

Stantec

GRAND RENEWABLE ENERGY PARK

NATURAL HERITAGE ASSESSMENT AND ENVIRONMENTAL IMPACT STUDY

Appendix I

Site Details and Photographs



Photo 1: Existing farm laneway crossing through deciduous forest (Feature 22) looking north to proposed turbine location



Client/Project	July 2011
SAMSUNG, PATTERN & KEPCO (SPK)	161010646
GRAND RENEWABLE ENERGY PARK	

Appendix	Page
I	1 of 1

Title	
FEATURE 22: ACCESS ROAD UTILIZING EXISTING WOODLAND CROSSING	



Photo 1: Existing farm laneway crossing through deciduous swamp (Feature 55) looking north.



Photo 2: Existing farm laneway crossing looking south.



Photo 1: Existing farm laneway crossing of deciduous swamp (Feature 69) looking north.



Photo 2: Existing farm laneway crossing of deciduous swamp looking south.

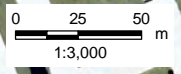




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Notes

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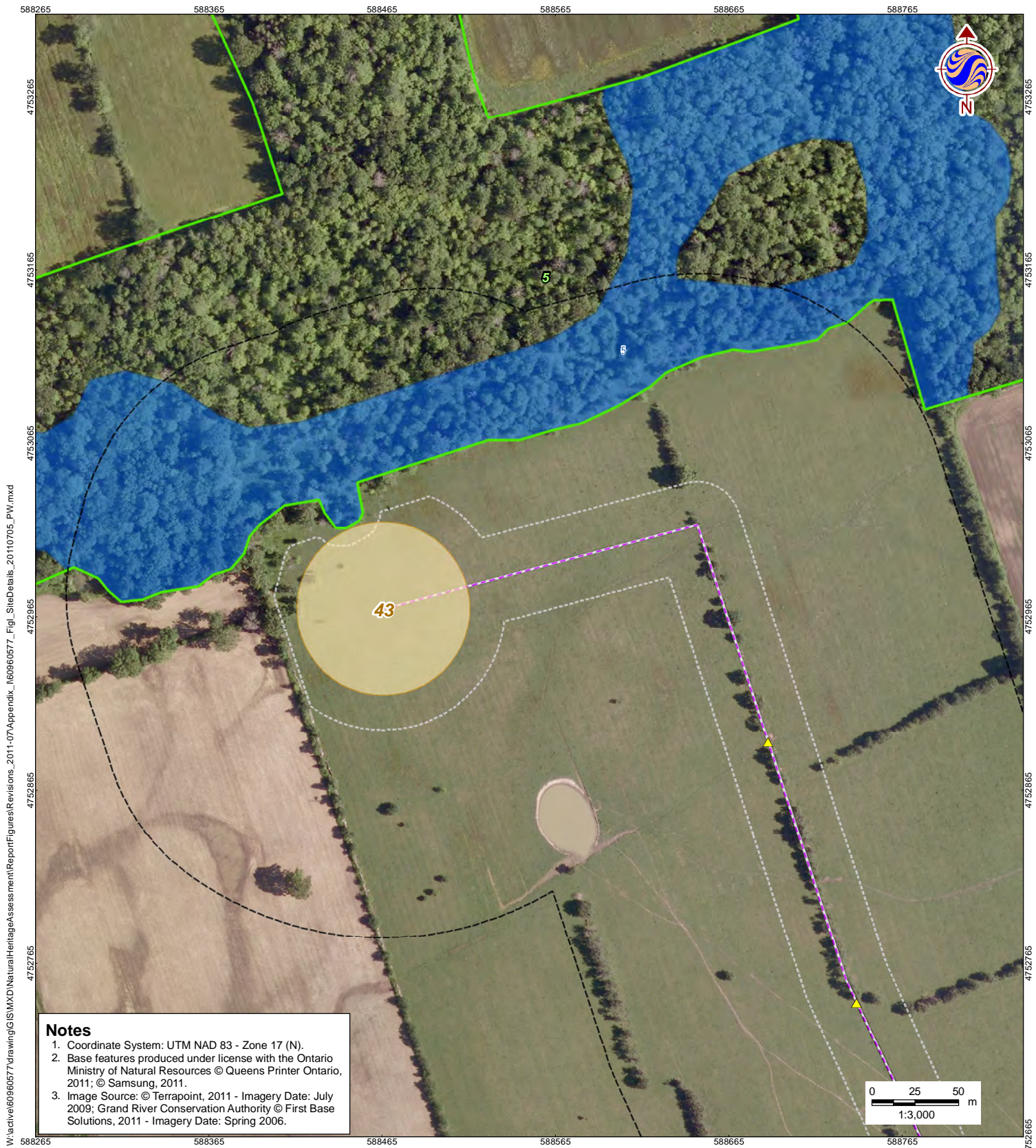
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| Zone of Investigation | Underground Transmission Line | Vernal Pool |
| Constructable Area | Electrical Transmission Component | Rare Vegetation Community |
| Wind Project Location | | |
| Proposed Turbine Location | Provincially Significant Wetland | Snapping Turtle Habitat |
| Access Road | Non-Provincially Significant Wetland | Animal Movement Corridor |
| Turbine Laydown Area | Significant Natural Features | |
| Overhead Collector Line | Significant Woodland | Waterfowl Stopover |
| Underground Collector Line | Significant Wetland | Migratory Landbird Habitat |
| Solar Project Location | | |
| Solar Fence | Significant Valleyland | Habitat for Declining Woodland Species |
| Solar Panel Unit | Significant Wildlife Habitat | Area-Sensitive Species Woodland Habitat |
| Overhead Transmission Line | Deer Wintering Area | Tree Removal Area |
| | Habitat for Declining/Area-Sensitive Grassland Species | Naturalized Buffer |
| | Seep | Culverts |
| | | Wildlife Culvert |
| | | Culvert |

Client/Project
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GRAND RENEWABLE ENERGY PARK

Figure No.
I-1

Title
SITE DETAILS
Feature 8



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| <ul style="list-style-type: none"> Zone of Investigation Constructable Area Wind Project Location Proposed Turbine Location Access Road Turbine Laydown Area Overhead Collector Line Underground Collector Line Solar Project Location Solar Fence Solar Panel Unit Transmission Line Overhead Transmission Line Underground Transmission Line Electrical Transmission Component 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 Seep | <ul style="list-style-type: none"> 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 Tree Removal Area Naturalized Buffer Culverts Wildlife Culvert Culvert |
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Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
 GRAND RENEWABLE ENERGY PARK**

Figure No.
I-2

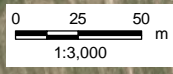
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**SITE DETAILS
 Feature 5**



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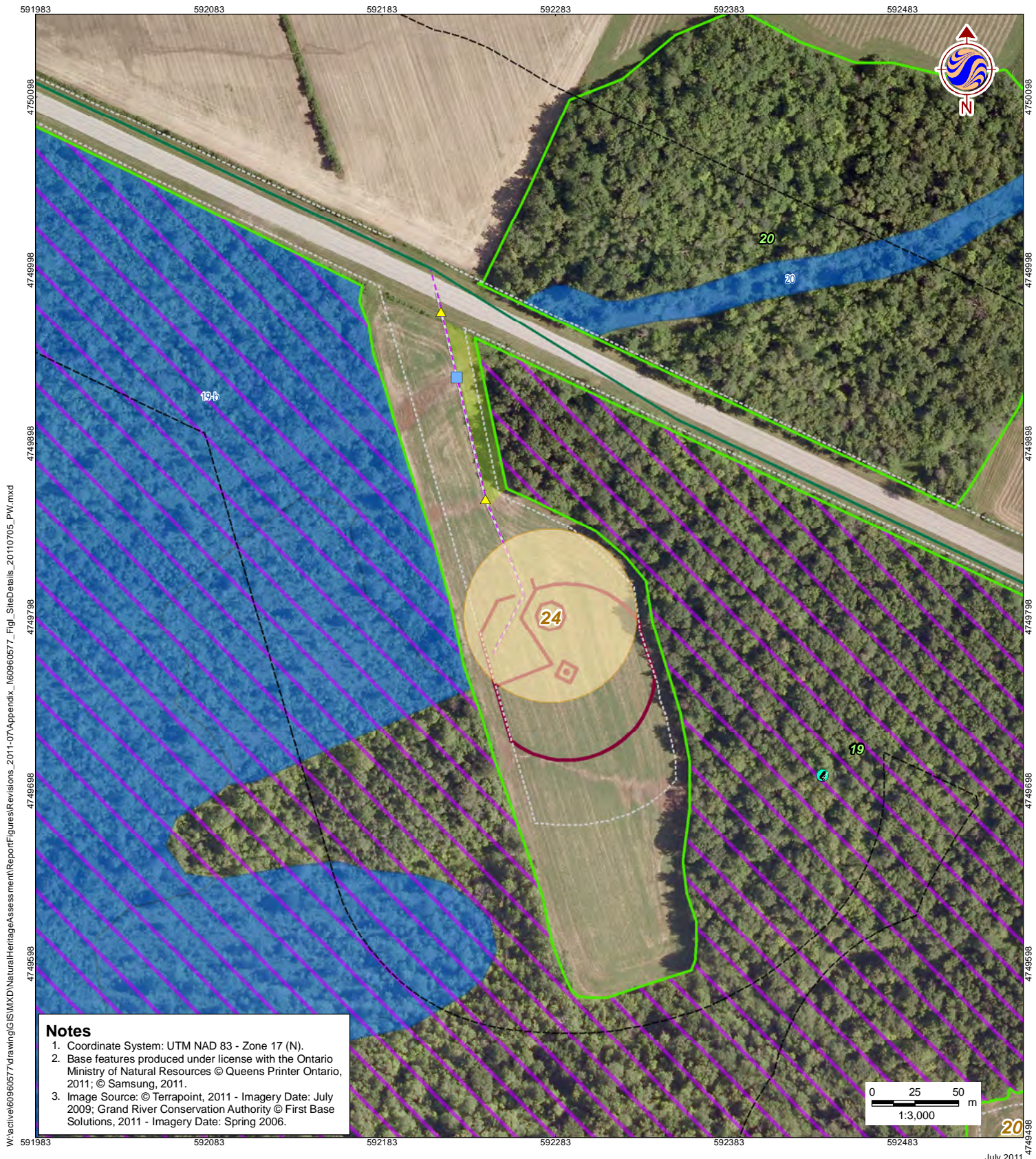
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| <ul style="list-style-type: none"> Zone of Investigation Constructable Area <p>Wind Project Location</p> <ul style="list-style-type: none"> Proposed Turbine Location Access Road Turbine Laydown Area Overhead Collector Line Underground Collector Line <p>Solar Project Location</p> <ul style="list-style-type: none"> Solar Fence Solar Panel Unit <p>Transmission Line</p> <ul style="list-style-type: none"> Overhead Transmission Line | <ul style="list-style-type: none"> Underground Transmission Line Electrical Transmission Component <p>Wetland (MNR)</p> <ul style="list-style-type: none"> Provincially Significant Wetland Non-Provincially Significant Wetland <p>Significant Natural Features</p> <ul style="list-style-type: none"> Significant Woodland Significant Wetland Significant Valleyland <p>Significant Wildlife Habitat</p> <ul style="list-style-type: none"> Deer Wintering Area Habitat for Declining/Area-Sensitive Grassland Species Seep | <ul style="list-style-type: none"> 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 Tree Removal Area Naturalized Buffer <p>Culverts</p> <ul style="list-style-type: none"> Wildlife Culvert Culvert |
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Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
I-3

