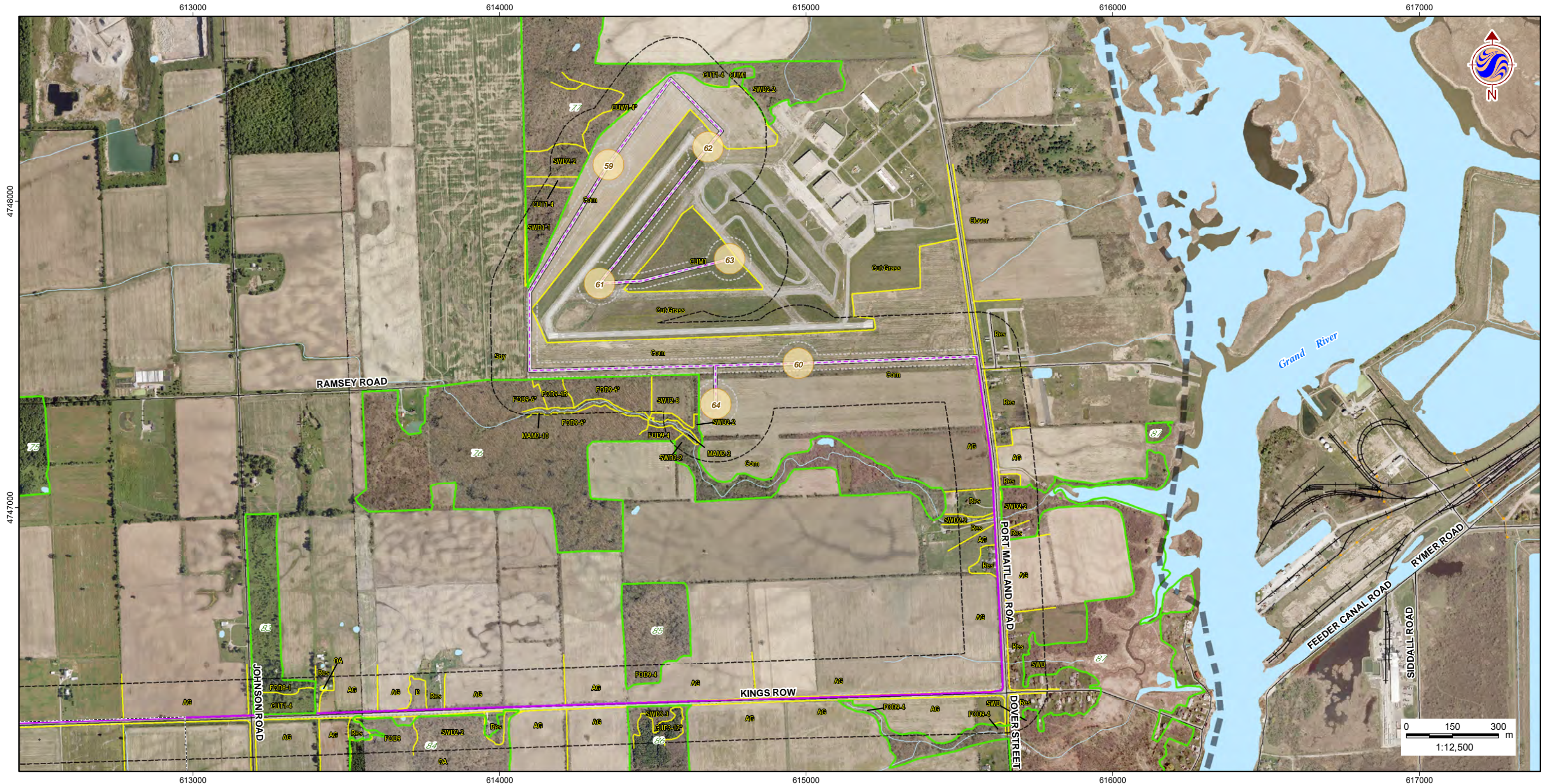
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Legend

- Study Area
- Zone of Investigation
- Constructable Area
- Wind Project Location**
- Proposed Turbine Location
- Access Road
- Overhead Collector Line
- Underground Collector Line
- Solar Project Location**
- Solar Lands
- Transmission Line**
- Overhead Transmission Line
- Underground Transmission Line
- Electrical Transmission Component
- Existing Features**
- Road
- Railway
- Abandoned Railway
- Transmission Line (MNR)
- Watercourse (MNR)
- Waterbody (MNR)
- Natural Feature
- Vegetation Community (ELC)

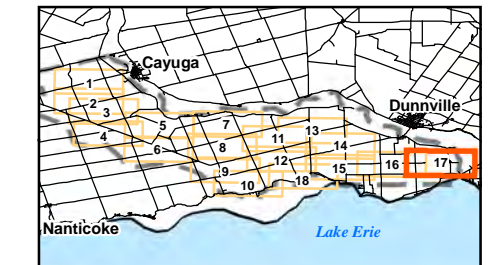
- Forest Communities (FO)**
- FOM 2-2 - Dry-fresh White Pine - Sugar Maple Mixed Forest
 - FOD - Deciduous Forest
 - FOD1-1 - Dry-fresh Red Oak Deciduous Forest
 - FOD2-1 - Dry-fresh Oak - Red Maple Deciduous Forest
 - FOD2-2 - Dry-fresh Oak - Hickory Deciduous Forest
 - FOD2-4 - Dry-fresh Oak - Hardwood Deciduous Forest
 - FOD3-1 - Dry-fresh Poplar Deciduous Forest
 - FOD4-1 - Dry-fresh Beech Deciduous Forest
 - FOD4-2 - Dry-fresh White Ash Deciduous Forest
 - FOD5 - Dry-fresh Sugar Maple Deciduous Forest Ecosite
 - FOD5-1 - Dry-fresh Sugar Maple Deciduous Forest
 - FOD5-2 - Dry-fresh Sugar Maple - Beech Deciduous Forest
 - FOD5-3 - Dry-fresh Sugar Maple - Oak Deciduous Forest
 - FOD5-8 - Dry-fresh Sugar Maple - White Ash Deciduous Forest
 - FOD5-9 - Dry-fresh Sugar Maple-Red Maple Deciduous Forest
 - FOD5-11 - Dry-fresh Sugar Maple - Oak - Beech Deciduous Forest
 - FOD5-12 - Dry-fresh Sugar Maple - Hickory - Beech Deciduous Forest
 - FOD6-1 - Fresh-moist Sugar Maple - Lowland Ash Deciduous Forest
 - FOD6-5 - Fresh-moist Sugar Maple - Hardwood Deciduous Forest
 - FOD6-6 - Fresh-moist Sugar Maple - Hickory Deciduous Forest
 - FOD7-1 - Fresh - moist White Elm Lowland Deciduous Forest
 - FOD7-2 - Fresh-moist Ash Lowland Deciduous Forest
 - FOD7-4 - Fresh-moist Black Walnut Lowland Deciduous Forest
 - FOD9-1 - Fresh-moist Oak - Sugar Maple Deciduous Forest
 - FOD9-3 - Fresh-moist Bur Oak Deciduous Forest
 - FOD9-4 - Fresh-moist Shagbark Hickory Deciduous Forest
 - FOD9-6 - Fresh-moist Red Oak - Shagbark Hickory Deciduous Forest

- Cultural Communities (CU)**
- CUP1-4 - Hybrid Poplar Deciduous Plantation
 - CUP2 - Mixed Plantation
 - CUP3-1 - Red Pine Coniferous Plantation
 - CUP3-2 - White Pine Coniferous Plantation
 - CUP3-12 - White Pine - White/Norway Spruce Coniferous Plantation
 - CUP3-13 - White Spruce Coniferous Plantation
 - CUM1 - Mineral Cultural Meadow
 - CUS1-1 - Hawthorn Cultural Savannah
 - CUT1 - Mineral Cultural Thicket
 - CUT1-1 - Sumac Cultural Thicket
 - CUT1-4 - Gray Dogwood Cultural Thicket
 - CUT1-7 - European Buckthorn - Sweet Cherry Cultural thicket
 - CUM1 - Mineral Cultural Woodland
 - CUM1-1 - Red Cedar Mineral Cultural Woodland
 - CUM1-3 - Ash - Sumac Mineral Cultural Woodland
 - CUM1-4 - Green Ash Mineral Cultural Woodland
 - CUM1-5 - Norway Maple Mineral Cultural Woodland
 - CUM1-6 - White Elm Cultural Woodland
 - CUM1-7 - Red maple Mineral Cultural Woodland
 - CUM1-11 - White Pine Cultural Woodland
- Swamp Communities (SW)**
- SWD - Deciduous Swamp
 - SWD1-1 - Swamp Oak Mineral Deciduous Swamp
 - SWD1-2 - Bur Oak Mineral Deciduous Swamp
 - SWD2-2 - Green Ash Mineral Deciduous Swamp
 - SWD2-3 - Ash - Hardwood Mineral Deciduous Swamp
 - SWD2-4 - Green Ash - Red Maple Mineral Deciduous Swamp
 - SWD3-1 - Red Maple Mineral Deciduous Swamp
 - SWD3-2 - Silver Maple Mineral Deciduous Swamp
 - SWD3-3 - Swamp Maple Mineral Deciduous Swamp

- SWD4-1 - Willow Mineral Deciduous Swamp
 - CUP1-4 - Hybrid Poplar Deciduous Plantation
 - SWD4-2 - White Elm Mineral Deciduous Swamp
 - SWD4-6 - Green Ash - Swamp Maple Mineral Deciduous Swamp
 - SWT - Thicket Swamp
 - SWT2 - Mineral Thicket Swamp
 - SWT2-4 - Buttonbush Mineral Thicket Swamp
 - SWT2-5 - Red Osier Dogwood Mineral Thicket Swamp
 - SWT2-8 - Silky Dogwood Mineral Thicket Swamp
 - SWT2-9 - Gray Dogwood Mineral Thicket Swamp
 - SWT2-13 - Willow - Dogwood Mineral Thicket Swamp
 - SWT2-14 - Winterberry - Buttonbush Mineral Thicket Swamp
 - SWT2-15 - Red Maple Mineral Thicket Swamp
 - SWT3-7 - Winterberry Organic Thicket Swamp
- Marsh Communities (MA)**
- MAM2 - Mineral Meadow Marsh
 - MAM2-2 - Reed Canary Grass Mineral Meadow Marsh
 - MAM2-9 - Jewelweed Mineral Meadow Marsh
 - MAM2-10 - Forb Mineral Meadow Marsh
 - MAM2-11 - Forb - Graminoid Mineral Meadow Marsh
 - MAS2-1 - Cattail Mineral Shallow Marsh
 - MAS2-8 - Rice Cut-grass Mineral Shallow Marsh
- Open Water (OA)**
- OA - Open Aquatic
- Shallow Water (SA)**
- SAM1-2 - Duckweed Mixed Shallow Aquatic
- HR - Hedgerow
D - Disturbed
Res - Residential

Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
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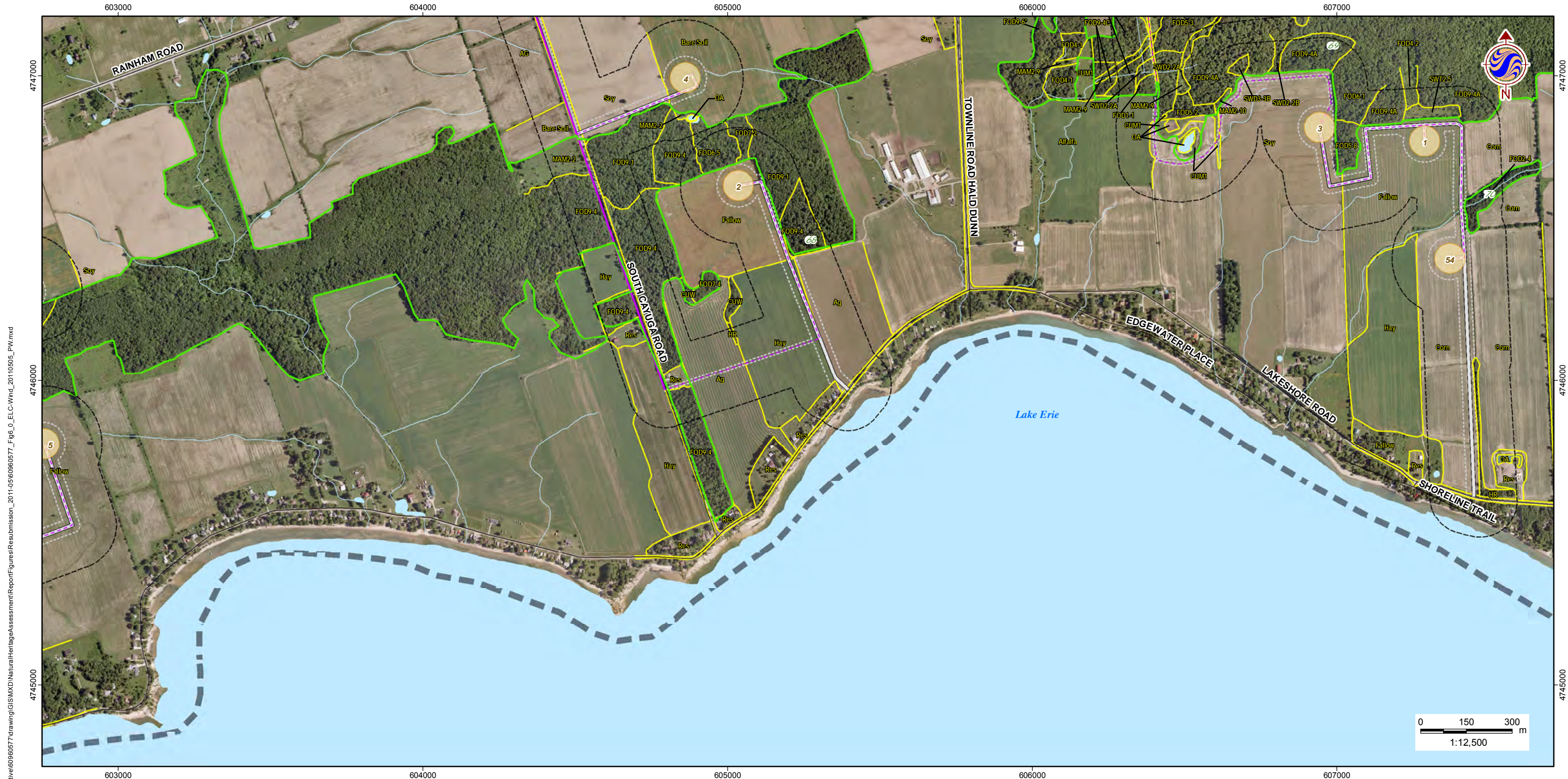
Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
6.17

Title
**ELC VEGETATION
COMMUNITIES - W17**

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160960577



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Legend

- Study Area
- Zone of Investigation
- Constructable Area
- Wind Project Location**
- Proposed Turbine Location
- Access Road
- Overhead Collector Line
- Underground Collector Line
- Solar Project Location**
- Solar Lands
- Transmission Line**
- Overhead Transmission Line
- Underground Transmission Line
- Electrical Transmission Component
- Existing Features**
- Road
- Railway
- Abandoned Railway
- Transmission Line (MNR)
- Watercourse (MNR)
- Waterbody (MNR)
- Natural Feature
- Vegetation Community (ELC)

