

Appendix H

STRUM CONSULTING / 2021. RARE PLANT ASSESSMENT. L8001/5
TRANSMISSION LINE RIGHT-OF-WAY



August 9, 2021

Mr. Daniel Thompson
Nova Scotia Power Inc.
1223 Lower Water St.
Halifax, NS B3J 3S8

Dear Mr. Thompson,

Re: Rare Plant Assessment
L8001/L8005 Transmission Line Right-of-way

Introduction

Strum Consulting was retained by Nova Scotia Power Inc. (NSPI) to complete a rare plant assessment along the right of ways (RoWs) for the existing L8001 transmission line and the proposed L8005 transmission line. Rare Plant Assessments were initially completed concurrently with wetland and watercourse assessments in 2020, but due to the seasonal timing of the 2020 surveys, additional surveys were deemed necessary to fully capture species present.

The purpose of the rare plant assessment was to identify any plant species of conservational interest (SOCl) present within the two corridors and record their location. For the purpose of this report, a SOCl is defined as:

- Species listed as 'Endangered', 'Threatened' or 'Special Concern' under the federal *Species at Risk Act* (SARA) or the Committee on the Status of Endangered Wildlife in Canada (COSEWIC);
- Species listed as 'Endangered', 'Threatened' or 'Vulnerable' under the NS *Endangered Species Act* (NS ESA); or
- Species with a Subnational Rarity Rank (S-Rank) of 'S1', 'S2', or 'S3' (ACCCDC).

Methodology

A detailed desktop review was performed to identify areas along the RoWs where rare plants and lichens were most likely to occur. Data was collected from both the previous 2020 RoW surveys and Atlantic Canada Conservation Data Center (ACCCDC) recordings, creating five conservation areas where rare plant surveys were to take place. Within these conservation areas, transects were made where rare species were most likely to occur, reducing surveying effort in areas such as active agricultural fields that have little to no probability for rare plant species.

Engineering • Surveying • Environmental

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Moncton, NB E1A 3R1
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The rare plant survey was conducted during peak flowering period, between July 8, 2021 and July 23, 2021. The study area was walked in a random meander technique where terrain allowed, with focus on unique and rare habitat that may be more likely to support rare species. The locations of identified rare plants were recorded using the ArcGIS application Survey123, and remotely sent to the main geodatabase for this project. Species identification was completed with the aid of Roland’s Flora of Nova Scotia, with other resources, including Sedges of Main and Newcomb’s Wildflower Guide, consulted if necessary. Plants that were difficult to identify due to lack of flowering were given a low identification confidence and are marked with an asterisk in Table 1.

Results

Eleven species of conservational interest were observed during the 2021 field program, with a total of 34 recorded observations (Drawing A1-1 to A1-30, attached). The 2020 botany survey found an additional 3 species of conservational interest and 5 observations, resulting in a total of 14 species and 39 observations over the two surveys. The species identified were located throughout the RoWs, with many located closer to disturbed areas along the existing L8001 RoW and along wetland margins. Table 1 outlines the rare species identified during field surveys.

Of the species identified, four were lichens and ten were vascular plants. The most observed species were Acadian jellyfish lichen and blood milkwort. The majority of species observed are not listed through SARA, COSEWIC, or NS ESA. However, three species are listed as either vulnerable, special concern or threatened [eastern white cedar (*Thuja occidentalis*), frosted glass whiskers (*Sclerophora peronella*), and eastern waterfan (*Peltigera hydrothyria*)]. The rarest species observed during the surveys was eastern waterfan, which is listed as threatened under SARA, COSEWIC, and NS ESA.

Three species [false foxglove (*Agalinis purpurea*), foam lichen (*sterocaulon sp.*), Rugel’s plantain (*Plantago rugelii*)] were identified with a low level of confidence due to the lack of identifying features, such as flowers or spores. These species, particularly foam lichen, have been further analyzed to ensure the species is not a variety with a higher rarity ranking (e.g., listed by SARA, COSEWIC or NS ESA). As Nova Scotia agalinis was positively identified during the 2020 surveys, it is possible that the False foxglove from the 2021 surveys is the same species, which is less rare, however this could not be confirmed due to a lack of flower. Species identified with a low level of confidence are indicated with an asterisk in Table 1.