Title
**SITE DETAILS
Feature 90**



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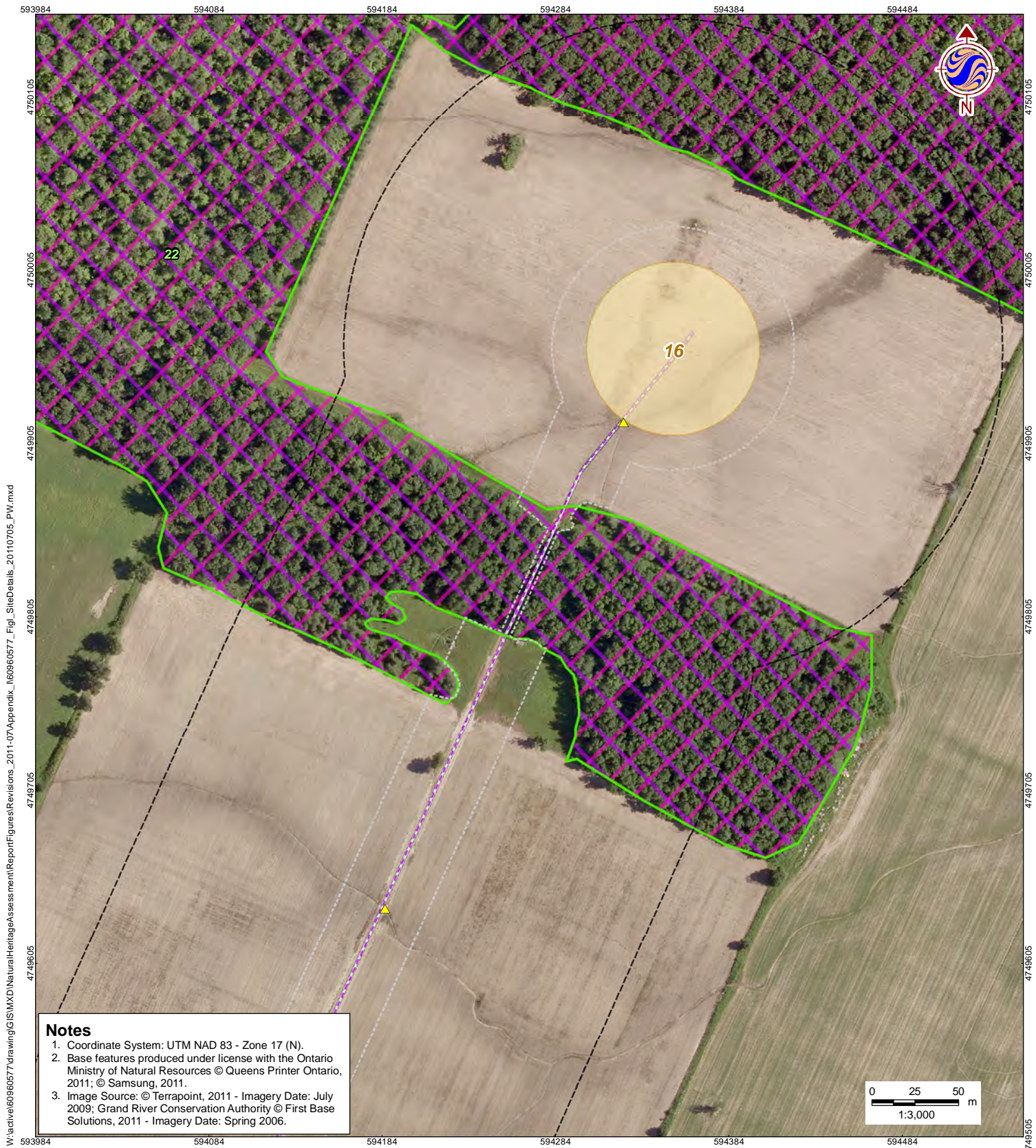
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| Zone of Investigation | Underground Transmission Line | Vernal Pool |
| Constructable Area | Electrical Transmission Component | Rare Vegetation Community |
| Wind Project Location | | |
| Proposed Turbine Location | Provincially Significant Wetland | Snapping Turtle Habitat |
| Access Road | Non-Provincially Significant Wetland | Animal Movement Corridor |
| Turbine Laydown Area | Significant Natural Features | |
| Overhead Collector Line | Significant Woodland | Waterfowl Stopover |
| Underground Collector Line | Significant Wetland | Migratory Landbird Habitat |
| Solar Project Location | | |
| Solar Fence | Significant Valleyland | Habitat for Declining Woodland Species |
| Solar Panel Unit | Significant Wildlife Habitat | Area-Sensitive Species Woodland Habitat |
| Transmission Line | Deer Wintering Area | Tree Removal Area |
| Overhead Transmission Line | Habitat for Declining/Area-Sensitive Grassland Species | Naturalized Buffer |
| | Seep | Culverts |
| | | Wildlife Culvert |
| | | Culvert |

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

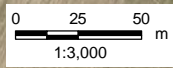
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Title
SITE DETAILS
Feature 19



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| <ul style="list-style-type: none"> Zone of Investigation Constructable Area Wind Project Location Proposed Turbine Location Access Road Turbine Laydown Area Overhead Collector Line Underground Collector Line Solar Project Location Solar Fence Solar Panel Unit Transmission Line Overhead Transmission Line | <ul style="list-style-type: none"> Underground Transmission Line Electrical Transmission Component 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 Seep | <ul style="list-style-type: none"> 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 Tree Removal Area Naturalized Buffer Culverts Wildlife Culvert Culvert |
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Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

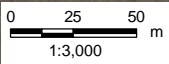
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I-5