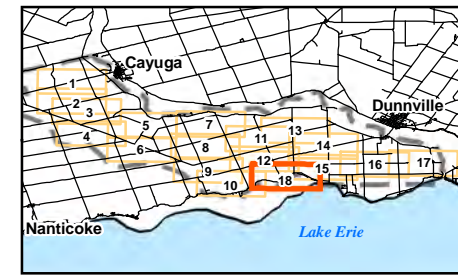
- Forest Communities (FO)**
- FOM 2-2 - Dry-fresh White Pine - Sugar Maple Mixed Forest
 - FOD - Deciduous Forest
 - FOD1-1 - Dry-fresh Red Oak Deciduous Forest
 - FOD2-1 - Dry-fresh Oak - Red Maple Deciduous Forest
 - FOD2-2 - Dry-fresh Oak - Hickory Deciduous Forest
 - FOD2-4 - Dry-fresh Oak - Hardwood Deciduous Forest
 - FOD3-1 - Dry-fresh Poplar Deciduous Forest
 - FOD4-1 - Dry-fresh Beech Deciduous Forest
 - FOD4-2 - Dry-fresh White Ash Deciduous Forest
 - FOD5 - Dry-fresh Sugar Maple Deciduous Forest Ecosite
 - FOD5-1 - Dry-fresh Sugar Maple Deciduous Forest
 - FOD5-2 - Dry-fresh Sugar Maple - Beech Deciduous Forest
 - FOD5-3 - Dry-fresh Sugar Maple - Oak Deciduous Forest
 - FOD5-8 - Dry-fresh Sugar Maple - White Ash Deciduous Forest
 - FOD5-9 - Dry-fresh Sugar Maple-Red Maple Deciduous Forest
 - FOD5-11* - Dry-fresh Sugar Maple - Oak - Beech Deciduous Forest
 - FOD5-12* - Dry-fresh Sugar Maple - Hickory - Beech Deciduous Forest
 - FOD6-1 - Fresh-moist Sugar Maple - Lowland Ash Deciduous Forest
 - FOD6-5 - Fresh-moist Sugar Maple - Hardwood Deciduous Forest
 - FOD6-6* - Fresh-moist Sugar Maple - Hickory Deciduous Forest
 - FOD7-1 - Fresh - moist White Elm Lowland Deciduous Forest
 - FOD7-2 - Fresh-moist Ash Lowland Deciduous Forest
 - FOD7-4 - Fresh-moist Black Walnut Lowland Deciduous Forest
 - FOD9-1 - Fresh-moist Oak - Sugar Maple Deciduous Forest
 - FOD9-3 - Fresh-moist Bur Oak Deciduous Forest
 - FOD9-4 - Fresh-moist Shagbark Hickory Deciduous Forest
 - FOD9-6* - Fresh-moist Red Oak - Shagbark Hickory Deciduous Forest

- Cultural Communities (CU)**
- CUP1-4 - Hybrid Poplar Deciduous Plantation
 - CUP2 - Mixed Plantation
 - CUP3-1 - Red Pine Coniferous Plantation
 - CUP3-2 - White Pine Coniferous Plantation
 - CUP3-12* - White Pine - White/Norway Spruce Coniferous Plantation
 - CUP3-13* - White Spruce Coniferous Plantation
 - CUM1 - Mineral Cultural Meadow
 - CUS1-1 - Hawthorn Cultural Savannah
 - CUT1 - Mineral Cultural Thicket
 - CUT1-1 - Sumac Cultural Thicket
 - CUT1-4 - Gray Dogwood Cultural Thicket
 - CUT1-7 - European Buckthorn - Sweet Cherry Cultural thicket
 - CUW1 - Mineral Cultural Woodland
 - CUW1-1 - Red Cedar Mineral Cultural Woodland
 - CUW1-3* - Ash - Sumac Mineral Cultural Woodland
 - CUW1-4* - Green Ash Mineral Cultural Woodland
 - CUW1-5* - Norway Maple Mineral Cultural Woodland
 - CUW1-6* - White Elm Cultural Woodland
 - CUW1-7* - Red maple Mineral Cultural Woodland
 - CUW1-11* - White Pine Cultural Woodland
- Swamp Communities (SW)**
- SWD - Deciduous Swamp
 - SWD1-1 - Swamp Oak Mineral Deciduous Swamp
 - SWD1-2 - Bur Oak Mineral Deciduous Swamp
 - SWD2-2 - Green Ash Mineral Deciduous Swamp
 - SWD2-3* - Ash - Hardwood Mineral Deciduous Swamp
 - SWD2-4* - Green Ash - Red Maple Mineral Deciduous Swamp
 - SWD3-1 - Red Maple Mineral Deciduous Swamp
 - SWD3-2 - Silver Maple Mineral Deciduous Swamp
 - SWD3-3 - Swamp Maple Mineral Deciduous Swamp

- SWD4-1 - Willow Mineral Deciduous Swamp
 - SWD4-2 - White Elm Mineral Deciduous Swamp
 - SWD4-6* - Green Ash - Swamp Maple Mineral Deciduous Swamp
 - SWT - Thicket Swamp
 - SWT2 - Mineral Thicket Swamp
 - SWT2-4 - Buttonbush Mineral Thicket Swamp
 - SWT2-5 - Red Osier Dogwood Mineral Thicket Swamp
 - SWT2-8 - Silky Dogwood Mineral Thicket Swamp
 - SWT2-9 - Gray Dogwood Mineral Thicket Swamp
 - SWT2-13* - Willow - Dogwood Mineral Thicket Swamp
 - SWT2-14* - Winterberry - Buttonbush Mineral Thicket Swamp
 - SWT2-15* - Red Maple Mineral Thicket Swamp
 - SWT3-7 - Winterberry Organic Thicket Swamp
- Marsh Communities (MA)**
- MAM2 - Mineral Meadow Marsh
 - MAM2-2 - Reed Canary Grass Mineral Meadow Marsh
 - MAM2-9 - Jewelweed Mineral Meadow Marsh
 - MAM2-10 - Forb Mineral Meadow Marsh
 - MAM2-11* - Forb - Graminoid Mineral Meadow Marsh
 - MAS2-1 - Cattail Mineral Shallow Marsh
 - MAS2-8 - Rice Cut-grass Mineral Shallow Marsh
- Open Water (OA)**
- OA - Open Aquatic
- Shallow Water (SA)**
- SAM1-2 - Duckweed Mixed Shallow Aquatic
- HR - Hedgerow
D - Disturbed
Res - Residential

Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
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Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
6.18

Title
**ELC VEGETATION
COMMUNITIES - W18**

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Legend

- Study Area
- Zone of Investigation
- Constructable Area
- Wind Project Location**
- Proposed Turbine Location
- Access Road
- Overhead Collector Line
- Underground Collector Line
- Solar Project Location**
- Solar Lands
- Transmission Line**
- Overhead Transmission Line
- Underground Transmission Line
- Electrical Transmission Component
- Existing Features**
- Road
- Railway
- Abandoned Railway
- Transmission Line (MNR)
- Watercourse (MNR)
- Waterbody (MNR)
- Natural Feature
- Vegetation Community (ELC)

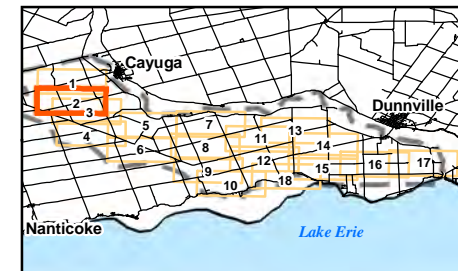
- Forest Communities (FO)**
- FOM 2-2 - Dry-fresh White Pine - Sugar Maple Mixed Forest
 - FOD - Deciduous Forest
 - FOD1-1 - Dry-fresh Red Oak Deciduous Forest
 - FOD2-1 - Dry-fresh Oak - Red Maple Deciduous Forest
 - FOD2-2 - Dry-fresh Oak - Hickory Deciduous Forest
 - FOD2-4 - Dry-fresh Oak - Hardwood Deciduous Forest
 - FOD3-1 - Dry-fresh Poplar Deciduous Forest
 - FOD4-1 - Dry-fresh Beech Deciduous Forest
 - FOD4-2 - Dry-fresh White Ash Deciduous Forest
 - FOD5 - Dry-fresh Sugar Maple Deciduous Forest Ecosite
 - FOD5-1 - Dry-fresh Sugar Maple Deciduous Forest
 - FOD5-2 - Dry-fresh Sugar Maple - Beech Deciduous Forest
 - FOD5-3 - Dry-fresh Sugar Maple - Oak Deciduous Forest
 - FOD5-8 - Dry-fresh Sugar Maple - White Ash Deciduous Forest
 - FOD5-9 - Dry-fresh Sugar Maple-Red Maple Deciduous Forest
 - FOD5-11* - Dry-fresh Sugar Maple - Oak - Beech Deciduous Forest
 - FOD5-12* - Dry-fresh Sugar Maple - Hickory - Beech Deciduous Forest
 - FOD6-1 - Fresh-moist Sugar Maple - Lowland Ash Deciduous Forest
 - FOD6-5 - Fresh-moist Sugar Maple - Hardwood Deciduous Forest
 - FOD6-6* - Fresh-moist Sugar Maple - Hickory Deciduous Forest
 - FOD7-1 - Fresh - moist White Elm Lowland Deciduous Forest
 - FOD7-2 - Fresh-moist Ash Lowland Deciduous Forest
 - FOD7-4 - Fresh-moist Black Walnut Lowland Deciduous Forest
 - FOD9-1 - Fresh-moist Oak - Sugar Maple Deciduous Forest
 - FOD9-3 - Fresh-moist Bur Oak Deciduous Forest
 - FOD9-4 - Fresh-moist Shagbark Hickory Deciduous Forest
 - FOD9-6* - Fresh-moist Red Oak - Shagbark Hickory Deciduous Forest

- Cultural Communities (CU)**
- CUP1-4 - Hybrid Poplar Deciduous Plantation
 - CUP2 - Mixed Plantation
 - CUP3-1 - Red Pine Coniferous Plantation
 - CUP3-2 - White Pine Coniferous Plantation
 - CUP3-12* - White Pine - White/Norway Spruce Coniferous Plantation
 - CUP3-13* - White Spruce Coniferous Plantation
 - CUM1 - Mineral Cultural Meadow
 - CUS1-1 - Hawthorn Cultural Savannah
 - CUT1-1 - Mineral Cultural Thicket
 - CUT1-1* - Sumac Cultural Thicket
 - CUT1-4 - Gray Dogwood Cultural Thicket
 - CUT1-7 - European Buckthorn - Sweet Cherry Cultural thicket
 - CUM1 - Mineral Cultural Woodland
 - CUM1-1 - Red Cedar Mineral Cultural Woodland
 - CUM1-3* - Ash - Sumac Mineral Cultural Woodland
 - CUM1-4* - Green Ash Mineral Cultural Woodland
 - CUM1-5* - Norway Maple Mineral Cultural Woodland
 - CUM1-6* - White Elm Cultural Woodland
 - CUM1-7* - Red maple Mineral Cultural Woodland
 - CUM1-11* - White Pine Cultural Woodland
- Swamp Communities (SW)**
- SWD - Deciduous Swamp
 - SWD1-1 - Swamp Oak Mineral Deciduous Swamp
 - SWD1-2 - Bur Oak Mineral Deciduous Swamp
 - SWD2-2 - Green Ash Mineral Deciduous Swamp
 - SWD2-3* - Ash - Hardwood Mineral Deciduous Swamp
 - SWD2-4* - Green Ash - Red Maple Mineral Deciduous Swamp
 - SWD3-1 - Red Maple Mineral Deciduous Swamp
 - SWD3-2 - Silver Maple Mineral Deciduous Swamp
 - SWD3-3 - Swamp Maple Mineral Deciduous Swamp

- SWD4-1 - Willow Mineral Deciduous Swamp**
- SWD4-2 - White Elm Mineral Deciduous Swamp**
- SWD4-6* - Green Ash - Swamp Maple Mineral Deciduous Swamp**
- SWT - Thicket Swamp**
- SWT2 - Mineral Thicket Swamp**
- SWT2-4 - Buttonbush Mineral Thicket Swamp**
- SWT2-5 - Red Osier Dogwood Mineral Thicket Swamp**
- SWT2-6 - Silky Dogwood Mineral Thicket Swamp**
- SWT2-9 - Gray Dogwood Mineral Thicket Swamp**
- SWT2-13* - Willow - Dogwood Mineral Thicket Swamp**
- SWT2-14* - Winterberry - Buttonbush Mineral Thicket Swamp**
- SWT2-15* - Red Maple Mineral Thicket Swamp**
- SWT3-7 - Winterberry Organic Thicket Swamp**
- Marsh Communities (MA)**
- MAM2 - Mineral Meadow Marsh
 - MAM2-2 - Reed Canary Grass Mineral Meadow Marsh
 - MAM2-9 - Jewelweed Mineral Meadow Marsh
 - MAM2-10 - Forb Mineral Meadow Marsh
 - MAM2-11* - Forb - Graminoid Mineral Meadow Marsh
 - MAS2-1 - Cattail Mineral Shallow Marsh
 - MAS2-8 - Rice Cut-grass Mineral Shallow Marsh
- Open Water (OA)**
- OA - Open Aquatic
- Shallow Water (SA)**
- SAM1-2 - Duckweed Mixed Shallow Aquatic
- HR - Hedgerow**
- D - Disturbed**
- Res - Residential**

Notes

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Client/Project
SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK

Figure No.
6.2

ELC VEGETATION COMMUNITIES - W2

Title

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May 2011
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Legend

- Study Area
- Zone of Investigation
- Constructable Area
- Wind Project Location**
- Proposed Turbine Location
- Access Road
- Overhead Collector Line
- Underground Collector Line
- Solar Project Location**
- Solar Lands
- Transmission Line**
- Overhead Transmission Line
- Underground Transmission Line
- Electrical Transmission Component

Existing Features

- Road
- Railway
- Abandoned Railway
- Transmission Line (MNR)
- Watercourse (MNR)
- Waterbody (MNR)
- Natural Feature
- Vegetation Community (ELC)

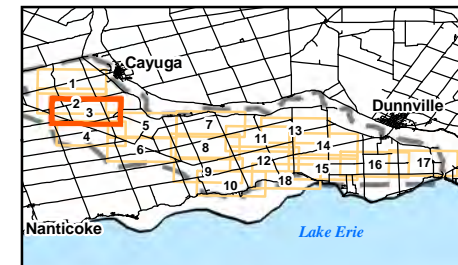
- Forest Communities (FO)**
- FOM 2-2 - Dry-fresh White Pine - Sugar Maple Mixed Forest
 - FOD - Deciduous Forest
 - FOD1-1 - Dry-fresh Red Oak Deciduous Forest
 - FOD2-1 - Dry-fresh Oak - Red Maple Deciduous Forest
 - FOD2-2 - Dry-fresh Oak - Hickory Deciduous Forest
 - FOD2-4 - Dry-fresh Oak - Hardwood Deciduous Forest
 - FOD3-1 - Dry-fresh Poplar Deciduous Forest
 - FOD4-1 - Dry-fresh Beech Deciduous Forest
 - FOD4-2 - Dry-fresh White Ash Deciduous Forest
 - FOD5 - Dry-fresh Sugar Maple Deciduous Forest Ecosite
 - FOD5-1 - Dry-fresh Sugar Maple Deciduous Forest
 - FOD5-2 - Dry-fresh Sugar Maple - Beech Deciduous Forest
 - FOD5-3 - Dry-fresh Sugar Maple - Oak Deciduous Forest
 - FOD5-8 - Dry-fresh Sugar Maple - White Ash Deciduous Forest
 - FOD5-9 - Dry-fresh Sugar Maple-Red Maple Deciduous Forest
 - FOD5-11* - Dry-fresh Sugar Maple - Oak - Beech Deciduous Forest
 - FOD5-12* - Dry-fresh Sugar Maple - Hickory - Beech Deciduous Forest
 - FOD6-1 - Fresh-moist Sugar Maple - Lowland Ash Deciduous Forest
 - FOD6-5 - Fresh-moist Sugar Maple - Hardwood Deciduous Forest
 - FOD6-6* - Fresh-moist Sugar Maple - Hickory Deciduous Forest
 - FOD7-1 - Fresh - moist White Elm Lowland Deciduous Forest
 - FOD7-2 - Fresh-moist Ash Lowland Deciduous Forest
 - FOD7-4 - Fresh-moist Black Walnut Lowland Deciduous Forest
 - FOD9-1 - Fresh-moist Oak - Sugar Maple Deciduous Forest
 - FOD9-3 - Fresh-moist Bur Oak Deciduous Forest
 - FOD9-4 - Fresh-moist Shagbark Hickory Deciduous Forest
 - FOD9-6* - Fresh-moist Red Oak - Shagbark Hickory Deciduous Forest

- Cultural Communities (CU)**
- CUP1-4 - Hybrid Poplar Deciduous Plantation
 - CUP2 - Mixed Plantation
 - CUP3-1 - Red Pine Coniferous Plantation
 - CUP3-2 - White Pine Coniferous Plantation
 - CUP3-12* - White Pine - White/Norway Spruce Coniferous Plantation
 - CUP3-13* - White Spruce Coniferous Plantation
 - CUM1 - Mineral Cultural Meadow
 - CUS1-1 - Hawthorn Cultural Savannah
 - CUT1-1 - Mineral Cultural Thicket
 - CUT1-1 - Sumac Cultural Thicket
 - CUT1-4 - Gray Dogwood Cultural Thicket
 - CUT1-7 - European Buckthorn - Sweet Cherry Cultural thicket
 - CUW1 - Mineral Cultural Woodland
 - CUW1-1 - Red Cedar Mineral Cultural Woodland
 - CUW1-3* - Ash - Sumac Mineral Cultural Woodland
 - CUW1-4* - Green Ash Mineral Cultural Woodland
 - CUW1-5* - Norway Maple Mineral Cultural Woodland
 - CUW1-6* - White Elm Cultural Woodland
 - CUW1-7* - Red maple Mineral Cultural Woodland
 - CUW1-11* - White Pine Cultural Woodland
- Swamp Communities (SW)**
- SWD - Deciduous Swamp
 - SWD1-1 - Swamp Oak Mineral Deciduous Swamp
 - SWD1-2 - Bur Oak Mineral Deciduous Swamp
 - SWD2-2 - Green Ash Mineral Deciduous Swamp
 - SWD2-3* - Ash - Hardwood Mineral Deciduous Swamp
 - SWD2-4* - Green Ash - Red Maple Mineral Deciduous Swamp
 - SWD3-1 - Red Maple Mineral Deciduous Swamp
 - SWD3-2 - Silver Maple Mineral Deciduous Swamp
 - SWD3-3 - Swamp Maple Mineral Deciduous Swamp

- Marsh Communities (MA)**
- MAM2 - Mineral Meadow Marsh
 - MAM2-2 - Reed Canary Grass Mineral Meadow Marsh
 - MAM2-9 - Jewelweed Mineral Meadow Marsh
 - MAM2-10 - Forb Mineral Meadow Marsh
 - MAM2-11* - Forb - Graminoid Mineral Meadow Marsh
 - MAS2-1 - Cattail Mineral Shallow Marsh
 - MAS2-8 - Rice Cut-grass Mineral Shallow Marsh
- Open Water (OA)**
- OA - Open Aquatic
- Shallow Water (SA)**
- SAM1-2 - Duckweed Mixed Shallow Aquatic
- Other Symbols:**
- HR - Hedgerow
 - D - Disturbed
 - Res - Residential

Notes

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Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
6.3

**ELC VEGETATION
COMMUNITIES - W3**

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Legend

- Study Area
 - Zone of Investigation
 - Constructable Area
 - Wind Project Location**
 - Proposed Turbine Location
 - Access Road
 - Overhead Collector Line
 - Underground Collector Line
 - Solar Project Location**
 - Solar Lands
 - Transmission Line**
 - Overhead Transmission Line
 - Underground Transmission Line
 - Electrical Transmission Component
-
- Existing Features**
 - Road
 - Railway
 - Abandoned Railway
 - Transmission Line (MNR)
 - Watercourse (MNR)
 - Waterbody (MNR)
 - Natural Feature
 - Vegetation Community (ELC)

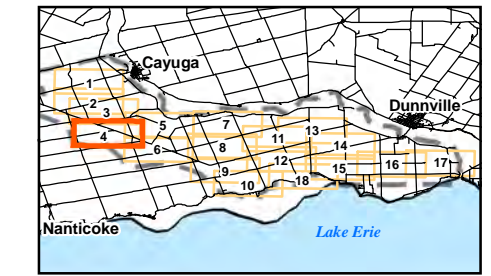
- Forest Communities (FO)**
- FOM 2-2 - Dry-fresh White Pine - Sugar Maple Mixed Forest
 - FOD - Deciduous Forest
 - FOD1-1 - Dry-fresh Red Oak Deciduous Forest
 - FOD2-1 - Dry-fresh Oak - Red Maple Deciduous Forest
 - FOD2-2 - Dry-fresh Oak - Hickory Deciduous Forest
 - FOD2-4 - Dry-fresh Oak - Hardwood Deciduous Forest
 - FOD3-1 - Dry-fresh Poplar Deciduous Forest
 - FOD4-1 - Dry-fresh Beech Deciduous Forest
 - FOD4-2 - Dry-fresh White Ash Deciduous Forest
 - FOD5 - Dry-fresh Sugar Maple Deciduous Forest Ecosite
 - FOD5-1 - Dry-fresh Sugar Maple Deciduous Forest
 - FOD5-2 - Dry-fresh Sugar Maple - Beech Deciduous Forest
 - FOD5-3 - Dry-fresh Sugar Maple - Oak Deciduous Forest
 - FOD5-8 - Dry-fresh Sugar Maple - White Ash Deciduous Forest
 - FOD5-9 - Dry-fresh Sugar Maple-Red Maple Deciduous Forest
 - FOD5-11 - Dry-fresh Sugar Maple - Oak - Beech Deciduous Forest
 - FOD5-12 - Dry-fresh Sugar Maple - Hickory - Beech Deciduous Forest
 - FOD6-1 - Fresh-moist Sugar Maple - Lowland Ash Deciduous Forest
 - FOD6-5 - Fresh-moist Sugar Maple - Hardwood Deciduous Forest
 - FOD6-6 - Fresh-moist Sugar Maple - Hickory Deciduous Forest
 - FOD7-1 - Fresh - moist White Elm Lowland Deciduous Forest
 - FOD7-2 - Fresh-moist Ash Lowland Deciduous Forest
 - FOD7-4 - Fresh-moist Black Walnut Lowland Deciduous Forest
 - FOD9-1 - Fresh-moist Oak - Sugar Maple Deciduous Forest
 - FOD9-3 - Fresh-moist Bur Oak Deciduous Forest
 - FOD9-4 - Fresh-moist Shagbark Hickory Deciduous Forest
 - FOD9-6 - Fresh-moist Red Oak - Shagbark Hickory Deciduous Forest

- Cultural Communities (CU)**
- CUP1-4 - Hybrid Poplar Deciduous Plantation
 - CUP2 - Mixed Plantation
 - CUP3-1 - Red Pine Coniferous Plantation
 - CUP3-2 - White Pine Coniferous Plantation
 - CUP3-12 - White Pine - White/Norway Spruce Coniferous Plantation
 - CUP3-13 - White Spruce Coniferous Plantation
 - CUM1 - Mineral Cultural Meadow
 - CUS1-1 - Hawthorn Cultural Savannah
 - CUT1 - Mineral Cultural Thicket
 - CUT1-1 - Sumac Cultural Thicket
 - CUT1-4 - Gray Dogwood Cultural Thicket
 - CUT1-7 - European Buckthorn - Sweet Cherry Cultural thicket
 - CUM1 - Mineral Cultural Woodland
 - CUM1-1 - Red Cedar Mineral Cultural Woodland
 - CUM1-3 - Ash - Sumac Mineral Cultural Woodland
 - CUM1-4 - Green Ash Mineral Cultural Woodland
 - CUM1-5 - Norway Maple Mineral Cultural Woodland
 - CUM1-6 - White Elm Cultural Woodland
 - CUM1-7 - Red maple Mineral Cultural Woodland
 - CUM1-11 - White Pine Cultural Woodland
- Swamp Communities (SW)**
- SWD - Deciduous Swamp
 - SWD1-1 - Swamp Oak Mineral Deciduous Swamp
 - SWD1-2 - Bur Oak Mineral Deciduous Swamp
 - SWD2-2 - Green Ash Mineral Deciduous Swamp
 - SWD2-3 - Ash - Hardwood Mineral Deciduous Swamp
 - SWD2-4 - Green Ash - Red Maple Mineral Deciduous Swamp
 - SWD3-1 - Red Maple Mineral Deciduous Swamp
 - SWD3-2 - Silver Maple Mineral Deciduous Swamp
 - SWD3-3 - Swamp Maple Mineral Deciduous Swamp

- Marsh Communities (MA)**
- MAM2 - Mineral Meadow Marsh
 - MAM2-2 - Reed Canary Grass Mineral Meadow Marsh
 - MAM2-9 - Jewelweed Mineral Meadow Marsh
 - MAM2-10 - Forb Mineral Meadow Marsh
 - MAM2-11 - Forb - Graminoid Mineral Meadow Marsh
 - MAS2-1 - Cattail Mineral Shallow Marsh
 - MAS2-8 - Rice Cut-grass Mineral Shallow Marsh
- Open Water (OA)**
- OA - Open Aquatic
 - OA - Open Aquatic
- Shallow Water (SA)**
- SAM1-2 - Duckweed Mixed Shallow Aquatic
- Other Symbols:**
- HR - Hedgerow
 - D - Disturbed
 - Res - Residential

Notes

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Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
6.4

Title
**ELC VEGETATION
COMMUNITIES - W4**

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May 2011
160960577



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Legend	
	Study Area
	Zone of Investigation
	Constructable Area
Wind Project Location	
	Proposed Turbine Location
	Access Road
	Overhead Collector Line
	Underground Collector Line
Solar Project Location	
	Solar Lands
Transmission Line	
	Overhead Transmission Line
	Underground Transmission Line
	Electrical Transmission Component
Existing Features	
	Road
	Railway
	Abandoned Railway
	Transmission Line (MNR)
	Watercourse (MNR)
	Waterbody (MNR)
	Natural Feature
	Vegetation Community (ELC)

Forest Communities (FO)	
FOM 2-2	Dry-fresh White Pine - Sugar Maple Mixed Forest
FOD	Deciduous Forest
FOD1-1	Dry-fresh Red Oak Deciduous Forest
FOD2-1	Dry-fresh Oak - Red Maple Deciduous Forest
FOD2-2	Dry-fresh Oak - Hickory Deciduous Forest
FOD2-4	Dry-fresh Oak - Hardwood Deciduous Forest
FOD3-1	Dry-fresh Poplar Deciduous Forest
FOD4-1	Dry-fresh Beech Deciduous Forest
FOD4-2	Dry-fresh White Ash Deciduous Forest
FOD5	Dry-fresh Sugar Maple Deciduous Forest Ecosite
FOD5-1	Dry-fresh Sugar Maple Deciduous Forest
FOD5-2	Dry-fresh Sugar Maple - Beech Deciduous Forest
FOD5-3	Dry-fresh Sugar Maple - Oak Deciduous Forest
FOD5-8	Dry-fresh Sugar Maple - White Ash Deciduous Forest
FOD5-9	Dry-fresh Sugar Maple-Red Maple Deciduous Forest
FOD5-11	Dry-fresh Sugar Maple - Oak - Beech Deciduous Forest
FOD5-12	Dry-fresh Sugar Maple - Hickory - Beech Deciduous Forest
FOD6-1	Fresh-moist Sugar Maple - Lowland Ash Deciduous Forest
FOD6-5	Fresh-moist Sugar Maple - Hardwood Deciduous Forest
FOD6-6	Fresh-moist Sugar Maple - Hickory Deciduous Forest
FOD7-1	Fresh - moist White Elm Lowland Deciduous Forest
FOD7-2	Fresh-moist Ash Lowland Deciduous Forest
FOD7-4	Fresh-moist Black Walnut Lowland Deciduous Forest
FOD9-1	Fresh-moist Oak - Sugar Maple Deciduous Forest
FOD9-3	Fresh-moist Bur Oak Deciduous Forest
FOD9-4	Fresh-moist Shagbark Hickory Deciduous Forest
FOD9-6	Fresh-moist Red Oak - Shagbark Hickory Deciduous Forest

Cultural Communities (CU)	
CUP1-4	Hybrid Poplar Deciduous Plantation
CUP2	Mixed Plantation
CUP3-1	Red Pine Coniferous Plantation
CUP3-2	White Pine Coniferous Plantation
CUP3-12	White Pine - White/Norway Spruce Coniferous Plantation
CUP3-13	White Spruce Coniferous Plantation
CUM1	Mineral Cultural Meadow
CUS1-1	Hawthorn Cultural Savannah
CUT1-1	Mineral Cultural Thicket
CUT1-1	Sumac Cultural Thicket
CUT1-4	Gray Dogwood Cultural Thicket
CUT1-7	European Buckthorn - Sweet Cherry Cultural thicket
CUW1	Mineral Cultural Woodland
CUW1-1	Red Cedar Mineral Cultural Woodland
CUW1-3	Ash - Sumac Mineral Cultural Woodland
CUW1-4	Green Ash Mineral Cultural Woodland
CUW1-5	Norway Maple Mineral Cultural Woodland
CUW1-6	White Elm Cultural Woodland
CUW1-7	Red maple Mineral Cultural Woodland
CUW1-11	White Pine Cultural Woodland

Swamp Communities (SW)	
SWD	Deciduous Swamp
SWD1-1	Swamp Oak Mineral Deciduous Swamp
SWD1-2	Bur Oak Mineral Deciduous Swamp
SWD2-2	Green Ash Mineral Deciduous Swamp
SWD2-3	Ash - Hardwood Mineral Deciduous Swamp
SWD2-4	Green Ash - Red Maple Mineral Deciduous Swamp
SWD3-1	Red Maple Mineral Deciduous Swamp
SWD3-2	Silver Maple Mineral Deciduous Swamp
SWD3-3	Swamp Maple Mineral Deciduous Swamp

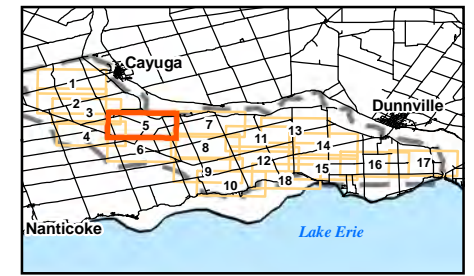
Marsh Communities (MA)	
MAM2	Mineral Meadow Marsh
MAM2-2	Reed Canary Grass Mineral Meadow Marsh
MAM2-9	Jewelweed Mineral Meadow Marsh
MAM2-10	Forb Mineral Meadow Marsh
MAM2-11	Forb - Graminoid Mineral Meadow Marsh
MAS2-1	Cattail Mineral Shallow Marsh
MAS2-8	Rice Cut-grass Mineral Shallow Marsh

- Notes**
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 - Image Source: © Terrapoint, 2011 - Imagery Date: July 2009; Grand River Conservation Authority © First Base Solutions, 2011 - Imagery Date: Spring 2006.