Title
**SITE DETAILS
Feature 22**



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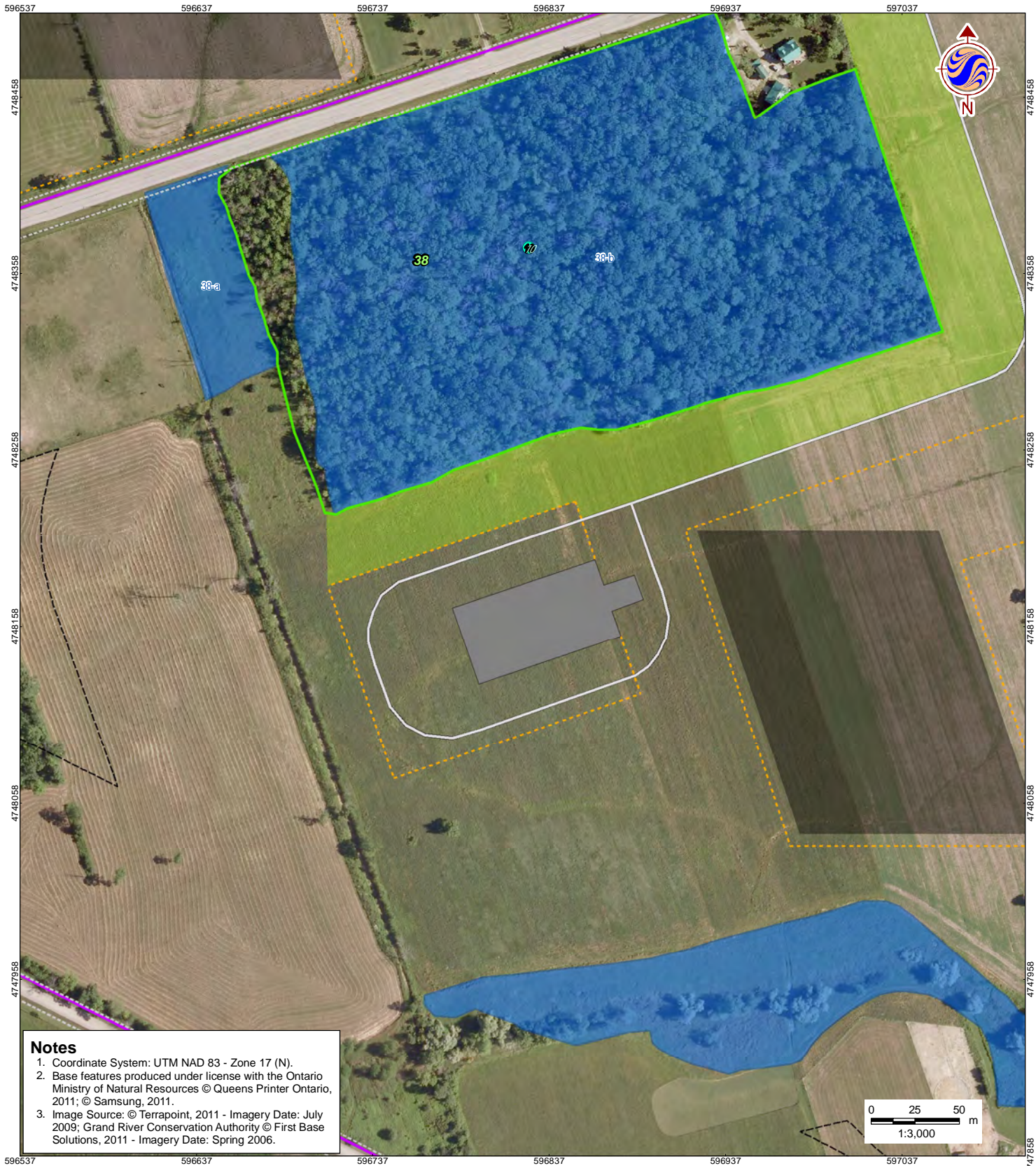
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| Zone of Investigation | Underground Transmission Line | Vernal Pool |
| Constructable Area | Electrical Transmission Component | Rare Vegetation Community |
| Wind Project Location | | |
| Proposed Turbine Location | Provincially Significant Wetland | Snapping Turtle Habitat |
| Access Road | Non-Provincially Significant Wetland | Animal Movement Corridor |
| Turbine Laydown Area | Significant Natural Features | |
| Overhead Collector Line | Significant Woodland | Waterfowl Stopover |
| Underground Collector Line | Significant Wetland | Migratory Landbird Habitat |
| Solar Project Location | | |
| Solar Fence | Significant Valleyland | Habitat for Declining Woodland Species |
| Solar Panel Unit | Significant Wildlife Habitat | Area-Sensitive Species Woodland Habitat |
| Overhead Transmission Line | Deer Wintering Area | Tree Removal Area |
| | Habitat for Declining/Area-Sensitive Grassland Species | Naturalized Buffer |
| | Seep | Culverts |
| | | Wildlife Culvert |
| | | Culvert |

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

Figure No.
I-6

Title
**SITE DETAILS
Feature 30**



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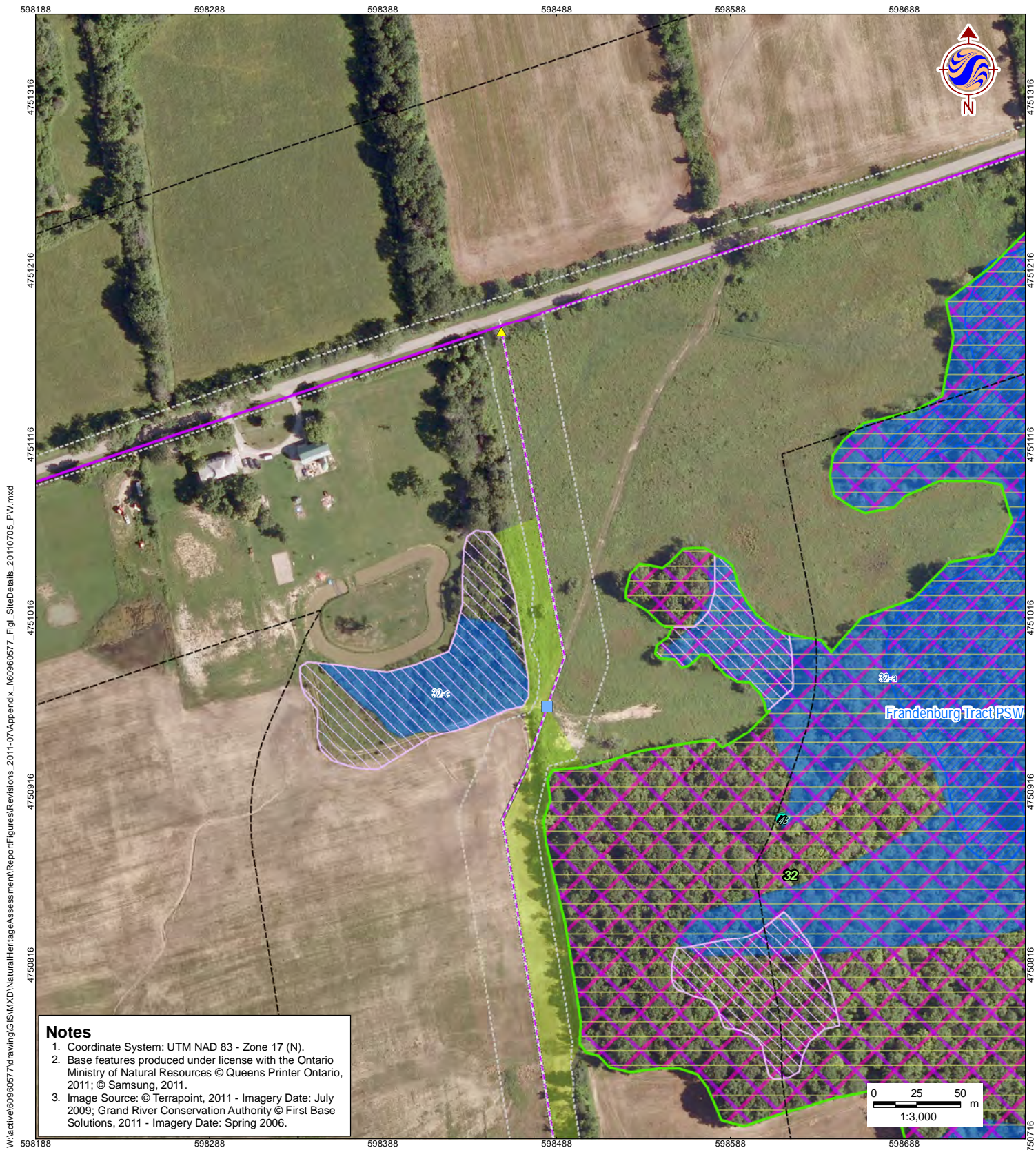
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Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

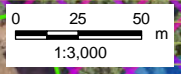
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I-7

Title
**SITE DETAILS
Feature 38**



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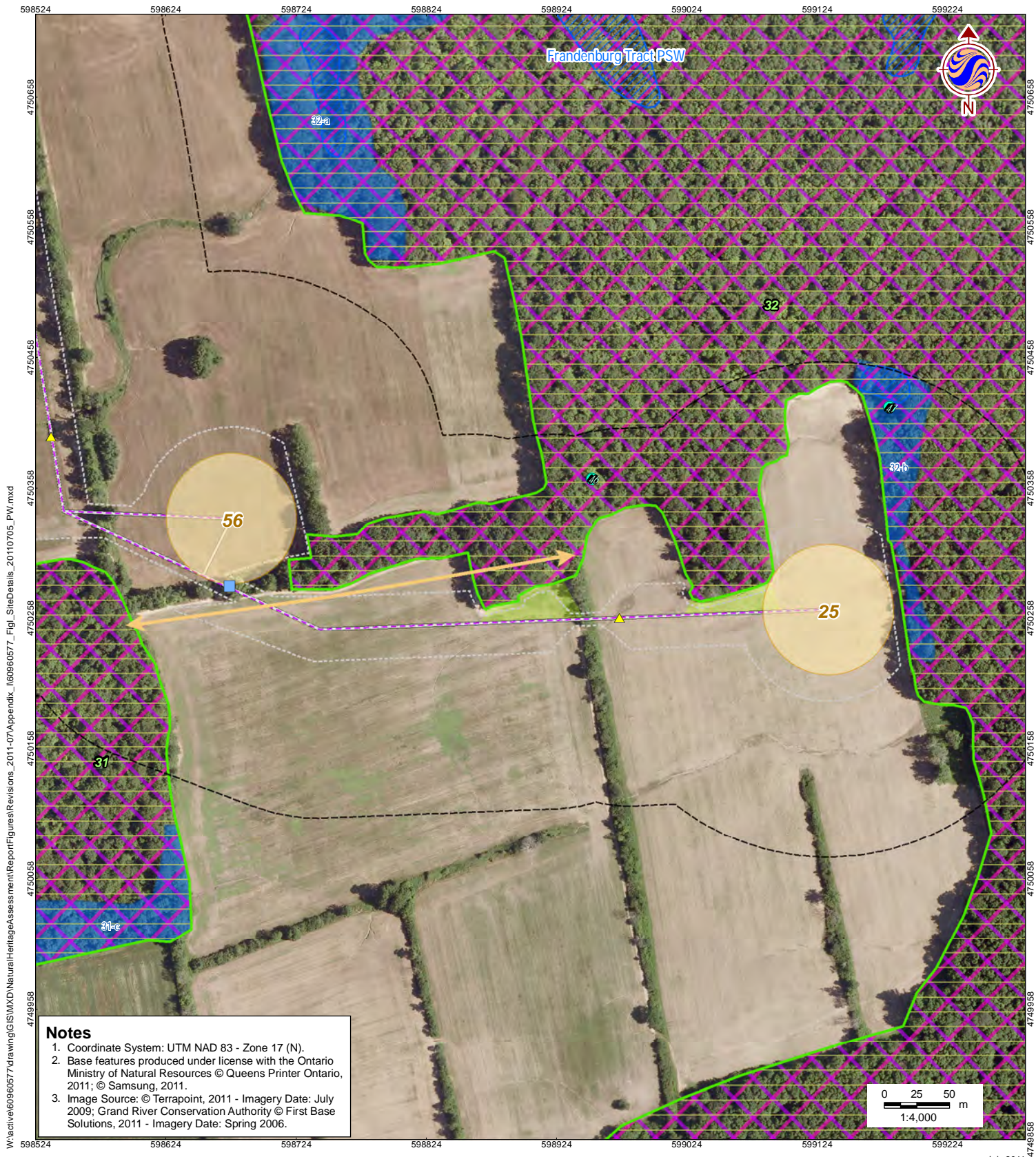
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| Zone of Investigation | Underground Transmission Line | Vernal Pool |
| Constructable Area | Electrical Transmission Component | Rare Vegetation Community |
| Wind Project Location | | |
| Proposed Turbine Location | Provincially Significant Wetland | Snapping Turtle Habitat |
| Access Road | Non-Provincially Significant Wetland | Animal Movement Corridor |
| Turbine Laydown Area | Wetland (MNR) | |
| Overhead Collector Line | Significant Woodland | Waterfowl Stopover |
| Underground Collector Line | Significant Wetland | Migratory Landbird Habitat |
| Solar Project Location | | |
| Solar Fence | Significant Valleyland | Habitat for Declining Woodland Species |
| Solar Panel Unit | Significant Wildlife Habitat | Area-Sensitive Species Woodland Habitat |
| Overhead Transmission Line | Deer Wintering Area | Tree Removal Area |
| | Habitat for Declining/Area-Sensitive Grassland Species | Naturalized Buffer |
| | Seep | Wildlife Culvert |
| | | Culvert |