Client/Project
SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK

Figure No.
6.5

Title
ELC VEGETATION COMMUNITIES - W5





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Legend

- Study Area
 - Zone of Investigation
 - Constructable Area
 - Wind Project Location**
 - Proposed Turbine Location
 - Access Road
 - Overhead Collector Line
 - Underground Collector Line
 - Solar Project Location**
 - Solar Lands
 - Transmission Line**
 - Overhead Transmission Line
 - Underground Transmission Line
 - Electrical Transmission Component
- Existing Features**
 - Road
 - Railway
 - Abandoned Railway
 - Transmission Line (MNR)
 - Watercourse (MNR)
 - Waterbody (MNR)
 - Natural Feature
 - Vegetation Community (ELC)

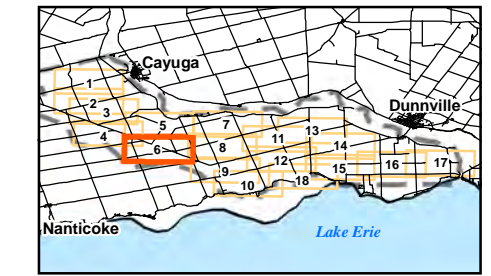
- Forest Communities (FO)**
- FOM 2-2 - Dry-fresh White Pine - Sugar Maple Mixed Forest
 - FOD - Deciduous Forest
 - FOD1-1 - Dry-fresh Red Oak Deciduous Forest
 - FOD2-1 - Dry-fresh Oak - Red Maple Deciduous Forest
 - FOD2-2 - Dry-fresh Oak - Hickory Deciduous Forest
 - FOD2-4 - Dry-fresh Oak - Hardwood Deciduous Forest
 - FOD3-1 - Dry-fresh Poplar Deciduous Forest
 - FOD4-1 - Dry-fresh Beech Deciduous Forest
 - FOD4-2 - Dry-fresh White Ash Deciduous Forest
 - FOD5 - Dry-fresh Sugar Maple Deciduous Forest Ecosite
 - FOD5-1 - Dry-fresh Sugar Maple Deciduous Forest
 - FOD5-2 - Dry-fresh Sugar Maple - Beech Deciduous Forest
 - FOD5-3 - Dry-fresh Sugar Maple - Oak Deciduous Forest
 - FOD5-8 - Dry-fresh Sugar Maple - White Ash Deciduous Forest
 - FOD5-9 - Dry-fresh Sugar Maple-Red Maple Deciduous Forest
 - FOD5-11 - Dry-fresh Sugar Maple - Oak - Beech Deciduous Forest
 - FOD5-12 - Dry-fresh Sugar Maple - Hickory - Beech Deciduous Forest
 - FOD6-1 - Fresh-moist Sugar Maple - Lowland Ash Deciduous Forest
 - FOD6-5 - Fresh-moist Sugar Maple - Hardwood Deciduous Forest
 - FOD6-6 - Fresh-moist Sugar Maple - Hickory Deciduous Forest
 - FOD7-1 - Fresh - moist White Elm Lowland Deciduous Forest
 - FOD7-2 - Fresh-moist Ash Lowland Deciduous Forest
 - FOD7-4 - Fresh-moist Black Walnut Lowland Deciduous Forest
 - FOD9-1 - Fresh-moist Oak - Sugar Maple Deciduous Forest
 - FOD9-3 - Fresh-moist Bur Oak Deciduous Forest
 - FOD9-4 - Fresh-moist Shagbark Hickory Deciduous Forest
 - FOD9-6 - Fresh-moist Red Oak - Shagbark Hickory Deciduous Forest

- Cultural Communities (CU)**
- CUP1-4 - Hybrid Poplar Deciduous Plantation
 - CUP2 - Mixed Plantation
 - CUP3-1 - Red Pine Coniferous Plantation
 - CUP3-2 - White Pine Coniferous Plantation
 - CUP3-12 - White Pine - White/Norway Spruce Coniferous Plantation
 - CUP3-13 - White Spruce Coniferous Plantation
 - CUM1 - Mineral Cultural Meadow
 - CUS1-1 - Hawthorn Cultural Savannah
 - CUT1 - Mineral Cultural Thicket
 - CUT1-1 - Sumac Cultural Thicket
 - CUT1-4 - Gray Dogwood Cultural Thicket
 - CUT1-7 - European Buckthorn - Sweet Cherry Cultural thicket
 - CUM1 - Mineral Cultural Woodland
 - CUM1-1 - Red Cedar Mineral Cultural Woodland
 - CUM1-3 - Ash - Sumac Mineral Cultural Woodland
 - CUM1-4 - Green Ash Mineral Cultural Woodland
 - CUM1-5 - Norway Maple Mineral Cultural Woodland
 - CUM1-6 - White Elm Cultural Woodland
 - CUM1-7 - Red maple Mineral Cultural Woodland
 - CUM1-11 - White Pine Cultural Woodland
- Swamp Communities (SW)**
- SWD - Deciduous Swamp
 - SWD1-1 - Swamp Oak Mineral Deciduous Swamp
 - SWD1-2 - Bur Oak Mineral Deciduous Swamp
 - SWD2-2 - Green Ash Mineral Deciduous Swamp
 - SWD2-3 - Ash - Hardwood Mineral Deciduous Swamp
 - SWD2-4 - Green Ash - Red Maple Mineral Deciduous Swamp
 - SWD3-1 - Red Maple Mineral Deciduous Swamp
 - SWD3-2 - Silver Maple Mineral Deciduous Swamp
 - SWD3-3 - Swamp Maple Mineral Deciduous Swamp

- Marsh Communities (MA)**
- MAM2 - Mineral Meadow Marsh
 - MAM2-2 - Reed Canary Grass Mineral Meadow Marsh
 - MAM2-9 - Jewelweed Mineral Meadow Marsh
 - MAM2-10 - Forb Mineral Meadow Marsh
 - MAM2-11 - Forb - Graminoid Mineral Meadow Marsh
 - MAS2-1 - Cattail Mineral Shallow Marsh
 - MAS2-8 - Rice Cut-grass Mineral Shallow Marsh
- Open Water (OA)**
- OA - Open Aquatic
- Shallow Water (SA)**
- SAM1-2 - Duckweed Mixed Shallow Aquatic
- Other Symbols:**
- HR - Hedgerow
 - D - Disturbed
 - Res - Residential

Notes

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Client/Project
**SAMSUNG, PATTERN & KEPKO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
6.6

Title
**ELC VEGETATION
COMMUNITIES - W6**

DRAFT

May 2011
160960577



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Legend

- Study Area
- Zone of Investigation
- Constructable Area
- Wind Project Location**
- Proposed Turbine Location
- Access Road
- Overhead Collector Line
- Underground Collector Line
- Solar Project Location**
- Solar Lands
- Transmission Line**
- Overhead Transmission Line
- Underground Transmission Line
- Electrical Transmission Component

Existing Features

- Road
- Railway
- Abandoned Railway
- Transmission Line (MNR)
- Watercourse (MNR)
- Waterbody (MNR)
- Natural Feature
- Vegetation Community (ELC)

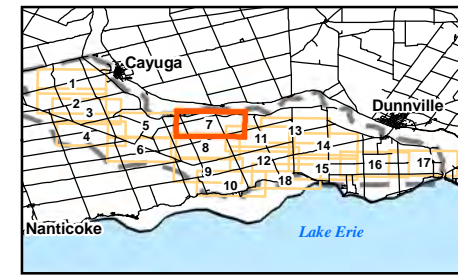
- Forest Communities (FO)**
- FO - Deciduous Forest
 - FO1-1 - Dry-fresh Red Oak Deciduous Forest
 - FO2-1 - Dry-fresh Oak - Red Maple Deciduous Forest
 - FO2-2 - Dry-fresh Oak - Hickory Deciduous Forest
 - FO2-4 - Dry-fresh Oak - Hardwood Deciduous Forest
 - FO3-1 - Dry-fresh Poplar Deciduous Forest
 - FO4-1 - Dry-fresh Beech Deciduous Forest
 - FO4-2 - Dry-fresh White Ash Deciduous Forest
 - FO5 - Dry-fresh Sugar Maple Deciduous Forest Ecosite
 - FO5-1 - Dry-fresh Sugar Maple Deciduous Forest
 - FO5-2 - Dry-fresh Sugar Maple - Beech Deciduous Forest
 - FO5-3 - Dry-fresh Sugar Maple - Oak Deciduous Forest
 - FO5-8 - Dry-fresh Sugar Maple - White Ash Deciduous Forest
 - FO5-9 - Dry-fresh Sugar Maple-Red Maple Deciduous Forest
 - FO5-11* - Dry-fresh Sugar Maple - Oak - Beech Deciduous Forest
 - FO5-12* - Dry-fresh Sugar Maple - Hickory - Beech Deciduous Forest
 - FO6-1 - Fresh-moist Sugar Maple - Lowland Ash Deciduous Forest
 - FO6-5 - Fresh-moist Sugar Maple - Hardwood Deciduous Forest
 - FO6-6* - Fresh-moist Sugar Maple - Hickory Deciduous Forest
 - FO7-1 - Fresh - moist White Elm Lowland Deciduous Forest
 - FO7-2 - Fresh-moist Ash Lowland Deciduous Forest
 - FO7-4 - Fresh-moist Black Walnut Lowland Deciduous Forest
 - FO9-1 - Fresh-moist Oak - Sugar Maple Deciduous Forest
 - FO9-3 - Fresh-moist Bur Oak Deciduous Forest
 - FO9-4 - Fresh-moist Shagbark Hickory Deciduous Forest
 - FO9-6* - Fresh-moist Red Oak - Shagbark Hickory Deciduous Forest

- Cultural Communities (CU)**
- CUP1-4 - Hybrid Poplar Deciduous Plantation
 - CUP2 - Mixed Plantation
 - CUP3-1 - Red Pine Coniferous Plantation
 - CUP3-2 - White Pine Coniferous Plantation
 - CUP3-12* - White Pine - White/Norway Spruce Coniferous Plantation
 - CUP3-13* - White Spruce Coniferous Plantation
 - CUM1 - Mineral Cultural Meadow
 - CUS1-1 - Hawthorn Cultural Savannah
 - CUT1 - Mineral Cultural Thicket
 - CUT1-1 - Sumac Cultural Thicket
 - CUT1-4 - Gray Dogwood Cultural Thicket
 - CUT1-7 - European Buckthorn - Sweet Cherry Cultural thicket
 - CUM1 - Mineral Cultural Woodland
 - CUM1-1 - Red Cedar Mineral Cultural Woodland
 - CUM1-3* - Ash - Sumac Mineral Cultural Woodland
 - CUM1-4* - Green Ash Mineral Cultural Woodland
 - CUM1-5* - Norway Maple Mineral Cultural Woodland
 - CUM1-6* - White Elm Cultural Woodland
 - CUM1-7* - Red maple Mineral Cultural Woodland
 - CUM1-11* - White Pine Cultural Woodland
- Swamp Communities (SW)**
- SWD - Deciduous Swamp
 - SWD1-1 - Swamp Oak Mineral Deciduous Swamp
 - SWD1-2 - Bur Oak Mineral Deciduous Swamp
 - SWD2-2 - Green Ash Mineral Deciduous Swamp
 - SWD2-3* - Ash - Hardwood Mineral Deciduous Swamp
 - SWD2-4* - Green Ash - Red Maple Mineral Deciduous Swamp
 - SWD3-1 - Red Maple Mineral Deciduous Swamp
 - SWD3-2 - Silver Maple Mineral Deciduous Swamp
 - SWD3-3 - Swamp Maple Mineral Deciduous Swamp

- Marsh Communities (MA)**
- MAM2 - Mineral Meadow Marsh
 - MAM2-2 - Reed Canary Grass Mineral Meadow Marsh
 - MAM2-9 - Jewelweed Mineral Meadow Marsh
 - MAM2-10 - Forb Mineral Meadow Marsh
 - MAM2-11* - Forb - Graminoid Mineral Meadow Marsh
 - MAS2-1 - Cattail Mineral Shallow Marsh
 - MAS2-8 - Rice Cut-grass Mineral Shallow Marsh
- Open Water (OA)**
- OA - Open Aquatic
- Shallow Water (SA)**
- SAM1-2 - Duckweed Mixed Shallow Aquatic
- Other Symbols:**
- HR - Hedgerow
 - D - Disturbed
 - Res - Residential

Notes

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Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
6.7

Title
**ELC VEGETATION
COMMUNITIES - W7**

DRAFT

May 2011
160960577



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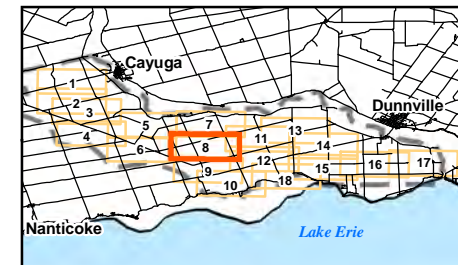
- Legend**
- Study Area
 - Zone of Investigation
 - Constructable Area
 - Wind Project Location**
 - Proposed Turbine Location
 - Access Road
 - Overhead Collector Line
 - Underground Collector Line
 - Solar Project Location**
 - Solar Lands
 - Transmission Line**
 - Overhead Transmission Line
 - Underground Transmission Line
 - Electrical Transmission Component
- Existing Features**
- Road
 - Railway
 - Abandoned Railway
 - Transmission Line (MNR)
 - Watercourse (MNR)
 - Waterbody (MNR)
 - Natural Feature
 - Vegetation Community (ELC)

- Forest Communities (FO)**
- FOM 2-2 - Dry-fresh White Pine - Sugar Maple Mixed Forest
 - FOD - Deciduous Forest
 - FOD1-1 - Dry-fresh Red Oak Deciduous Forest
 - FOD2-1 - Dry-fresh Oak - Red Maple Deciduous Forest
 - FOD2-2 - Dry-fresh Oak - Hickory Deciduous Forest
 - FOD2-4 - Dry-fresh Oak - Hardwood Deciduous Forest
 - FOD3-1 - Dry-fresh Poplar Deciduous Forest
 - FOD4-1 - Dry-fresh Beech Deciduous Forest
 - FOD4-2 - Dry-fresh White Ash Deciduous Forest
 - FOD5 - Dry-fresh Sugar Maple Deciduous Forest Ecosite
 - FOD5-1 - Dry-fresh Sugar Maple Deciduous Forest
 - FOD5-2 - Dry-fresh Sugar Maple - Beech Deciduous Forest
 - FOD5-3 - Dry-fresh Sugar Maple - Oak Deciduous Forest
 - FOD5-8 - Dry-fresh Sugar Maple - White Ash Deciduous Forest
 - FOD5-9 - Dry-fresh Sugar Maple-Red Maple Deciduous Forest
 - FOD5-11 - Dry-fresh Sugar Maple - Oak - Beech Deciduous Forest
 - FOD5-12 - Dry-fresh Sugar Maple - Hickory - Beech Deciduous Forest
 - FOD6-1 - Fresh-moist Sugar Maple - Lowland Ash Deciduous Forest
 - FOD6-5 - Fresh-moist Sugar Maple - Hardwood Deciduous Forest
 - FOD6-6 - Fresh-moist Sugar Maple - Hickory Deciduous Forest
 - FOD7-1 - Fresh - moist White Elm Lowland Deciduous Forest
 - FOD7-2 - Fresh-moist Ash Lowland Deciduous Forest
 - FOD7-4 - Fresh-moist Black Walnut Lowland Deciduous Forest
 - FOD9-1 - Fresh-moist Oak - Sugar Maple Deciduous Forest
 - FOD9-3 - Fresh-moist Bur Oak Deciduous Forest
 - FOD9-4 - Fresh-moist Shagbark Hickory Deciduous Forest
 - FOD9-6 - Fresh-moist Red Oak - Shagbark Hickory Deciduous Forest

- Cultural Communities (CU)**
- CUP1-4 - Hybrid Poplar Deciduous Plantation
 - CUP2 - Mixed Plantation
 - CUP3-1 - Red Pine Coniferous Plantation
 - CUP3-2 - White Pine Coniferous Plantation
 - CUP3-12 - White Pine - White/Norway Spruce Coniferous Plantation
 - CUP3-13 - White Spruce Coniferous Plantation
 - CUM1 - Mineral Cultural Meadow
 - CUS1-1 - Hawthorn Cultural Savannah
 - CUT1-1 - Mineral Cultural Thicket
 - CUT1-1 - Sumac Cultural Thicket
 - CUT1-4 - Gray Dogwood Cultural Thicket
 - CUT1-7 - European Buckthorn - Sweet Cherry Cultural thicket
 - CUM1 - Mineral Cultural Woodland
 - CUM1-1 - Red Cedar Mineral Cultural Woodland
 - CUM1-3 - Ash - Sumac Mineral Cultural Woodland
 - CUM1-4 - Green Ash Mineral Cultural Woodland
 - CUM1-5 - Norway Maple Mineral Cultural Woodland
 - CUM1-6 - White Elm Cultural Woodland
 - CUM1-7 - Red maple Mineral Cultural Woodland
 - CUM1-11 - White Pine Cultural Woodland
- Swamp Communities (SW)**
- SWD - Deciduous Swamp
 - SWD1-1 - Swamp Oak Mineral Deciduous Swamp
 - SWD1-2 - Bur Oak Mineral Deciduous Swamp
 - SWD2-2 - Green Ash Mineral Deciduous Swamp
 - SWD2-3 - Ash - Hardwood Mineral Deciduous Swamp
 - SWD2-4 - Green Ash - Red Maple Mineral Deciduous Swamp
 - SWD3-1 - Red Maple Mineral Deciduous Swamp
 - SWD3-2 - Silver Maple Mineral Deciduous Swamp
 - SWD3-3 - Swamp Maple Mineral Deciduous Swamp

- Marsh Communities (MA)**
- MAM2 - Mineral Meadow Marsh
 - MAM2-2 - Reed Canary Grass Mineral Meadow Marsh
 - MAM2-9 - Jewelweed Mineral Meadow Marsh
 - MAM2-10 - Forb Mineral Meadow Marsh
 - MAM2-11 - Forb - Graminoid Mineral Meadow Marsh
 - MAS2-1 - Cattail Mineral Shallow Marsh
 - MAS2-8 - Rice Cut-grass Mineral Shallow Marsh
- Open Water (OA)**
- OA - Open Aquatic
- Shallow Water (SA)**
- SAM1-2 - Duckweed Mixed Shallow Aquatic
- Other Features**
- HR - Hedgerow
 - D - Disturbed
 - Res - Residential

- Notes**
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Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
6.8