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

Figure No.
I-8

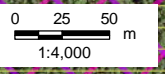
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**SITE DETAILS
 Feature 32**



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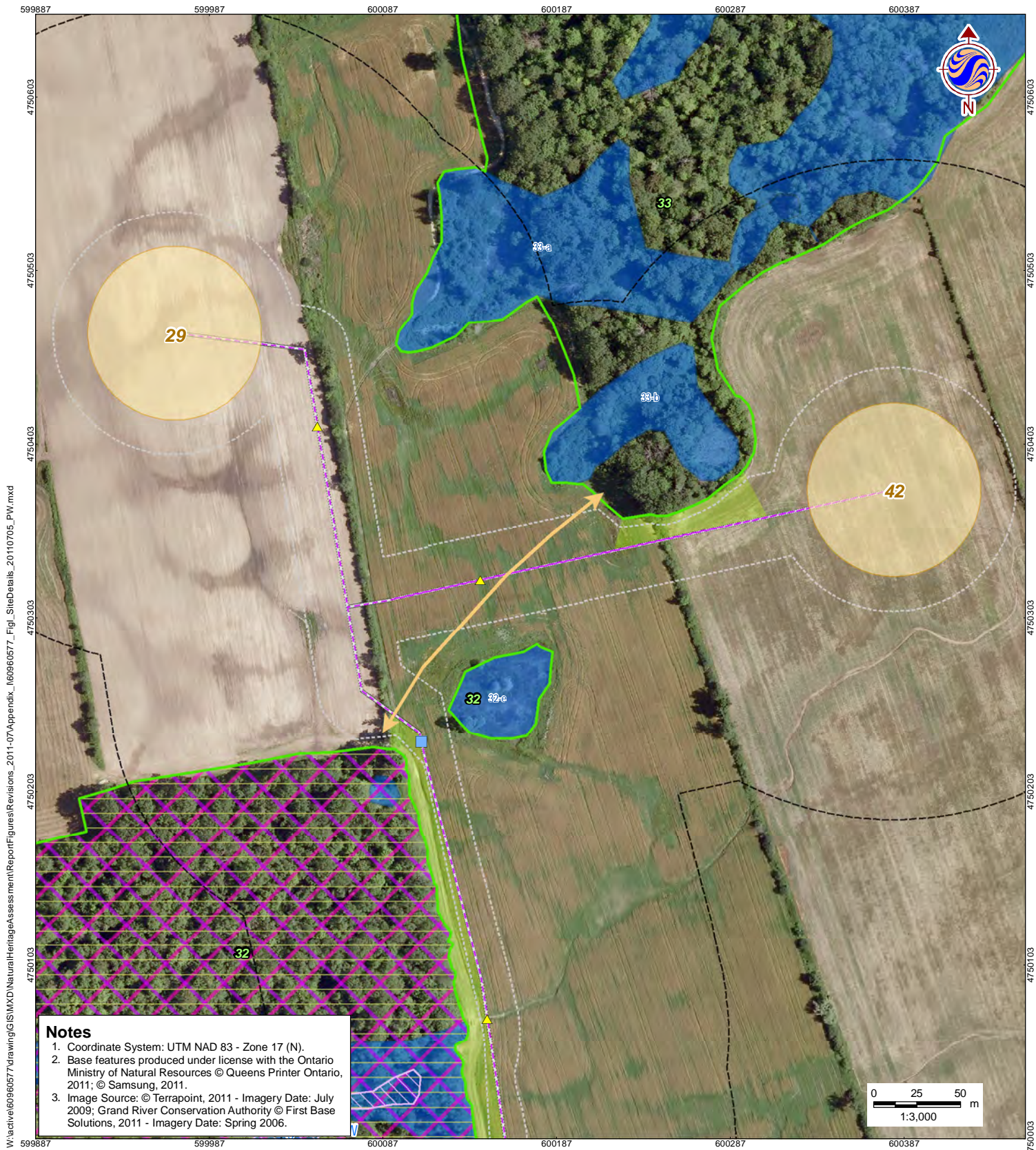
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| Zone of Investigation | Underground Transmission Line | Vernal Pool |
| Constructable Area | Electrical Transmission Component | Rare Vegetation Community |
| Wind Project Location | | |
| Proposed Turbine Location | Provincially Significant Wetland | Snapping Turtle Habitat |
| Access Road | Non-Provincially Significant Wetland | Animal Movement Corridor |
| Turbine Laydown Area | Significant Natural Features | |
| Overhead Collector Line | Significant Woodland | Waterfowl Stopover |
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| Solar Fence | Significant Valleyland | Habitat for Declining Woodland Species |
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| Transmission Line | Deer Wintering Area | Tree Removal Area |
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| | Seep | Culverts |
| | | Wildlife Culvert |
| | | Culvert |

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

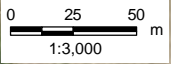
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Title
SITE DETAILS
Feature 32



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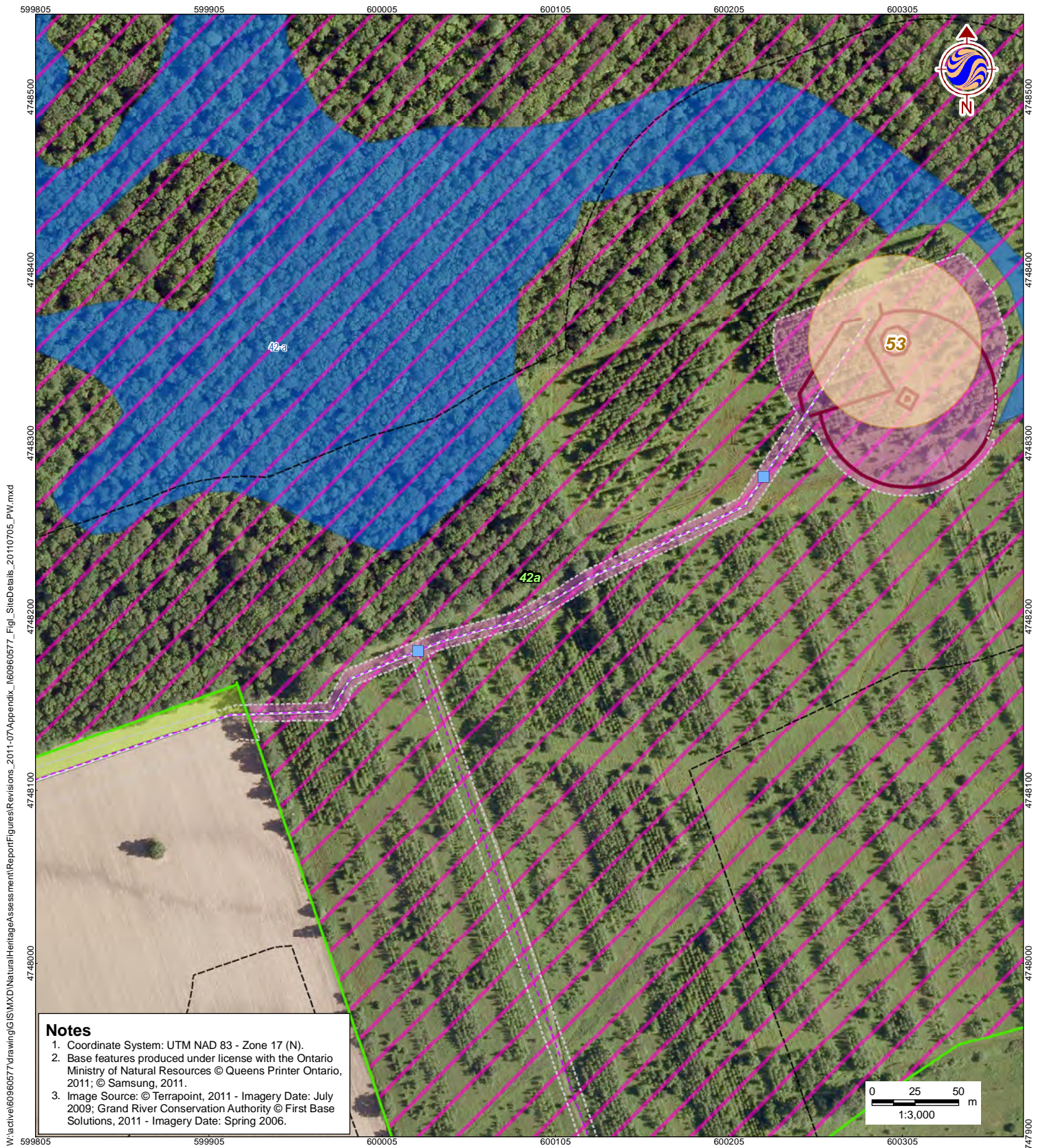
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| <ul style="list-style-type: none"> Zone of Investigation Constructable Area Wind Project Location Proposed Turbine Location Access Road Turbine Laydown Area Overhead Collector Line Underground Collector Line Solar Project Location Solar Fence Solar Panel Unit Transmission Line Overhead Transmission Line | <ul style="list-style-type: none"> Underground Transmission Line Electrical Transmission Component 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 Seep | <ul style="list-style-type: none"> 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 Tree Removal Area Naturalized Buffer Culverts Wildlife Culvert Culvert |
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Client/Project
**SAMSUNG, PATTERN & KEPSCO (SPK)
 GRAND RENEWABLE ENERGY PARK**