Title
**ELC VEGETATION
COMMUNITIES - W8**

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160960577



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Legend

- Study Area
 - Zone of Investigation
 - Constructable Area
 - Wind Project Location**
 - Proposed Turbine Location
 - Access Road
 - Overhead Collector Line
 - Underground Collector Line
 - Solar Project Location**
 - Solar Lands
 - Transmission Line**
 - Overhead Transmission Line
 - Underground Transmission Line
 - Electrical Transmission Component
- Existing Features**
 - Road
 - Railway
 - Abandoned Railway
 - Transmission Line (MNR)
 - Watercourse (MNR)
 - Waterbody (MNR)
 - Natural Feature
 - Vegetation Community (ELC)

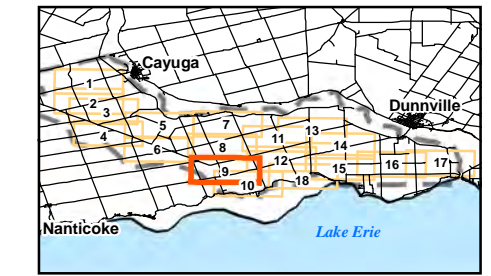
- Forest Communities (FO)**
- FOM 2-2 - Dry-fresh White Pine - Sugar Maple Mixed Forest
 - FOD - Deciduous Forest
 - FOD1-1 - Dry-fresh Red Oak Deciduous Forest
 - FOD2-1 - Dry-fresh Oak - Red Maple Deciduous Forest
 - FOD2-2 - Dry-fresh Oak - Hickory Deciduous Forest
 - FOD2-4 - Dry-fresh Oak - Hardwood Deciduous Forest
 - FOD3-1 - Dry-fresh Poplar Deciduous Forest
 - FOD4-1 - Dry-fresh Beech Deciduous Forest
 - FOD4-2 - Dry-fresh White Ash Deciduous Forest
 - FOD5 - Dry-fresh Sugar Maple Deciduous Forest Ecosite
 - FOD5-1 - Dry-fresh Sugar Maple Deciduous Forest
 - FOD5-2 - Dry-fresh Sugar Maple - Beech Deciduous Forest
 - FOD5-3 - Dry-fresh Sugar Maple - Oak Deciduous Forest
 - FOD5-8 - Dry-fresh Sugar Maple - White Ash Deciduous Forest
 - FOD5-9 - Dry-fresh Sugar Maple-Red Maple Deciduous Forest
 - FOD5-11 - Dry-fresh Sugar Maple - Oak - Beech Deciduous Forest
 - FOD5-12 - Dry-fresh Sugar Maple - Hickory - Beech Deciduous Forest
 - FOD6-1 - Fresh-moist Sugar Maple - Lowland Ash Deciduous Forest
 - FOD6-5 - Fresh-moist Sugar Maple - Hardwood Deciduous Forest
 - FOD6-6 - Fresh-moist Sugar Maple - Hickory Deciduous Forest
 - FOD7-1 - Fresh - moist White Elm Lowland Deciduous Forest
 - FOD7-2 - Fresh-moist Ash Lowland Deciduous Forest
 - FOD7-4 - Fresh-moist Black Walnut Lowland Deciduous Forest
 - FOD9-1 - Fresh-moist Oak - Sugar Maple Deciduous Forest
 - FOD9-3 - Fresh-moist Bur Oak Deciduous Forest
 - FOD9-4 - Fresh-moist Shagbark Hickory Deciduous Forest
 - FOD9-6 - Fresh-moist Red Oak - Shagbark Hickory Deciduous Forest

- Cultural Communities (CU)**
- CUP1-4 - Hybrid Poplar Deciduous Plantation
 - CUP2 - Mixed Plantation
 - CUP3-1 - Red Pine Coniferous Plantation
 - CUP3-2 - White Pine Coniferous Plantation
 - CUP3-12 - White Pine - White/Norway Spruce Coniferous Plantation
 - CUP3-13 - White Spruce Coniferous Plantation
 - CUM1 - Mineral Cultural Meadow
 - CUS1-1 - Hawthorn Cultural Savannah
 - CUT1 - Mineral Cultural Thicket
 - CUT1-1 - Sumac Cultural Thicket
 - CUT1-4 - Gray Dogwood Cultural Thicket
 - CUT1-7 - European Buckthorn - Sweet Cherry Cultural thicket
 - CUM1 - Mineral Cultural Woodland
 - CUM1-1 - Red Cedar Mineral Cultural Woodland
 - CUM1-3 - Ash - Sumac Mineral Cultural Woodland
 - CUM1-4 - Green Ash Mineral Cultural Woodland
 - CUM1-5 - Norway Maple Mineral Cultural Woodland
 - CUM1-6 - White Elm Cultural Woodland
 - CUM1-7 - Red maple Mineral Cultural Woodland
 - CUM1-11 - White Pine Cultural Woodland
- Swamp Communities (SW)**
- SWD - Deciduous Swamp
 - SWD1-1 - Swamp Oak Mineral Deciduous Swamp
 - SWD1-2 - Bur Oak Mineral Deciduous Swamp
 - SWD2-2 - Green Ash Mineral Deciduous Swamp
 - SWD2-3 - Ash - Hardwood Mineral Deciduous Swamp
 - SWD2-4 - Green Ash - Red Maple Mineral Deciduous Swamp
 - SWD3-1 - Red Maple Mineral Deciduous Swamp
 - SWD3-2 - Silver Maple Mineral Deciduous Swamp
 - SWD3-3 - Swamp Maple Mineral Deciduous Swamp

- SWD4-1 - Willow Mineral Deciduous Swamp
 - SWD4-2 - White Elm Mineral Deciduous Swamp
 - SWD4-6 - Green Ash - Swamp Maple Mineral Deciduous Swamp
 - SWT - Thicket Swamp
 - SWT2 - Mineral Thicket Swamp
 - SWT2-4 - Buttonbush Mineral Thicket Swamp
 - SWT2-5 - Red Osier Dogwood Mineral Thicket Swamp
 - SWT2-8 - Silky Dogwood Mineral Thicket Swamp
 - SWT2-9 - Gray Dogwood Mineral Thicket Swamp
 - SWT2-13 - Willow - Dogwood Mineral Thicket Swamp
 - SWT2-14 - Winterberry - Buttonbush Mineral Thicket Swamp
 - SWT2-15 - Red Maple Mineral Thicket Swamp
 - SWT3-7 - Winterberry Organic Thicket Swamp
- Marsh Communities (MA)**
- MAM2 - Mineral Meadow Marsh
 - MAM2-2 - Reed Canary Grass Mineral Meadow Marsh
 - MAM2-9 - Jewelweed Mineral Meadow Marsh
 - MAM2-10 - Forb Mineral Meadow Marsh
 - MAM2-11 - Forb - Graminoid Mineral Meadow Marsh
 - MAS2-1 - Cattail Mineral Shallow Marsh
 - MAS2-8 - Rice Cut-grass Mineral Shallow Marsh
- Open Water (OA)**
- OA - Open Aquatic
- Shallow Water (SA)**
- SAM1-2 - Duckweed Mixed Shallow Aquatic
- HR - Hedgerow
D - Disturbed
Res - Residential

Notes

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Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
6.9

Title
**ELC VEGETATION
COMMUNITIES - W9**

DRAFT



May 2011
160960577



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Legend

- Study Area
- Zone of Investigation
- Constructable Area
- Wind Project Location**
- Proposed Turbine Location
- Access Road
- Overhead Collector Line
- Underground Collector Line
- Solar Project Location**
- Solar Lands
- Solar Panel Unit
- Transmission Line**
- Overhead Transmission Line
- Underground Transmission Line
- Electrical Transmission Component
- Existing Features**
- Road
- Railway
- Abandoned Railway
- Transmission Line (MNR)
- Watercourse (MNR)
- Waterbody (MNR)
- Natural Feature
- Vegetation Community (ELC)

- Forest Communities (FO)**
- FOM-2-2 - Dry-fresh White Pine - Sugar Maple Mixed Forest
 - FOD - Deciduous Forest
 - FOD1-1 - Dry-fresh Red Oak Deciduous Forest
 - FOD2-1 - Dry-fresh Oak - Red Maple Deciduous Forest
 - FOD2-2 - Dry-fresh Oak - Hickory Deciduous Forest
 - FOD2-4 - Dry-fresh Oak - Hardwood Deciduous Forest
 - FOD3-1 - Dry-fresh Poplar Deciduous Forest
 - FOD4-1 - Dry-fresh Beech Deciduous Forest
 - FOD4-2 - Dry-fresh White Ash Deciduous Forest
 - FOD5 - Dry-fresh Sugar Maple Deciduous Forest Ecosite
 - FOD5-11 - Dry-fresh Sugar Maple Deciduous Forest
 - FOD5-2 - Dry-fresh Sugar Maple - Beech Deciduous Forest
 - FOD5-3 - Dry-fresh Sugar Maple - Oak Deciduous Forest
 - FOD5-8 - Dry-fresh Sugar Maple - White Ash Deciduous Forest
 - FOD5-9 - Dry-fresh Sugar Maple-Red Maple Deciduous Forest
 - FOD5-11* - Dry-fresh Sugar Maple - Oak - Beech Deciduous Forest
 - FOD5-12* - Dry-fresh Sugar Maple - Hickory - Beech Deciduous Forest
 - FOD6-1 - Fresh-moist Sugar Maple - Lowland Ash Deciduous Forest
 - FOD6-5 - Fresh-moist Sugar Maple - Hardwood Deciduous Forest
 - FOD6-6 - Fresh-moist Sugar Maple - Hickory Deciduous Forest
 - FOD7-1 - Fresh - moist White Elm Lowland Deciduous Forest
 - FOD7-2 - Fresh-moist Ash Lowland Deciduous Forest
 - FOD7-4 - Fresh-moist Black Walnut Lowland Deciduous Forest
 - FOD9-1 - Fresh-moist Oak - Sugar Maple Deciduous Forest
 - FOD9-3 - Fresh-moist Bur Oak Deciduous Forest
 - FOD9-4 - Fresh-moist Shagbark Hickory Deciduous Forest
 - FOD9-6 - Fresh-moist Red Oak - Shagbark Hickory Deciduous Forest

- Cultural Communities (CU)**
- FOM-2-2 - Dry-fresh White Pine - Sugar Maple Mixed Forest
 - FOD - Deciduous Forest
 - FOD1-1 - Dry-fresh Red Oak Deciduous Forest
 - FOD2-1 - Dry-fresh Oak - Red Maple Deciduous Forest
 - FOD2-2 - Dry-fresh Oak - Hickory Deciduous Forest
 - FOD2-4 - Dry-fresh Oak - Hardwood Deciduous Forest
 - FOD3-1 - Dry-fresh Poplar Deciduous Forest
 - FOD4-1 - Dry-fresh Beech Deciduous Forest
 - FOD4-2 - Dry-fresh White Ash Deciduous Forest
 - FOD5 - Dry-fresh Sugar Maple Deciduous Forest Ecosite
 - FOD5-11 - Dry-fresh Sugar Maple Deciduous Forest
 - FOD5-2 - Dry-fresh Sugar Maple - Beech Deciduous Forest
 - FOD5-3 - Dry-fresh Sugar Maple - Oak Deciduous Forest
 - FOD5-8 - Dry-fresh Sugar Maple - White Ash Deciduous Forest
 - FOD5-9 - Dry-fresh Sugar Maple-Red Maple Deciduous Forest
 - FOD5-11* - Dry-fresh Sugar Maple - Oak - Beech Deciduous Forest
 - FOD5-12* - Dry-fresh Sugar Maple - Hickory - Beech Deciduous Forest
 - FOD6-1 - Fresh-moist Sugar Maple - Lowland Ash Deciduous Forest
 - FOD6-5 - Fresh-moist Sugar Maple - Hardwood Deciduous Forest
 - FOD6-6 - Fresh-moist Sugar Maple - Hickory Deciduous Forest
 - FOD7-1 - Fresh - moist White Elm Lowland Deciduous Forest
 - FOD7-2 - Fresh-moist Ash Lowland Deciduous Forest
 - FOD7-4 - Fresh-moist Black Walnut Lowland Deciduous Forest
 - FOD9-1 - Fresh-moist Oak - Sugar Maple Deciduous Forest
 - FOD9-3 - Fresh-moist Bur Oak Deciduous Forest
 - FOD9-4 - Fresh-moist Shagbark Hickory Deciduous Forest
 - FOD9-6 - Fresh-moist Red Oak - Shagbark Hickory Deciduous Forest

- Swamp Communities (SW)**
- SWD - Deciduous Swamp
 - SWD1-1 - Swamp Oak Mineral Deciduous Swamp
 - SWD1-2 - Bur Oak Mineral Deciduous Swamp
 - SWD2-2 - Green Ash Mineral Deciduous Swamp
 - SWD2-3 - Ash - Hardwood Mineral Deciduous Swamp
 - SWD2-4 - Green Ash - Red Maple Mineral Deciduous Swamp
 - SWD3-1 - Red Maple Mineral Deciduous Swamp
 - SWD3-2 - Silver Maple Mineral Deciduous Swamp
 - SWD3-3 - Swamp Maple Mineral Deciduous Swamp

Notes

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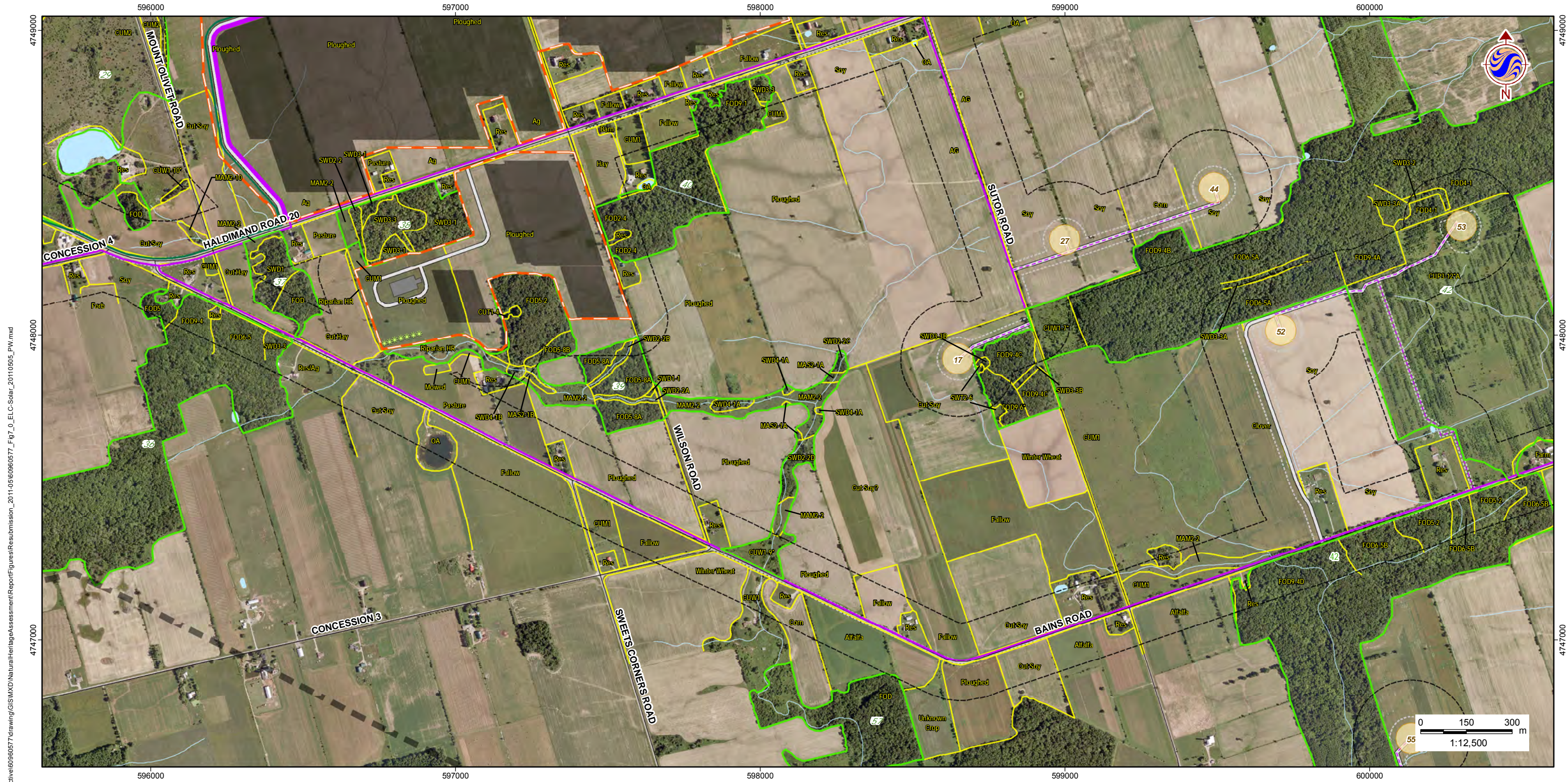
Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
 GRAND RENEWABLE ENERGY PARK**