Figure No.
I-10

Title
**SITE DETAILS
 Features 32 & 33**



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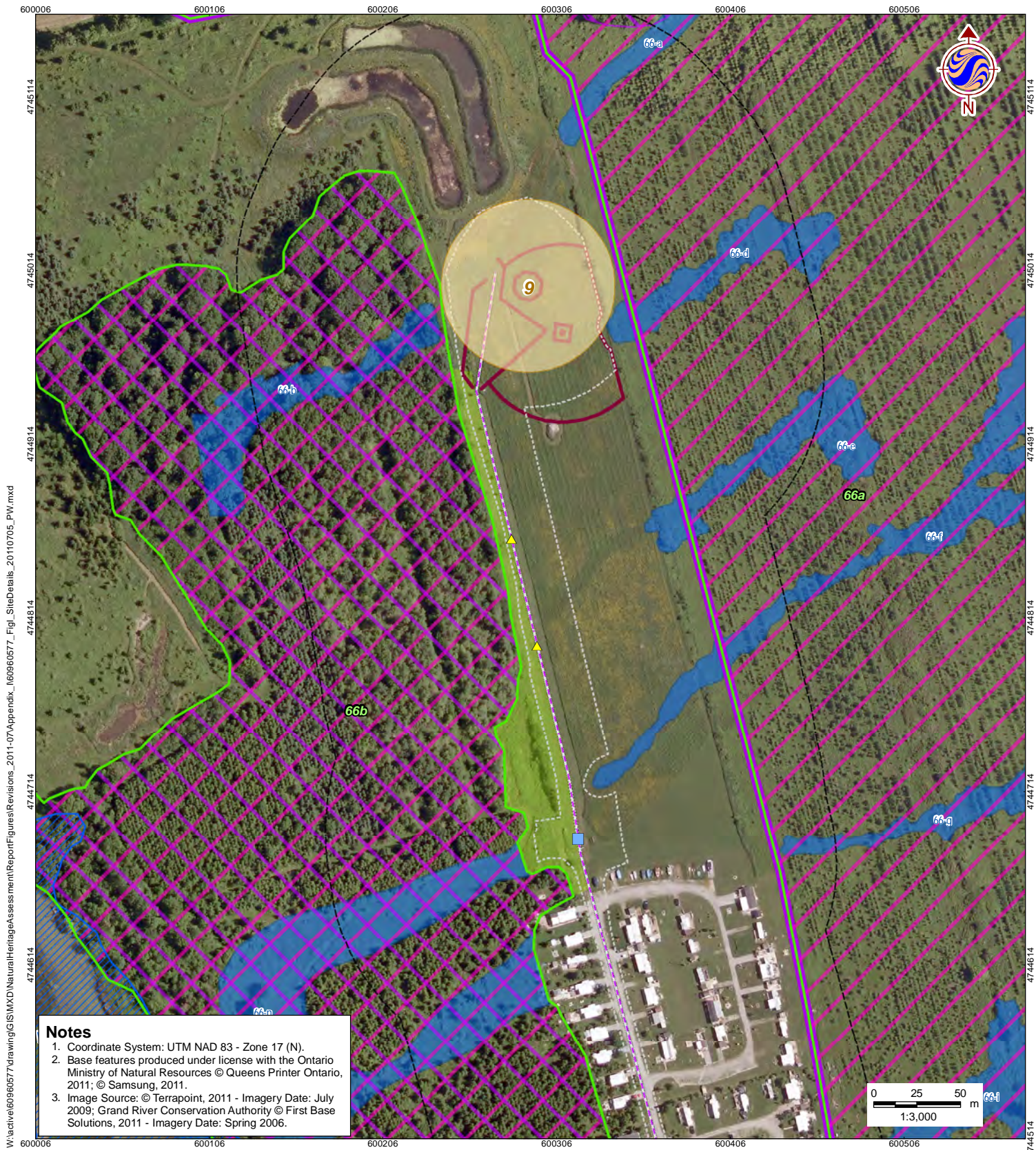
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| Zone of Investigation | Underground Transmission Line | Vernal Pool |
| Constructable Area | Electrical Transmission Component | Rare Vegetation Community |
| Wind Project Location | | |
| Proposed Turbine Location | Provincially Significant Wetland | Snapping Turtle Habitat |
| Access Road | Non-Provincially Significant Wetland | Animal Movement Corridor |
| Turbine Laydown Area | Significant Natural Features | |
| Overhead Collector Line | Significant Woodland | Waterfowl Stopover |
| Underground Collector Line | Significant Wetland | Migratory Landbird Habitat |
| Solar Project Location | | |
| Solar Fence | Significant Valleyland | Habitat for Declining Woodland Species |
| Solar Panel Unit | Significant Wildlife Habitat | Area-Sensitive Species Woodland Habitat |
| Transmission Line | Deer Wintering Area | Tree Removal Area |
| Overhead Transmission Line | Habitat for Declining/Area-Sensitive Grassland Species | Naturalized Buffer |
| | Seep | Culverts |
| | | Wildlife Culvert |
| | | Culvert |

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

Figure No.
I-11

Title
SITE DETAILS
Feature 42



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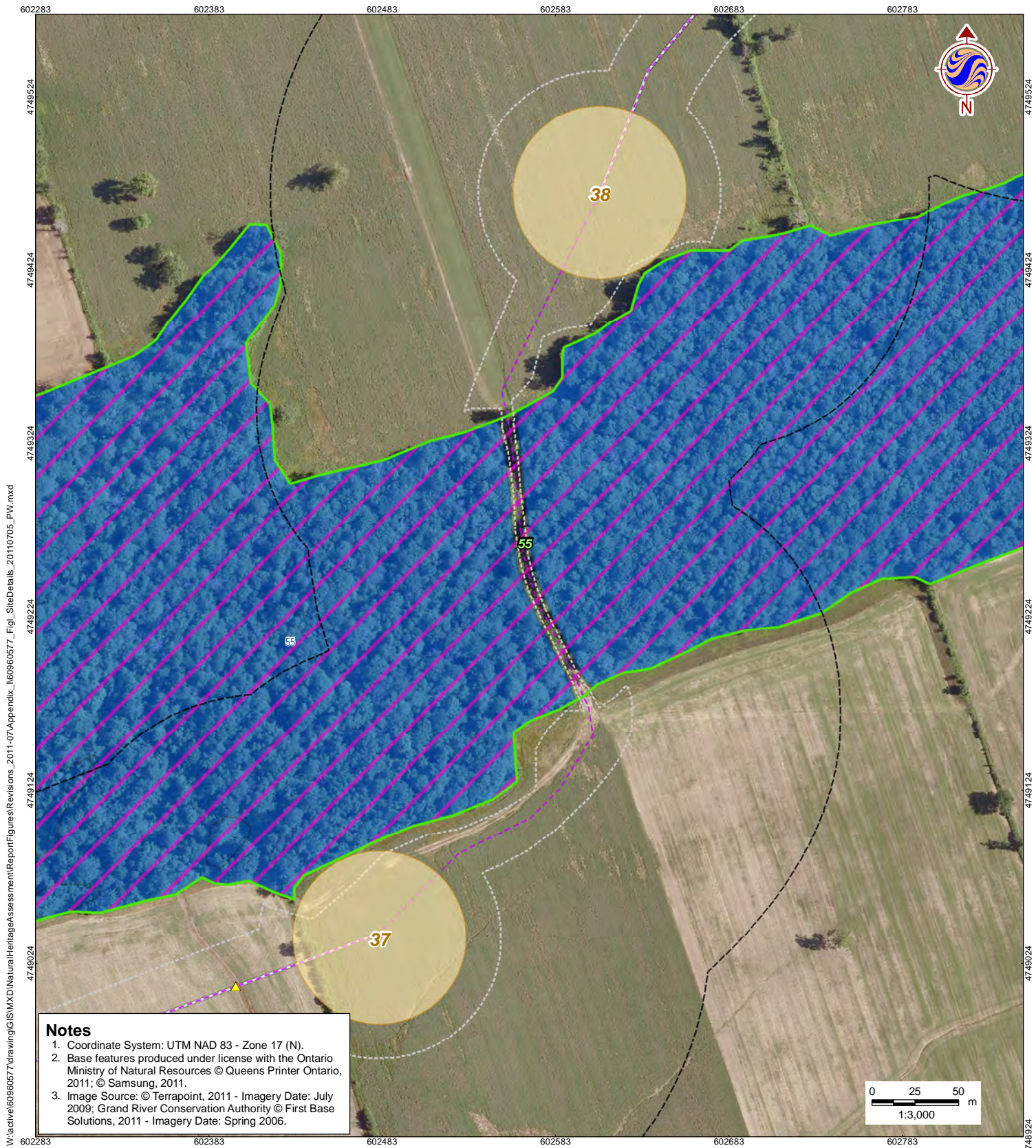
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| Zone of Investigation | Underground Transmission Line | Vernal Pool |
| Constructable Area | Electrical Transmission Component | Rare Vegetation Community |
| Wind Project Location | | |
| Proposed Turbine Location | Provincially Significant Wetland | Snapping Turtle Habitat |
| Access Road | Non-Provincially Significant Wetland | Animal Movement Corridor |
| Turbine Laydown Area | Significant Natural Features | |
| Overhead Collector Line | Significant Woodland | Waterfowl Stopover |
| Underground Collector Line | Significant Wetland | Migratory Landbird Habitat |
| Solar Project Location | | |
| Solar Fence | Significant Valleyland | Habitat for Declining Woodland Species |
| Solar Panel Unit | Significant Wildlife Habitat | Area-Sensitive Species Woodland Habitat |
| Transmission Line | Deer Wintering Area | Tree Removal Area |
| Overhead Transmission Line | Habitat for Declining/Area-Sensitive Grassland Species | Naturalized Buffer |
| | Seep | Culverts |
| | | Wildlife Culvert |
| | | Culvert |