Figure No.
7.1

Title
**ELC VEGETATION
 COMMUNITIES - S1**

DRAFT

May 2011
 160960577



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Legend

- Study Area
- Zone of Investigation
- Constructable Area
- Wind Project Location**
- Proposed Turbine Location
- Access Road
- Overhead Collector Line
- Underground Collector Line
- Solar Project Location**
- Solar Lands
- Solar Panel Unit
- Transmission Line**
- Overhead Transmission Line
- Underground Transmission Line
- Electrical Transmission Component
- Existing Features**
- Road
- Railway
- Abandoned Railway
- Transmission Line (MNR)
- Watercourse (MNR)
- Waterbody (MNR)
- Natural Feature
- Vegetation Community (ELC)

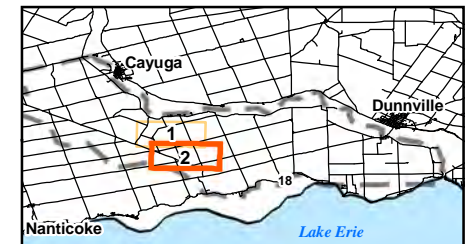
- Forest Communities (FO)**
- FOM 2-2 - Dry-fresh White Pine - Sugar Maple Mixed Forest
 - FOD - Deciduous Forest
 - FOD1-1 - Dry-fresh Red Oak Deciduous Forest
 - FOD2-1 - Dry-fresh Oak - Red Maple Deciduous Forest
 - FOD2-2 - Dry-fresh Oak - Hickory Deciduous Forest
 - FOD2-4 - Dry-fresh Oak - Hardwood Deciduous Forest
 - FOD3-1 - Dry-fresh Poplar Deciduous Forest
 - FOD4-1 - Dry-fresh Beech Deciduous Forest
 - FOD4-2 - Dry-fresh White Ash Deciduous Forest
 - FOD5 - Dry-fresh Sugar Maple Deciduous Forest Ecosite
 - FOD5-1 - Dry-fresh Sugar Maple Deciduous Forest
 - FOD5-2 - Dry-fresh Sugar Maple - Beech Deciduous Forest
 - FOD5-3 - Dry-fresh Sugar Maple - Oak Deciduous Forest
 - FOD5-8 - Dry-fresh Sugar Maple - White Ash Deciduous Forest
 - FOD5-9 - Dry-fresh Sugar Maple-Red Maple Deciduous Forest
 - FOD5-11 - Dry-fresh Sugar Maple - Oak - Beech Deciduous Forest
 - FOD5-12 - Dry-fresh Sugar Maple - Hickory - Beech Deciduous Forest
 - FOD6-1 - Fresh-moist Sugar Maple - Lowland Ash Deciduous Forest
 - FOD6-5 - Dry-fresh Sugar Maple - Hardwood Deciduous Forest
 - FOD6-6 - Fresh-moist Sugar Maple - Hickory Deciduous Forest
 - FOD7-1 - Fresh - moist White Elm Lowland Deciduous Forest
 - FOD7-2 - Fresh-moist Ash Lowland Deciduous Forest
 - FOD7-4 - Fresh-moist Black Walnut Lowland Deciduous Forest
 - FOD9-1 - Fresh-moist Oak - Sugar Maple Deciduous Forest
 - FOD9-3 - Fresh-moist Bur Oak Deciduous Forest
 - FOD9-4 - Fresh-moist Shagbark Hickory Deciduous Forest
 - FOD9-6 - Fresh-moist Red Oak - Shagbark Hickory Deciduous Forest

- Cultural Communities (CU)**
- CUP1-4 - Hybrid Poplar Deciduous Plantation
 - CUP2 - Mixed Plantation
 - CUP3-1 - Red Pine Coniferous Plantation
 - CUP3-2 - White Pine Coniferous Plantation
 - CUP3-12 - White Pine - White/Norway Spruce Coniferous Plantation
 - CUP3-13 - White Spruce Coniferous Plantation
 - CUM1 - Mineral Cultural Meadow
 - CUS1-1 - Hawthorn Cultural Savannah
 - CUT1 - Mineral Cultural Thicket
 - CUT1-1 - Sumac Cultural Thicket
 - CUT1-4 - Gray Dogwood Cultural Thicket
 - CUT1-7 - European Buckthorn - Sweet Cherry Cultural thicket
 - CUM1 - Mineral Cultural Woodland
 - CUM1-1 - Red Cedar Mineral Cultural Woodland
 - CUM1-3 - Ash - Sumac Mineral Cultural Woodland
 - CUM1-4 - Green Ash Mineral Cultural Woodland
 - CUM1-5 - Norway Maple Mineral Cultural Woodland
 - CUM1-6 - White Elm Cultural Woodland
 - CUM1-7 - Red maple Mineral Cultural Woodland
 - CUM1-11 - White Pine Cultural Woodland
- Swamp Communities (SW)**
- SWD - Deciduous Swamp
 - SWD1-1 - Swamp Oak Mineral Deciduous Swamp
 - SWD1-2 - Bur Oak Mineral Deciduous Swamp
 - SWD2-2 - Green Ash Mineral Deciduous Swamp
 - SWD2-3 - Ash - Hardwood Mineral Deciduous Swamp
 - SWD2-4 - Green Ash - Red Maple Mineral Deciduous Swamp
 - SWD3-1 - Red Maple Mineral Deciduous Swamp
 - SWD3-2 - Silver Maple Mineral Deciduous Swamp
 - SWD3-3 - Swamp Maple Mineral Deciduous Swamp

- Marsh Communities (MA)**
- MAM2 - Mineral Meadow Marsh
 - MAM2-2 - Reed Canary Grass Mineral Meadow Marsh
 - MAM2-9 - Jewelweed Mineral Meadow Marsh
 - MAM2-10 - Forb Mineral Meadow Marsh
 - MAM2-11 - Forb - Graminoid Mineral Meadow Marsh
 - MAS2-1 - Cattail Mineral Shallow Marsh
 - MAS2-8 - Rice Cut-grass Mineral Shallow Marsh
- Open Water (OA)**
- OA - Open Aquatic
 - OA - Open Aquatic
- Shallow Water (SA)**
- SAM1-2 - Duckweed Mixed Shallow Aquatic
- Other Symbols:**
- HR - Hedgerow
 - D - Disturbed
 - Res - Residential

Notes

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Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
7.2

Title
**ELC VEGETATION
COMMUNITIES - S2**

DRAFT

May 2011
160960577



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Legend

- Study Area
 - Zone of Investigation
 - Constructable Area
 - Wind Project Location**
 - Proposed Turbine Location
 - Access Road
 - Overhead Collector Line
 - Underground Collector Line
 - Solar Project Location**
 - Solar Lands
 - Transmission Line**
 - Overhead Transmission Line
 - Underground Transmission Line
 - Electrical Transmission Component
-
- Existing Features**
 - Road
 - Railway
 - Abandoned Railway
 - Transmission Line (MNR)
 - Watercourse (MNR)
 - Waterbody (MNR)
 - Natural Feature
 - Vegetation Community (ELC)

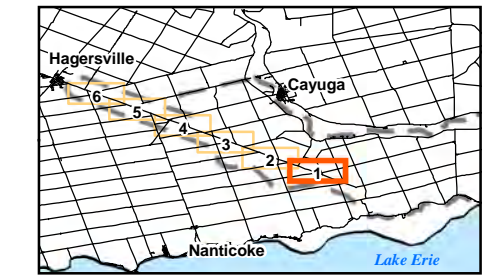
- Forest Communities (FO)**
- FOM 2-2 - Dry-fresh White Pine - Sugar Maple Mixed Forest
 - FOD - Deciduous Forest
 - FOD1-1 - Dry-fresh Red Oak Deciduous Forest
 - FOD2-1 - Dry-fresh Oak - Red Maple Deciduous Forest
 - FOD2-2 - Dry-fresh Oak - Hickory Deciduous Forest
 - FOD2-4 - Dry-fresh Oak - Hardwood Deciduous Forest
 - FOD3-1 - Dry-fresh Poplar Deciduous Forest
 - FOD4-1 - Dry-fresh Beech Deciduous Forest
 - FOD4-2 - Dry-fresh White Ash Deciduous Forest
 - FOD5 - Dry-fresh Sugar Maple Deciduous Forest Ecosite
 - FOD5-1 - Dry-fresh Sugar Maple Deciduous Forest
 - FOD5-2 - Dry-fresh Sugar Maple - Beech Deciduous Forest
 - FOD5-3 - Dry-fresh Sugar Maple - Oak Deciduous Forest
 - FOD5-8 - Dry-fresh Sugar Maple - White Ash Deciduous Forest
 - FOD5-9 - Dry-fresh Sugar Maple-Red Maple Deciduous Forest
 - FOD5-11 - Dry-fresh Sugar Maple - Oak - Beech Deciduous Forest
 - FOD5-12 - Dry-fresh Sugar Maple - Hickory - Beech Deciduous Forest
 - FOD6-1 - Fresh-moist Sugar Maple - Lowland Ash Deciduous Forest
 - FOD6-5 - Fresh-moist Sugar Maple - Hardwood Deciduous Forest
 - FOD6-6 - Fresh-moist Sugar Maple - Hickory Deciduous Forest
 - FOD7-1 - Fresh - moist White Elm Lowland Deciduous Forest
 - FOD7-2 - Fresh-moist Ash Lowland Deciduous Forest
 - FOD7-4 - Fresh-moist Black Walnut Lowland Deciduous Forest
 - FOD9-1 - Fresh-moist Oak - Sugar Maple Deciduous Forest
 - FOD9-3 - Fresh-moist Bur Oak Deciduous Forest
 - FOD9-4 - Fresh-moist Shagbark Hickory Deciduous Forest
 - FOD9-6 - Fresh-moist Red Oak - Shagbark Hickory Deciduous Forest

- Cultural Communities (CU)**
- CUP1-4 - Hybrid Poplar Deciduous Plantation
 - CUP2 - Mixed Plantation
 - CUP3-1 - Red Pine Coniferous Plantation
 - CUP3-2 - White Pine Coniferous Plantation
 - CUP3-12 - White Pine - White/Norway Spruce Coniferous Plantation
 - CUP3-13 - White Spruce Coniferous Plantation
 - CUM1 - Mineral Cultural Meadow
 - CUS1-1 - Hawthorn Cultural Savannah
 - CUT1-1 - Mineral Cultural Thicket
 - CUT1-4 - Gray Dogwood Cultural Thicket
 - CUT1-7 - European Buckthorn - Sweet Cherry Cultural thicket
 - CUM1 - Mineral Cultural Woodland
 - CUM1-1 - Red Cedar Mineral Cultural Woodland
 - CUM1-3 - Ash - Sumac Mineral Cultural Woodland
 - CUM1-4 - Green Ash Mineral Cultural Woodland
 - CUM1-5 - Norway Maple Mineral Cultural Woodland
 - CUM1-6 - White Elm Cultural Woodland
 - CUM1-7 - Red maple Mineral Cultural Woodland
 - CUM1-11 - White Pine Cultural Woodland
- Swamp Communities (SW)**
- SWD - Deciduous Swamp
 - SWD1-1 - Swamp Oak Mineral Deciduous Swamp
 - SWD1-2 - Bur Oak Mineral Deciduous Swamp
 - SWD2-2 - Green Ash Mineral Deciduous Swamp
 - SWD2-3 - Ash - Hardwood Mineral Deciduous Swamp
 - SWD2-4 - Green Ash - Red Maple Mineral Deciduous Swamp
 - SWD3-1 - Red Maple Mineral Deciduous Swamp
 - SWD3-2 - Silver Maple Mineral Deciduous Swamp
 - SWD3-3 - Swamp Maple Mineral Deciduous Swamp

- Marsh Communities (MA)**
- MAM2 - Mineral Meadow Marsh
 - MAM2-2 - Reed Canary Grass Mineral Meadow Marsh
 - MAM2-9 - Jewelweed Mineral Meadow Marsh
 - MAM2-10 - Forb Mineral Meadow Marsh
 - MAM2-11 - Forb - Graminoid Mineral Meadow Marsh
 - MAS2-1 - Cattail Mineral Shallow Marsh
 - MAS2-8 - Rice Cut-grass Mineral Shallow Marsh
- Open Water (OA)**
- OA - Open Aquatic
- Shallow Water (SA)**
- SAM1-2 - Duckweed Mixed Shallow Aquatic
- Other Symbols:**
- HR - Hedgerow
 - D - Disturbed
 - Res - Residential

Notes

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Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
8.1

Title
**ELC VEGETATION
COMMUNITIES - T1**

DRAFT

May 2011
160960577



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Legend

- | | | | |
|-------------------------------|-----------------------------------|--|----------------------------|
| | Study Area | | Road |
| | Zone of Investigation | | Railway |
| | Constructable Area | | Abandoned Railway |
| Wind Project Location | | | |
| | Proposed Turbine Location | | Transmission Line (MNR) |
| | Access Road | | Watercourse (MNR) |
| | Overhead Collector Line | | Waterbody (MNR) |
| | Underground Collector Line | | Natural Feature |
| Solar Project Location | | | |
| | Solar Lands | | Vegetation Community (ELC) |
| Transmission Line | | | |
| | Overhead Transmission Line | | |
| | Underground Transmission Line | | |
| | Electrical Transmission Component | | |

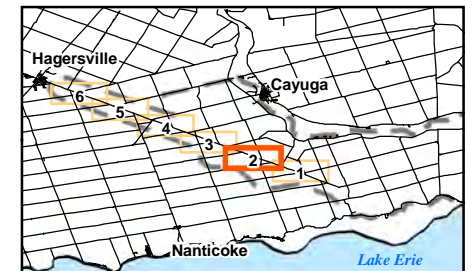
- Forest Communities (FO)**
- FOM 2-2 - Dry-fresh White Pine - Sugar Maple Mixed Forest
 - FOD - Deciduous Forest
 - FOD1-1 - Dry-fresh Red Oak Deciduous Forest
 - FOD2-1 - Dry-fresh Oak - Red Maple Deciduous Forest
 - FOD2-2 - Dry-fresh Oak - Hickory Deciduous Forest
 - FOD2-4 - Dry-fresh Oak - Hardwood Deciduous Forest
 - FOD 3-1 - Dry-fresh Poplar Deciduous Forest
 - FOD4-1 - Dry-fresh Beech Deciduous Forest
 - FOD4-2 - Dry-fresh White Ash Deciduous Forest
 - FOD5 - Dry-fresh Sugar Maple Deciduous Forest Ecosite
 - FOD5-1 - Dry-fresh Sugar Maple Deciduous Forest
 - FOD5-2 - Dry-fresh Sugar Maple - Beech Deciduous Forest
 - FOD5-3 - Dry-fresh Sugar Maple - Oak Deciduous Forest
 - FOD5-8 - Dry-fresh Sugar Maple - White Ash Deciduous Forest
 - FOD5-9 - Dry-fresh Sugar Maple-Red Maple Deciduous Forest
 - FOD5-11 - Dry-fresh Sugar Maple - Oak - Beech Deciduous Forest
 - FOD5-12* - Dry-fresh Sugar Maple - Hickory - Beech Deciduous Forest
 - FOD6-1 - Fresh-moist Sugar Maple - Lowland Ash Deciduous Forest
 - FOD6-5 - Fresh-moist Sugar Maple - Hardwood Deciduous Forest
 - FOD6-6* - Fresh-moist Sugar Maple - Hickory Deciduous Forest
 - FOD7-1 - Fresh - moist White Elm Lowland Deciduous Forest
 - FOD7-2 - Fresh-moist Ash Lowland Deciduous Forest
 - FOD7-4 - Fresh-moist Black Walnut Lowland Deciduous Forest
 - FOD9-1 - Fresh-moist Oak - Sugar Maple Deciduous Forest
 - FOD9-3 - Fresh-moist Bur Oak Deciduous Forest
 - FOD9-4 - Fresh-moist Shagbark Hickory Deciduous Forest
 - FOD9-6* - Fresh-moist Red Oak - Shagbark Hickory Deciduous Forest