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

Figure No.
I-12

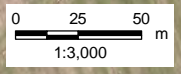
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SITE DETAILS
Feature 66



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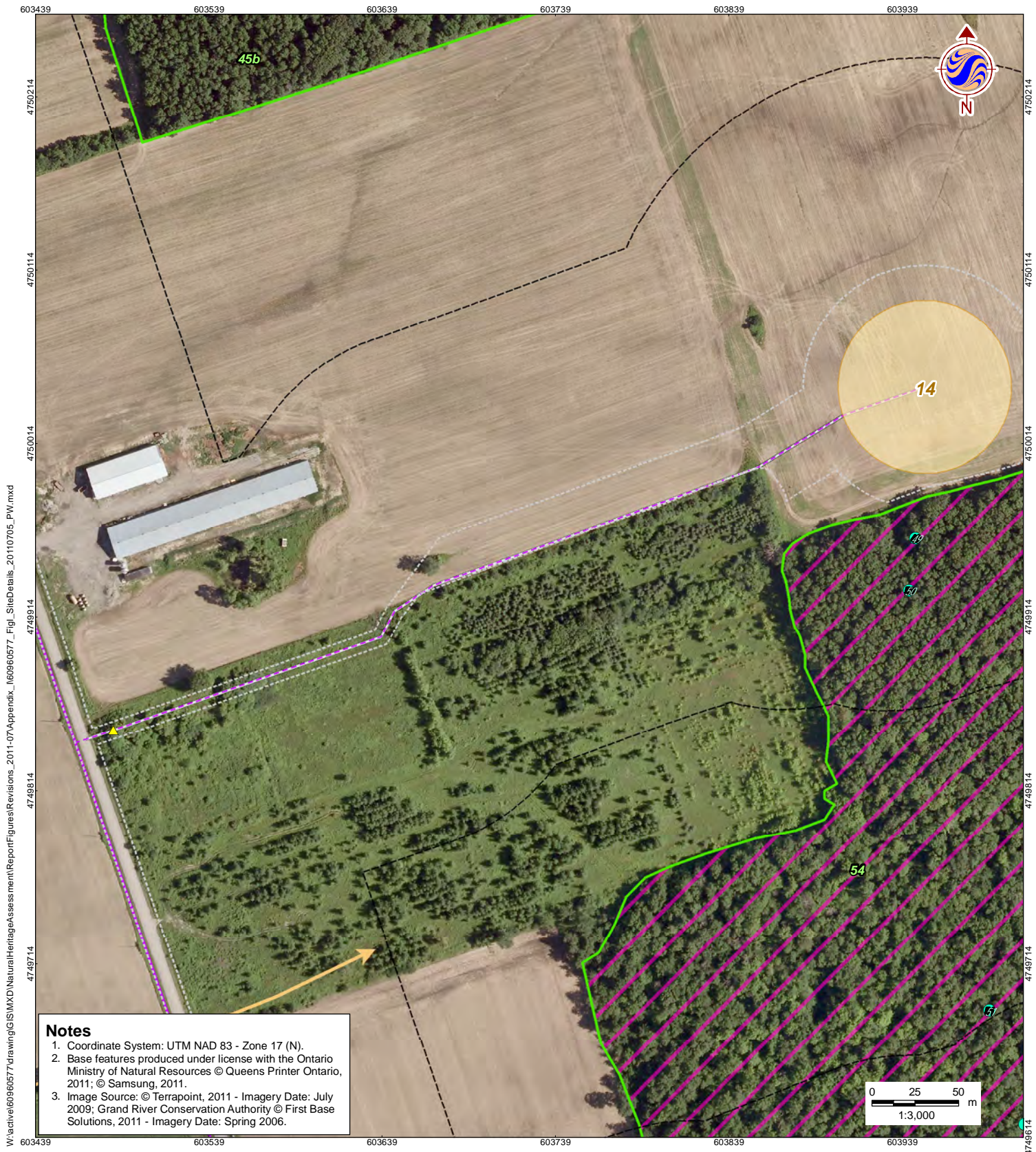
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Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK**

Figure No.
I-13

Title
**SITE DETAILS
Feature 55**



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Legend

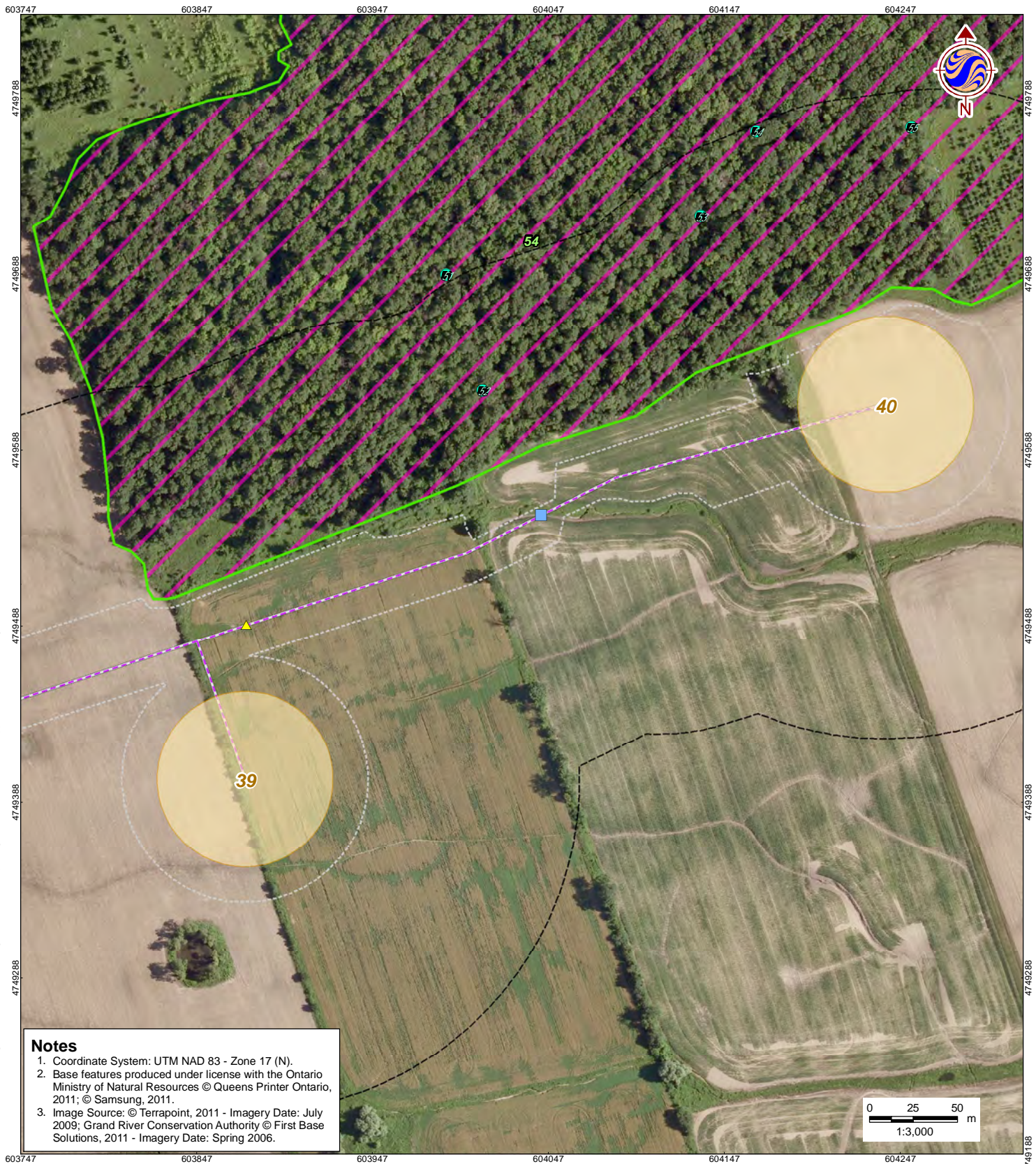
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| <ul style="list-style-type: none"> Zone of Investigation Constructable Area Wind Project Location Proposed Turbine Location Access Road Turbine Laydown Area Overhead Collector Line Underground Collector Line Solar Project Location Solar Fence Solar Panel Unit Transmission Line Overhead Transmission Line | <ul style="list-style-type: none"> Underground Transmission Line Electrical Transmission Component 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 Seep | <ul style="list-style-type: none"> 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 Tree Removal Area Naturalized Buffer Culverts Wildlife Culvert Culvert |
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Client/Project
**SAMSUNG, PATTERN & KEPKO (SPK)
 GRAND RENEWABLE ENERGY PARK**

Figure No.
I-14

Title
**SITE DETAILS
 Feature 54**





Notes

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

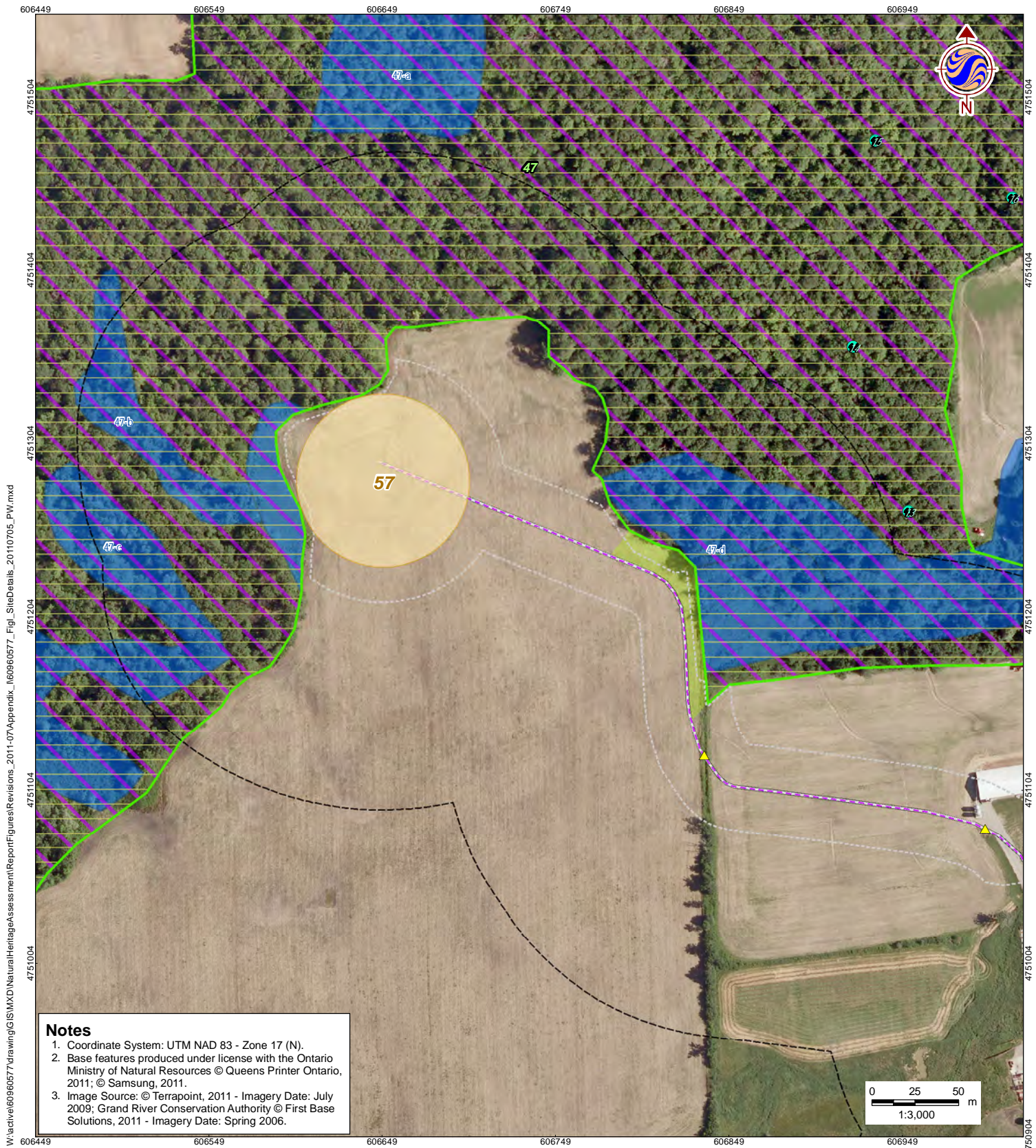
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| <ul style="list-style-type: none"> Zone of Investigation Constructable Area Wind Project Location Proposed Turbine Location Access Road Turbine Laydown Area Overhead Collector Line Underground Collector Line Solar Project Location Solar Fence Solar Panel Unit Transmission Line Overhead Transmission Line | <ul style="list-style-type: none"> Underground Transmission Line Electrical Transmission Component 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 Seep | <ul style="list-style-type: none"> 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 Tree Removal Area Naturalized Buffer Culverts Wildlife Culvert Culvert |
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Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
 GRAND RENEWABLE ENERGY PARK**

Figure No.
I-15

Title
**SITE DETAILS
 Feature 54**

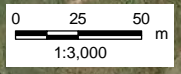




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Notes

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July 2011
160960577



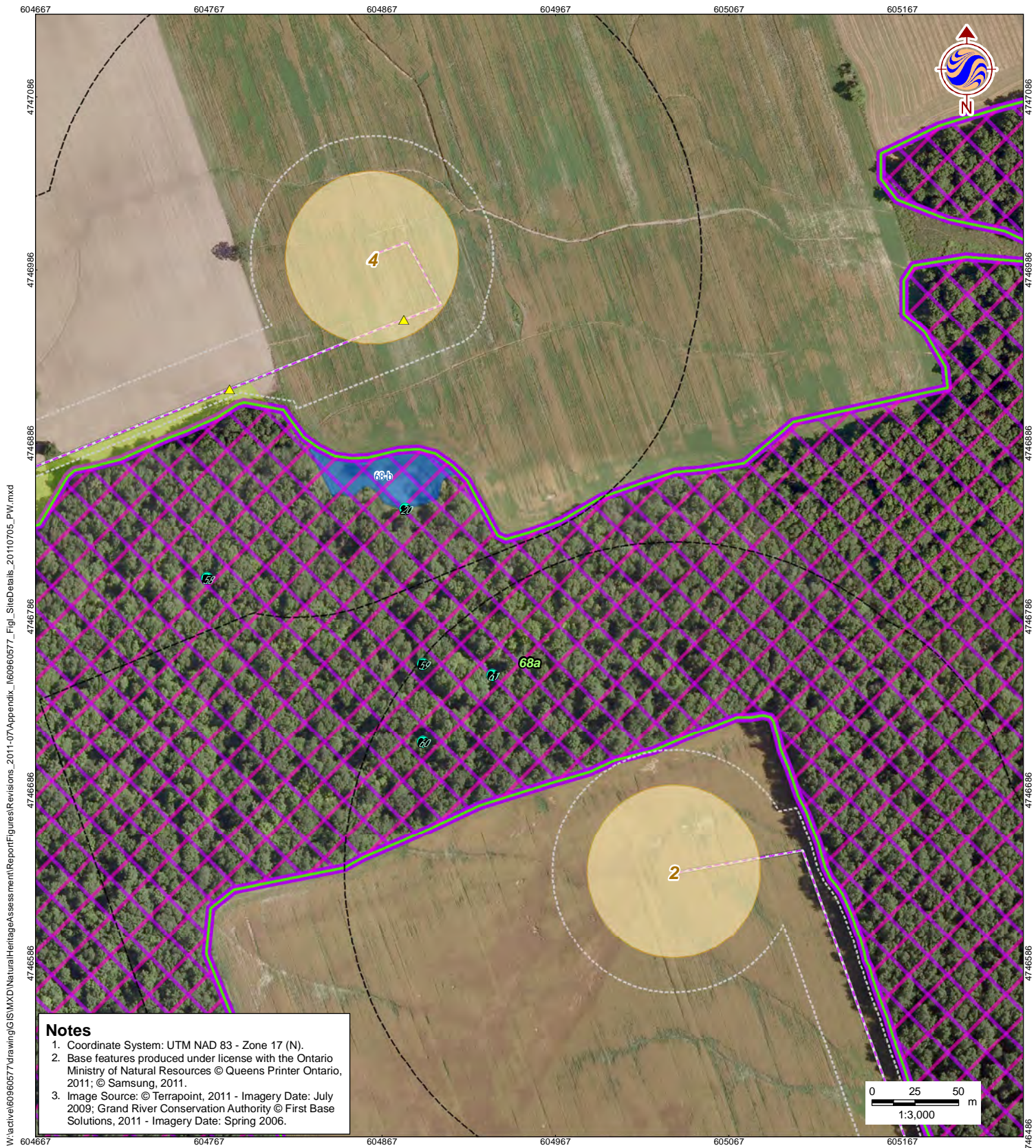
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| <ul style="list-style-type: none"> Zone of Investigation Constructable Area Wind Project Location Proposed Turbine Location Access Road Turbine Laydown Area Overhead Collector Line Underground Collector Line Solar Project Location Solar Fence Solar Panel Unit Transmission Line Overhead Transmission Line | <ul style="list-style-type: none"> Underground Transmission Line Electrical Transmission Component 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 Seep | <ul style="list-style-type: none"> 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 Tree Removal Area Naturalized Buffer Culverts Wildlife Culvert Culvert |
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Client/Project
SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK

Figure No.
I-16

Title
SITE DETAILS
Feature 47



Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
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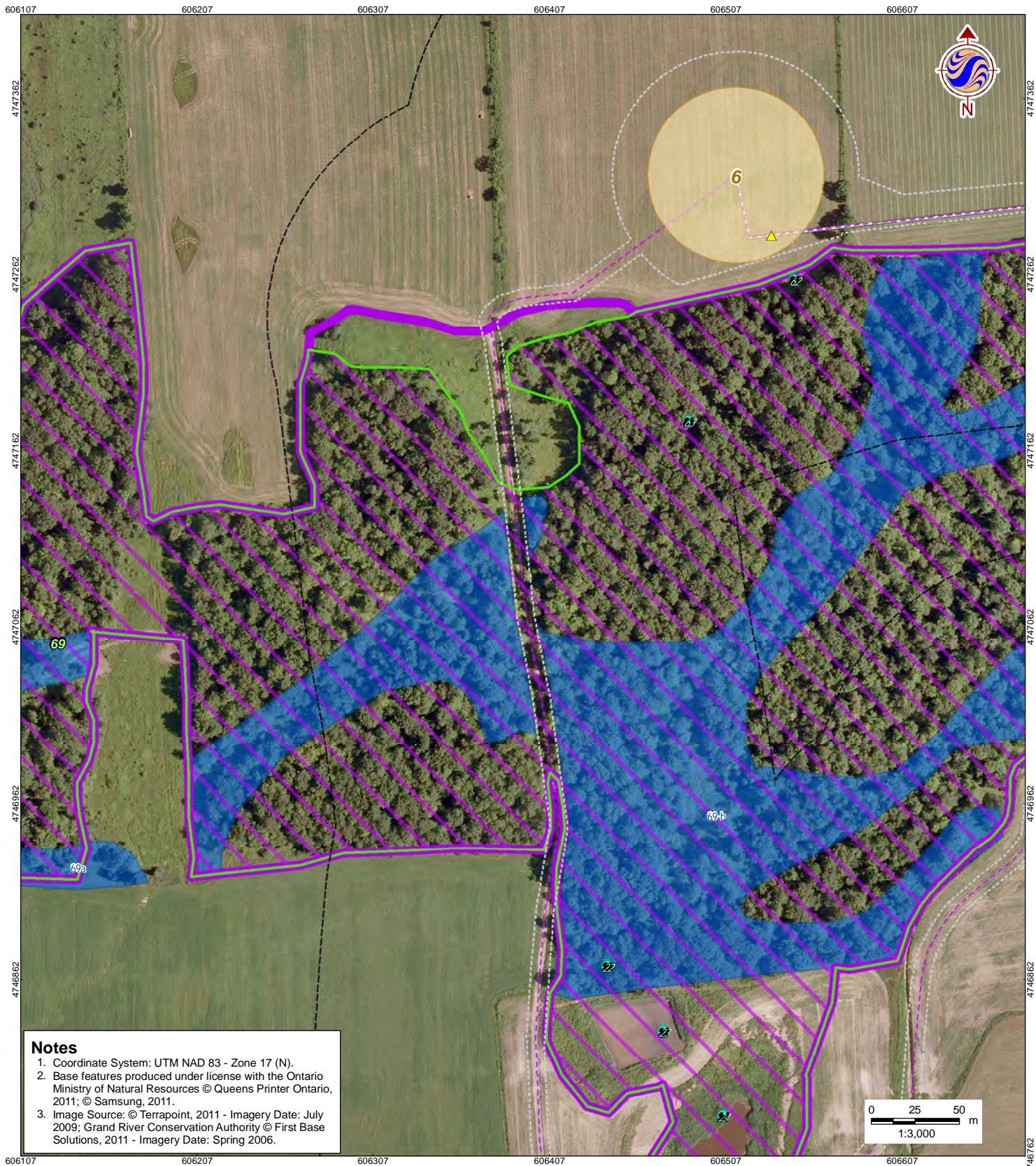
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| <ul style="list-style-type: none"> Zone of Investigation Constructable Area Wind Project Location Proposed Turbine Location Access Road Turbine Laydown Area Overhead Collector Line Underground Collector Line Solar Project Location Solar Fence Solar Panel Unit Transmission Line Overhead Transmission Line | <ul style="list-style-type: none"> Underground Transmission Line Electrical Transmission Component 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 Seep | <ul style="list-style-type: none"> 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 Tree Removal Area Naturalized Buffer Culverts Wildlife Culvert Culvert |
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Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
 GRAND RENEWABLE ENERGY PARK**

Figure No.
I-17

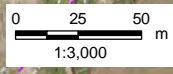
Title
**SITE DETAILS
 Feature 68**



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Notes

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July 2011
160960577



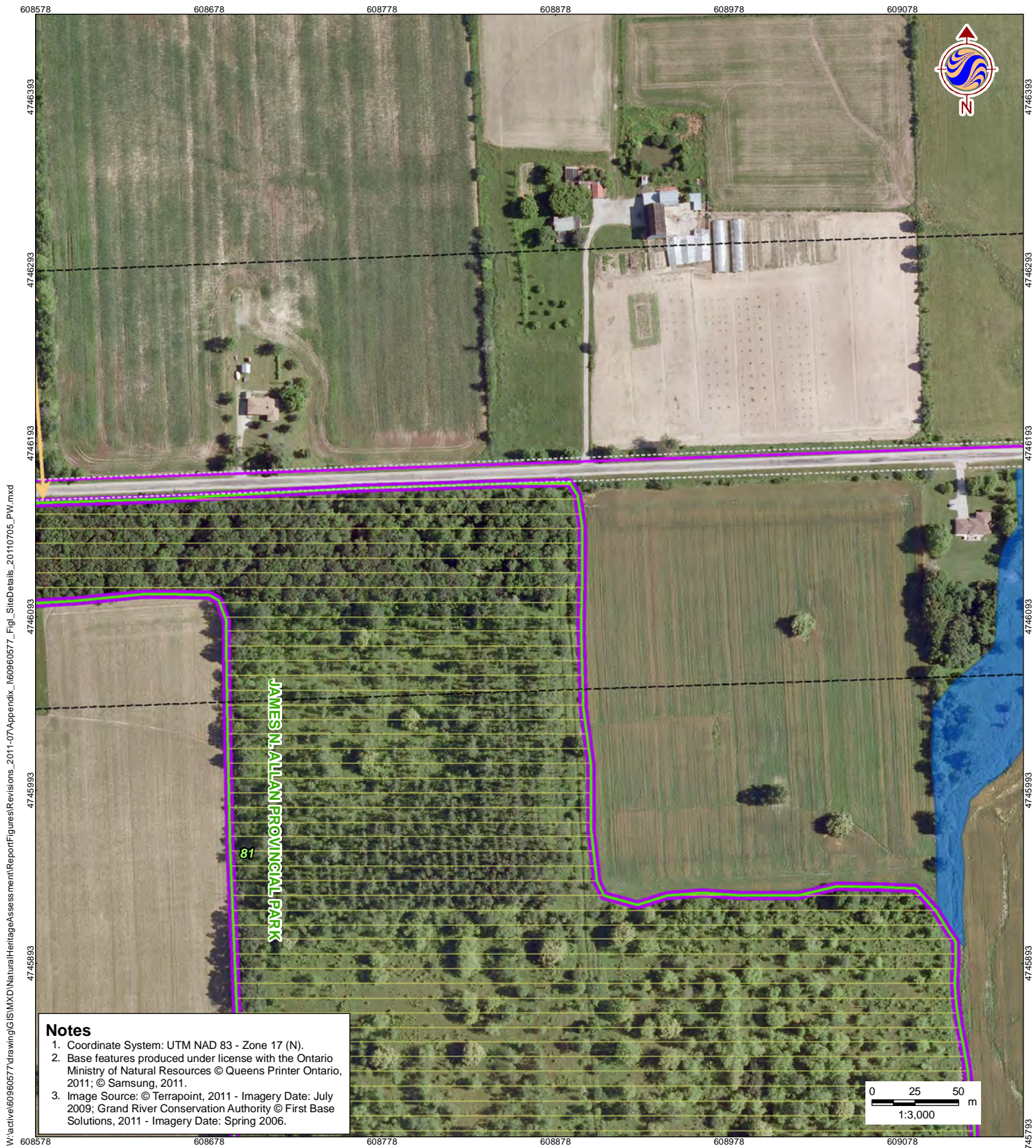
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| <ul style="list-style-type: none"> Zone of Investigation Constructable Area Wind Project Location Proposed Turbine Location Access Road Turbine Laydown Area Overhead Collector Line Underground Collector Line Solar Project Location Solar Fence Solar Panel Unit Transmission Line Overhead Transmission Line | <ul style="list-style-type: none"> Underground Transmission Line Electrical Transmission Component 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 Seep | <ul style="list-style-type: none"> 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 Tree Removal Area Naturalized Buffer Culverts Wildlife Culvert Culvert |
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Client/Project
SAMSUNG, PATTERN & KEPCO (SPK)
GRAND RENEWABLE ENERGY PARK

Figure No.
I-18

Title
SITE DETAILS
Feature 69



Notes

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Legend

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| <ul style="list-style-type: none"> Zone of Investigation Constructable Area Wind Project Location Proposed Turbine Location Access Road Turbine Laydown Area Overhead Collector Line Underground Collector Line Solar Project Location Solar Fence Solar Panel Unit Transmission Line Overhead Transmission Line | <ul style="list-style-type: none"> Underground Transmission Line Electrical Transmission Component 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 Seep | <ul style="list-style-type: none"> 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 Tree Removal Area Naturalized Buffer Culverts Wildlife Culvert Culvert |
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Client/Project
**SAMSUNG, PATTERN & KEPCO (SPK)
 GRAND RENEWABLE ENERGY PARK**

Figure No.
I-19

Title
**SITE DETAILS
 Feature 81**