- Cultural Communities (CU)**
- CUP1-4 - Hybrid Poplar Deciduous Plantation
 - CUP2 - Mixed Plantation
 - CUP3-1 - Red Pine Coniferous Plantation
 - CUP3-2 - White Pine Coniferous Plantation
 - CUP3-12* - White Pine - White/Norway Spruce Coniferous Plantation
 - CUP3-13* - White Spruce Coniferous Plantation
 - CUM1 - Mineral Cultural Meadow
 - CUS1-1 - Hawthorn Cultural Savannah
 - CUT1-1 - Mineral Cultural Thicket
 - CUT1-1 - Sumac Cultural Thicket
 - CUT1-4 - Gray Dogwood Cultural Thicket
 - CUT1-7 - European Buckthorn - Sweet Cherry Cultural thicket
 - CUM1 - Mineral Cultural Woodland
 - CUM1-1 - Red Cedar Mineral Cultural Woodland
 - CUM1-3* - Ash - Sumac Mineral Cultural Woodland
 - CUM1-4* - Green Ash Mineral Cultural Woodland
 - CUM1-5* - Norway Maple Mineral Cultural Woodland
 - CUM1-6* - White Elm Cultural Woodland
 - CUM1-7* - Red maple Mineral Cultural Woodland
 - CUM1-11* - White Pine Cultural Woodland
- Swamp Communities (SW)**
- SWD - Deciduous Swamp
 - SWD1-1 - Swamp Oak Mineral Deciduous Swamp
 - SWD1-2 - Bur Oak Mineral Deciduous Swamp
 - SWD2-2 - Green Ash Mineral Deciduous Swamp
 - SWD2-3* - Ash - Hardwood Mineral Deciduous Swamp
 - SWD2-4* - Green Ash - Red Maple Mineral Deciduous Swamp
 - SWD3-1 - Red Maple Mineral Deciduous Swamp
 - SWD3-2 - Silver Maple Mineral Deciduous Swamp
 - SWD3-3 - Swamp Maple Mineral Deciduous Swamp

- Marsh Communities (MA)**
- MAM2 - Mineral Meadow Marsh
 - MAM2-2 - Reed Canary Grass Mineral Meadow Marsh
 - MAM2-9 - Jewelweed Mineral Meadow Marsh
 - MAM2-10 - Forb Mineral Meadow Marsh
 - MAM2-11* - Forb - Graminoid Mineral Meadow Marsh
 - MAS2-1 - Cattail Mineral Shallow Marsh
 - MAS2-8 - Rice Cut-grass Mineral Shallow Marsh
- Open Water (OA)**
- OA - Open Aquatic
- Shallow Water (SA)**
- SAM1-2 - Duckweed Mixed Shallow Aquatic
- Other Symbols:**
- HR - Hedgerow
 - D - Disturbed
 - Res - Residential

Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queens Printer Ontario, 2011; © Samsung, 2011.
3. Image Source: © Terrapoint, 2011 - Imagery Date: July 2009; Grand River Conservation Authority © First Base Solutions, 2011 - Imagery Date: Spring 2006.



Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
8.2

**ELC VEGETATION
COMMUNITIES - T2**

May 2011
160960577

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Legend

- | | | | |
|--|-----------------------------------|--|----------------------------|
| | Study Area | | Existing Features |
| | Zone of Investigation | | Road |
| | Constructable Area | | Railway |
| | Wind Project Location | | Abandoned Railway |
| | Proposed Turbine Location | | Transmission Line (MNR) |
| | Access Road | | Watercourse (MNR) |
| | Overhead Collector Line | | Waterbody (MNR) |
| | Underground Collector Line | | Natural Feature |
| | Solar Project Location | | Vegetation Community (ELC) |
| | Solar Lands | | |
| | Transmission Line | | |
| | Overhead Transmission Line | | |
| | Underground Transmission Line | | |
| | Electrical Transmission Component | | |

- Forest Communities (FO)**
- FOM 2-2 - Dry-fresh White Pine - Sugar Maple Mixed Forest
 - FOD - Deciduous Forest
 - FOD1-1 - Dry-fresh Red Oak Deciduous Forest
 - FOD2-1 - Dry-fresh Oak - Red Maple Deciduous Forest
 - FOD2-2 - Dry-fresh Oak - Hickory Deciduous Forest
 - FOD2-4 - Dry-fresh Oak - Hardwood Deciduous Forest
 - FOD 3-1 - Dry-fresh Poplar Deciduous Forest
 - FOD4-1 - Dry-fresh Beech Deciduous Forest
 - FOD4-2 - Dry-fresh White Ash Deciduous Forest
 - FOD5 - Dry-fresh Sugar Maple Deciduous Forest Ecotope
 - FOD5-1 - Dry-fresh Sugar Maple Deciduous Forest
 - FOD5-2 - Dry-fresh Sugar Maple - Beech Deciduous Forest
 - FOD5-3 - Dry-fresh Sugar Maple - Oak Deciduous Forest
 - FOD5-8 - Dry-fresh Sugar Maple - White Ash Deciduous Forest
 - FOD5-9 - Dry-fresh Sugar Maple-Red Maple Deciduous Forest
 - FOD5-11* - Dry-fresh Sugar Maple - Oak - Beech Deciduous Forest
 - FOD5-12* - Dry-fresh Sugar Maple - Hickory - Beech Deciduous Forest
 - FOD6-1 - Fresh-moist Sugar Maple - Lowland Ash Deciduous Forest
 - FOD6-5 - Fresh-moist Sugar Maple - Hardwood Deciduous Forest
 - FOD6-6 - Fresh-moist Sugar Maple - Hickory Deciduous Forest
 - FOD7-1 - Fresh - moist White Elm Lowland Deciduous Forest
 - FOD7-2 - Fresh-moist Ash Lowland Deciduous Forest
 - FOD7-4 - Fresh-moist Black Walnut Lowland Deciduous Forest
 - FOD9-1 - Fresh-moist Oak - Sugar Maple Deciduous Forest
 - FOD9-3 - Fresh-moist Bur Oak Deciduous Forest
 - FOD9-4 - Fresh-moist Shagbark Hickory Deciduous Forest
 - FOD9-6 - Fresh-moist Red Oak - Shagbark Hickory Deciduous Forest

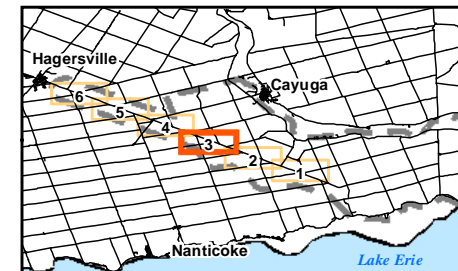
- Cultural Communities (CU)**
- CUP1-4 - Hybrid Poplar Deciduous Plantation
 - CUP2 - Mixed Plantation
 - CUP3-1 - Red Pine Coniferous Plantation
 - CUP3-2 - White Pine Coniferous Plantation
 - CUP3-12* - White Pine - White/Norway Spruce Coniferous Plantation
 - CUP3-13* - White Spruce Coniferous Plantation
 - CUM1 - Mineral Cultural Meadow
 - CUS1-1 - Hawthorn Cultural Savannah
 - CUT1 - Mineral Cultural Thicket
 - CUT1-1 - Sumac Cultural Thicket
 - CUT1-4 - Gray Dogwood Cultural Thicket
 - CUT1-7 - European Buckthorn - Sweet Cherry Cultural thicket
 - CUW1 - Mineral Cultural Woodland
 - CUW1-1 - Red Cedar Mineral Cultural Woodland
 - CUW1-3* - Ash - Sumac Mineral Cultural Woodland
 - CUW1-4* - Green Ash Mineral Cultural Woodland
 - CUW1-5* - Norway Maple Mineral Cultural Woodland
 - CUW1-6* - White Elm Cultural Woodland
 - CUW1-7* - Red maple Mineral Cultural Woodland
 - CUW1-11* - White Pine Cultural Woodland

- Swamp Communities (SW)**
- SWD - Deciduous Swamp
 - SWD1-1 - Swamp Oak Mineral Deciduous Swamp
 - SWD1-2 - Bur Oak Mineral Deciduous Swamp
 - SWD2-2 - Green Ash Mineral Deciduous Swamp
 - SWD2-3* - Ash - Hardwood Mineral Deciduous Swamp
 - SWD2-4* - Green Ash - Red Maple Mineral Deciduous Swamp
 - SWD3-1 - Red Maple Mineral Deciduous Swamp
 - SWD3-2 - Silver Maple Mineral Deciduous Swamp
 - SWD3-3 - Swamp Maple Mineral Deciduous Swamp

- Marsh Communities (MA)**
- MAM2 - Mineral Meadow Marsh
 - MAM2-2 - Reed Canary Grass Mineral Meadow Marsh
 - MAM2-9 - Jewelweed Mineral Meadow Marsh
 - MAM2-10 - Forb Mineral Meadow Marsh
 - MAM2-11* - Forb - Graminoid Mineral Meadow Marsh
 - MAS2-1 - Cattail Mineral Shallow Marsh
 - MAS2-8 - Rice Cut-grass Mineral Shallow Marsh
- Open Water (OA)**
- OA - Open Aquatic
- Shallow Water (SA)**
- SAM1-2 - Duckweed Mixed Shallow Aquatic
- HR - Hedgerow**
D - Disturbed
Res - Residential

Notes

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Client/Project
SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK

Figure No.
8.3

Title
ELC VEGETATION COMMUNITIES - T3

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 160960577

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Legend	
	Study Area
	Zone of Investigation
	Constructable Area
	Wind Project Location
	Proposed Turbine Location
	Access Road
	Overhead Collector Line
	Underground Collector Line
	Solar Project Location
	Solar Lands
	Transmission Line
	Overhead Transmission Line
	Underground Transmission Line
	Electrical Transmission Component
	Existing Features
	Road
	Railway
	Abandoned Railway
	Transmission Line (MNR)
	Watercourse (MNR)
	Waterbody (MNR)
	Natural Feature
	Vegetation Community (ELC)

Forest Communities (FO)	
FOM 2-2	Dry-fresh White Pine - Sugar Maple Mixed Forest
FOD	Deciduous Forest
FOD1-1	Dry-fresh Red Oak Deciduous Forest
FOD2-1	Dry-fresh Oak - Red Maple Deciduous Forest
FOD2-2	Dry-fresh Oak - Hickory Deciduous Forest
FOD2-4	Dry-fresh Oak - Hardwood Deciduous Forest
FOD 3-1	Dry-fresh Poplar Deciduous Forest
FOD4-1	Dry-fresh Beech Deciduous Forest
FOD4-2	Dry-fresh White Ash Deciduous Forest
FOD5	Dry-fresh Sugar Maple Deciduous Forest Ecotone
FOD5-1	Dry-fresh Sugar Maple Deciduous Forest
FOD5-2	Dry-fresh Sugar Maple - Beech Deciduous Forest
FOD5-3	Dry-fresh Sugar Maple - Oak Deciduous Forest
FOD5-8	Dry-fresh Sugar Maple - White Ash Deciduous Forest
FOD5-9	Dry-fresh Sugar Maple-Red Maple Deciduous Forest
FOD5-11*	Dry-fresh Sugar Maple - Oak - Beech Deciduous Forest
FOD5-12*	Dry-fresh Sugar Maple - Hickory - Beech Deciduous Forest
FOD6-1	Fresh-moist Sugar Maple - Lowland Ash Deciduous Forest
FOD6-5	Fresh-moist Sugar Maple - Hardwood Deciduous Forest
FOD6-6*	Fresh-moist Sugar Maple - Hickory Deciduous Forest
FOD7-1	Fresh - moist White Elm Lowland Deciduous Forest
FOD7-2	Fresh-moist Ash Lowland Deciduous Forest
FOD7-4	Fresh-moist Black Walnut Lowland Deciduous Forest
FOD9-1	Fresh-moist Oak - Sugar Maple Deciduous Forest
FOD9-3	Fresh-moist Bur Oak Deciduous Forest
FOD9-4	Fresh-moist Shagbark Hickory Deciduous Forest
FOD9-6*	Fresh-moist Red Oak - Shagbark Hickory Deciduous Forest

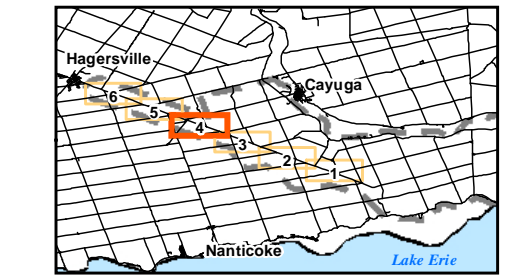
Cultural Communities (CU)	
CUP1-4	Hybrid Poplar Deciduous Plantation
CUP2	Mixed Plantation
CUP3-1	Red Pine Coniferous Plantation
CUP3-2	White Pine Coniferous Plantation
CUP3-12*	White Pine - White/Norway Spruce Coniferous Plantation
CUP3-13*	White Spruce Coniferous Plantation
CUM1	Mineral Cultural Meadow
CUS1-1	Hawthorn Cultural Savannah
CUT1	Mineral Cultural Thicket
CUT1-1	Sumac Cultural Thicket
CUT1-4	Gray Dogwood Cultural Thicket
CUT1-7	European Buckthorn - Sweet Cherry Cultural thicket
CUW1	Mineral Cultural Woodland
CUW1-1	Red Cedar Mineral Cultural Woodland
CUW1-3*	Ash - Sumac Mineral Cultural Woodland
CUW1-4*	Green Ash Mineral Cultural Woodland
CUW1-5*	Norway Maple Mineral Cultural Woodland
CUW1-6*	White Elm Cultural Woodland
CUW1-7*	Red maple Mineral Cultural Woodland
CUW1-11*	White Pine Cultural Woodland

Swamp Communities (SW)	
SWD	Deciduous Swamp
SWD1-1	Swamp Oak Mineral Deciduous Swamp
SWD1-2	Bur Oak Mineral Deciduous Swamp
SWD2-2	Green Ash Mineral Deciduous Swamp
SWD2-3*	Ash - Hardwood Mineral Deciduous Swamp
SWD2-4*	Green Ash - Red Maple Mineral Deciduous Swamp
SWD3-1	Red Maple Mineral Deciduous Swamp
SWD3-2	Silver Maple Mineral Deciduous Swamp
SWD3-3	Swamp Maple Mineral Deciduous Swamp

Marsh Communities (MA)	
MAM2	Mineral Meadow Marsh
MAM2-2	Reed Canary Grass Mineral Meadow Marsh
MAM2-9	Jewelweed Mineral Meadow Marsh
MAM2-10	Forb Mineral Meadow Marsh
MAM2-11*	Forb - Graminoid Mineral Meadow Marsh
MAS2-1	Cattail Mineral Shallow Marsh
MAS2-8	Rice Cut-grass Mineral Shallow Marsh

Notes

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- Image Source: © Terrapoint, 2011 - Imagery Date: July 2009; Grand River Conservation Authority © First Base Solutions, 2011 - Imagery Date: Spring 2006.



Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
8.4

Title
**ELC VEGETATION
COMMUNITIES - T4**

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May 2011
160960577



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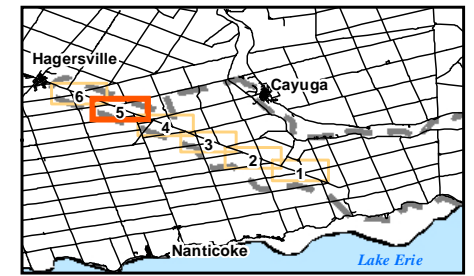
Legend	
	Study Area
	Zone of Investigation
	Constructable Area
Wind Project Location	
	Proposed Turbine Location
	Access Road
	Overhead Collector Line
	Underground Collector Line
Solar Project Location	
	Solar Lands
Transmission Line	
	Overhead Transmission Line
	Underground Transmission Line
	Electrical Transmission Component
Existing Features	
	Road
	Railway
	Abandoned Railway
	Transmission Line (MNR)
	Watercourse (MNR)
	Waterbody (MNR)
	Natural Feature
	Vegetation Community (ELC)

Forest Communities (FO)
FOM 2-2 - Dry-fresh White Pine - Sugar Maple Mixed Forest
FOD - Deciduous Forest
FOD1-1 - Dry-fresh Red Oak Deciduous Forest
FOD2-1 - Dry-fresh Oak - Red Maple Deciduous Forest
FOD2-2 - Dry-fresh Oak - Hickory Deciduous Forest
FOD2-4 - Dry-fresh Oak - Hardwood Deciduous Forest
FOD 3-1 - Dry-fresh Poplar Deciduous Forest
FOD4-1 - Dry-fresh Beech Deciduous Forest
FOD4-2 - Dry-fresh White Ash Deciduous Forest
FOD5 - Dry-fresh Sugar Maple Deciduous Forest Ecotype
FOD5-1 - Dry-fresh Sugar Maple Deciduous Forest
FOD5-2 - Dry-fresh Sugar Maple - Beech Deciduous Forest
FOD5-3 - Dry-fresh Sugar Maple - Oak Deciduous Forest
FOD5-8 - Dry-fresh Sugar Maple - White Ash Deciduous Forest
FOD5-9 - Dry-fresh Sugar Maple-Red Maple Deciduous Forest
FOD5-11* - Dry-fresh Sugar Maple - Oak - Beech Deciduous Forest
FOD5-12* - Dry-fresh Sugar Maple - Hickory - Beech Deciduous Forest
FOD6-1 - Fresh-moist Sugar Maple - Lowland Ash Deciduous Forest
FOD6-5 - Fresh-moist Sugar Maple - Hardwood Deciduous Forest
FOD6-6* - Fresh-moist Sugar Maple - Hickory Deciduous Forest
FOD7-1 - Fresh - moist White Elm Lowland Deciduous Forest
FOD7-2 - Fresh-moist Ash Lowland Deciduous Forest
FOD7-4 - Fresh-moist Black Walnut Lowland Deciduous Forest
FOD9-1 - Fresh-moist Oak - Sugar Maple Deciduous Forest
FOD9-3 - Fresh-moist Bur Oak Deciduous Forest
FOD9-4 - Fresh-moist Shagbark Hickory Deciduous Forest
FOD9-6* - Fresh-moist Red Oak - Shagbark Hickory Deciduous Forest

Cultural Communities (CU)
CUP1-4 - Hybrid Poplar Deciduous Plantation
CUP2 - Mixed Plantation
CUP3-1 - Red Pine Coniferous Plantation
CUP3-2 - White Pine Coniferous Plantation
CUP3-12* - White Pine - White/Norway Spruce Coniferous Plantation
CUP3-13* - White Spruce Coniferous Plantation
CUM1 - Mineral Cultural Meadow
CUS1-1 - Hawthorn Cultural Savannah
CUT1 - Mineral Cultural Thicket
CUT1-1 - Sumac Cultural Thicket
CUT1-4 - Gray Dogwood Cultural Thicket
CUT1-7 - European Buckthorn - Sweet Cherry Cultural thicket
CUW1 - Mineral Cultural Woodland
CUW1-1 - Red Cedar Mineral Cultural Woodland
CUW1-3* - Ash - Sumac Mineral Cultural Woodland
CUW1-4* - Green Ash Mineral Cultural Woodland
CUW1-5* - Norway Maple Mineral Cultural Woodland
CUW1-6* - White Elm Cultural Woodland
CUW1-7* - Red maple Mineral Cultural Woodland
CUW1-11* - White Pine Cultural Woodland
Swamp Communities (SW)
SWD - Deciduous Swamp
SWD1-1 - Swamp Oak Mineral Deciduous Swamp
SWD1-2 - Bur Oak Mineral Deciduous Swamp
SWD2-2 - Green Ash Mineral Deciduous Swamp
SWD2-3* - Ash - Hardwood Mineral Deciduous Swamp
SWD2-4* - Green Ash - Red Maple Mineral Deciduous Swamp
SWD3-1 - Red Maple Mineral Deciduous Swamp
SWD3-2 - Silver Maple Mineral Deciduous Swamp
SWD3-3 - Swamp Maple Mineral Deciduous Swamp

SWD4-1 - Willow Mineral Deciduous Swamp
SWD4-2 - White Elm Mineral Deciduous Swamp
SWD4-6* - Green Ash - Swamp Maple Mineral Deciduous Swamp
SWT - Thicket Swamp
SWT2 - Mineral Thicket Swamp
SWT2-4 - Buttonbush Mineral Thicket Swamp
SWT2-5 - Red Osier Dogwood Mineral Thicket Swamp
SWT2-8 - Silky Dogwood Mineral Thicket Swamp
SWT2-9 - Gray Dogwood Mineral Thicket Swamp
SWT2-13* - Willow - Dogwood Mineral Thicket Swamp
SWT2-14* - Winterberry - Buttonbush Mineral Thicket Swamp
SWT2-15* - Red Maple Mineral Thicket Swamp
SWT3-7 - Winterberry Organic Thicket Swamp
Marsh Communities (MA)
MAM2 - Mineral Meadow Marsh
MAM2-2 - Reed Canary Grass Mineral Meadow Marsh
MAM2-9 - Jewelweed Mineral Meadow Marsh
MAM2-10 - Forb Mineral Meadow Marsh
MAM2-11* - Forb - Graminoid Mineral Meadow Marsh
MAS2-1 - Cattail Mineral Shallow Marsh
MAS2-8 - Rice Cut-grass Mineral Shallow Marsh
Open Water (OA)
OA - Open Aquatic
Shallow Water (SA)
SAM1-2 - Duckweed Mixed Shallow Aquatic
HR - Hedgerow
D - Disturbed
Res - Residential

- Notes**
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 - Image Source: © Terrapoint, 2011 - Imagery Date: July 2009; Grand River Conservation Authority © First Base Solutions, 2011 - Imagery Date: Spring 2006.



Client/Project
SAMSUNG, PATTERN & KEPKO (SPK)
GRAND RENEWABLE ENERGY PARK

Figure No.
8.5

ELC VEGETATION COMMUNITIES - T5

Title

May 2011
160960577

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Legend

- Study Area
- Zone of Investigation
- Constructable Area
- Proposed Turbine Location
- Access Road
- Overhead Collector Line
- Underground Collector Line
- Solar Project Location
- Solar Lands
- Transmission Line
- Overhead Transmission Line
- Underground Transmission Line
- Electrical Transmission Component
- Road
- Railway
- Abandoned Railway
- Transmission Line (MNR)
- Watercourse (MNR)
- Waterbody (MNR)
- Natural Feature
- Vegetation Community (ELC)

Forest Communities (FO)

- FOM 2-2 - Dry-fresh White Pine - Sugar Maple Mixed Forest
- FOD - Deciduous Forest
- FOD1-1 - Dry-fresh Red Oak Deciduous Forest
- FOD2-1 - Dry-fresh Oak - Red Maple Deciduous Forest
- FOD2-2 - Dry-fresh Oak - Hickory Deciduous Forest
- FOD2-4 - Dry-fresh Oak - Hardwood Deciduous Forest
- FOD3-1 - Dry-fresh Poplar Deciduous Forest
- FOD4-1 - Dry-fresh Beech Deciduous Forest
- FOD4-2 - Dry-fresh White Ash Deciduous Forest
- FOD5 - Dry-fresh Sugar Maple Deciduous Forest Ecotype
- FOD5-1 - Dry-fresh Sugar Maple Deciduous Forest
- FOD5-2 - Dry-fresh Sugar Maple - Beech Deciduous Forest
- FOD5-3 - Dry-fresh Sugar Maple - Oak Deciduous Forest
- FOD5-8 - Dry-fresh Sugar Maple - White Ash Deciduous Forest
- FOD5-9 - Dry-fresh Sugar Maple-Red Maple Deciduous Forest
- FOD5-11* - Dry-fresh Sugar Maple - Oak - Beech Deciduous Forest
- FOD5-12* - Dry-fresh Sugar Maple - Hickory - Beech Deciduous Forest
- FOD6-1 - Fresh-moist Sugar Maple - Lowland Ash Deciduous Forest
- FOD6-5 - Fresh-moist Sugar Maple - Hardwood Deciduous Forest
- FOD6-6* - Fresh-moist Sugar Maple - Hickory Deciduous Forest
- FOD7-1 - Fresh - moist White Elm Lowland Deciduous Forest
- FOD7-2 - Fresh-moist Ash Lowland Deciduous Forest
- FOD7-4 - Fresh-moist Black Walnut Lowland Deciduous Forest
- FOD9-1 - Fresh-moist Oak - Sugar Maple Deciduous Forest
- FOD9-3 - Fresh-moist Bur Oak Deciduous Forest
- FOD9-4 - Fresh-moist Shagbark Hickory Deciduous Forest
- FOD9-6* - Fresh-moist Red Oak - Shagbark Hickory Deciduous Forest

Cultural Communities (CU)

- CUP1-4 - Hybrid Poplar Deciduous Plantation
- CUP2 - Mixed Plantation
- CUP3-1 - Red Pine Coniferous Plantation
- CUP3-2 - White Pine Coniferous Plantation
- CUP3-12* - White Pine - White/Norway Spruce Coniferous Plantation
- CUP3-13* - White Spruce Coniferous Plantation
- CUM1 - Mineral Cultural Meadow
- CUS1-1 - Hawthorn Cultural Savannah
- CUT1 - Mineral Cultural Thicket
- CUT1-1 - Sumac Cultural Thicket
- CUT1-4 - Gray Dogwood Cultural Thicket
- CUT1-7 - European Buckthorn - Sweet Cherry Cultural thicket
- CUW1 - Mineral Cultural Woodland
- CUW1-1 - Red Cedar Mineral Cultural Woodland
- CUW1-3* - Ash - Sumac Mineral Cultural Woodland
- CUW1-4* - Green Ash Mineral Cultural Woodland
- CUW1-5* - Norway Maple Mineral Cultural Woodland
- CUW1-6* - White Elm Cultural Woodland
- CUW1-7* - Red maple Mineral Cultural Woodland
- CUW1-11* - White Pine Cultural Woodland

Swamp Communities (SW)

- SWD - Deciduous Swamp
- SWD1-1 - Swamp Oak Mineral Deciduous Swamp
- SWD1-2 - Bur Oak Mineral Deciduous Swamp
- SWD2-2 - Green Ash Mineral Deciduous Swamp
- SWD2-3* - Ash - Hardwood Mineral Deciduous Swamp
- SWD2-4* - Green Ash - Red Maple Mineral Deciduous Swamp
- SWD3-1 - Red Maple Mineral Deciduous Swamp
- SWD3-2 - Silver Maple Mineral Deciduous Swamp
- SWD3-3 - Swamp Maple Mineral Deciduous Swamp

Marsh Communities (MA)

- MAM2 - Mineral Meadow Marsh
- MAM2-2 - Reed Canary Grass Mineral Meadow Marsh
- MAM2-9 - Jewelweed Mineral Meadow Marsh
- MAM2-10 - Forb Mineral Meadow Marsh
- MAM2-11* - Forb - Graminoid Mineral Meadow Marsh
- MAS2-1 - Cattail Mineral Shallow Marsh
- MAS2-8 - Rice Cut-grass Mineral Shallow Marsh

Open Water (OA)

- OA - Open Aquatic

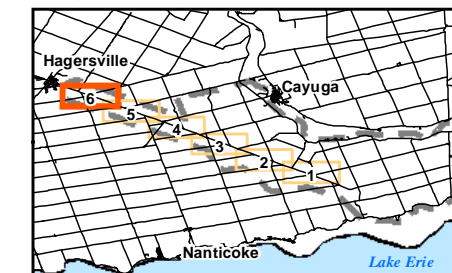
Shallow Water (SA)

- SAM1-2 - Duckweed Mixed Shallow Aquatic

- HR - Hedgerow
- D - Disturbed
- Res - Residential

Notes

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Client/Project

SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK

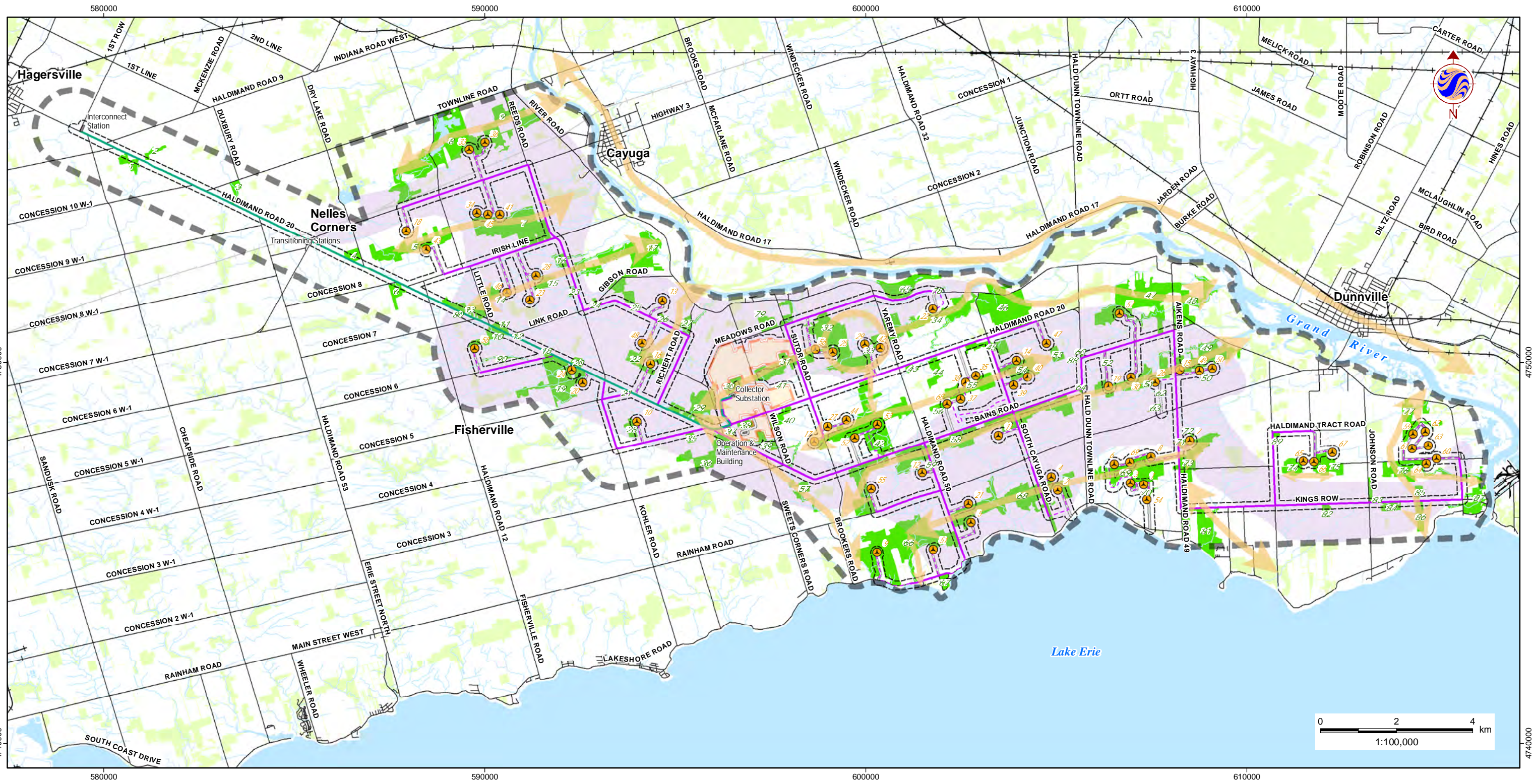
Figure No.

8.6

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Title

ELC VEGETATION
COMMUNITIES - T6



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May 2011
160960577



Stantec

Legend

- | | | | | | |
|-------------------------------|----------------------------|--|-----------------------------------|-------------------------|----------------------------------|
| | Study Area | | Overhead Transmission Line | | Waterbody (MNR) |
| | Zone of Investigation | | Underground Transmission Line | | Wooded Area (MNR) |
| Wind Project Location | | | Electrical Transmission Component | Natural Features | |
| | Proposed Turbine Location | | Road | | Animal Movement Corridor |
| | Access Road | | Railway | | Natural Feature |
| | Overhead Collector Line | | Abandoned Railway | | Winter Raptor Concentration Area |
| | Underground Collector Line | | Watercourse (MNR) | | |
| Solar Project Location | | | | | |
| | Solar Lands | | | | |

Notes

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Client/Project
SAMSUNG, PATTERN & KEPKO (SPK)
GRAND RENEWABLE ENERGY PARK

Figure No.
9.0

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Title
NATURAL FEATURES