Table 1. Species of Conservation Interest identified during Field Surveys

| Common Name | Scientific Name | SARA | COSEWIC | NS ESA | S-Rank | Location Coordinate (NAD 83 UTM Zone 20) | Survey Year |
|----------------------|----------------------------|------------|------------|------------|--------|--|-------------|
| Nova Scotia agalinis | <i>Agalinis neascotica</i> | Not Listed | Not Listed | Not Listed | S3S4 | 438322.30 E, 5064771.79 N | 2020 |
| Nova Scotia agalinis | <i>Agalinis neascotica</i> | Not Listed | Not Listed | Not Listed | S3S4 | 420849.01 E, 5076097.24 N | 2020 |
| False Foxglove* | <i>Agalinis purpurea</i> | Not Listed | Not Listed | Not Listed | S1 | -64.20657988, 45.88796699 | 2021 |

| Common Name | Scientific Name | SARA | COSEWIC | NS ESA | S-Rank | Location Coordinate (NAD 83 UTM Zone 20) | Survey Year |
|--------------------------|------------------------------|------------|------------|------------|--------|--|-------------|
| Alder-leaved Buckthorn | <i>Endotropis alnifolia</i> | Not Listed | Not Listed | Not Listed | S3 | -63.34285865, 45.4140017 | 2021 |
| Alder-leaved Buckthorn | <i>Endotropis alnifolia</i> | Not Listed | Not Listed | Not Listed | S3 | -63.33340186, 45.41101454 | 2021 |
| Alder-leaved Buckthorn | <i>Endotropis alnifolia</i> | Not Listed | Not Listed | Not Listed | S3 | -63.32847792, 45.40978632 | 2021 |
| Slender cottongrass | <i>Eriophorum gracile</i> | Not Listed | Not Listed | Not Listed | S2S3 | 414760.17 E, 5079231.06 N | 2020 |
| Acadian Jellyfish Lichen | <i>Leptogium Acadiense</i> | Not Listed | Not Listed | Not Listed | S3S4 | -63.62876203, 45.6046997 | 2021 |
| Acadian Jellyfish Lichen | <i>Leptogium Acadiense</i> | Not Listed | Not Listed | Not Listed | S3S4 | -63.62984764, 45.60754114 | 2021 |
| Acadian Jellyfish Lichen | <i>Leptogium Acadiense</i> | Not Listed | Not Listed | Not Listed | S3S4 | -63.9180557, 45.79927655 | 2021 |
| Acadian Jellyfish Lichen | <i>Leptogium Acadiense</i> | Not Listed | Not Listed | Not Listed | S3S4 | -63.5747853, 45.53015916 | 2021 |
| Acadian Jellyfish Lichen | <i>Leptogium Acadiense</i> | Not Listed | Not Listed | Not Listed | S3S4 | -63.57455493, 45.52981881 | 2021 |
| Acadian Jellyfish Lichen | <i>Leptogium Acadiense</i> | Not Listed | Not Listed | Not Listed | S3S4 | -63.5743103, 45.52947049 | 2021 |
| Acadian Jellyfish Lichen | <i>Leptogium Acadiense</i> | Not Listed | Not Listed | Not Listed | S3S4 | -63.57393751, 45.52915322 | 2021 |
| Acadian Jellyfish Lichen | <i>Leptogium Acadiense</i> | Not Listed | Not Listed | Not Listed | S3S4 | -63.57355168, 45.52900436 | 2021 |
| Acadian Jellyfish Lichen | <i>Leptogium Acadiense</i> | Not Listed | Not Listed | Not Listed | S3S4 | -63.57327287, 45.52869392 | 2021 |
| Acadian Jellyfish Lichen | <i>Leptogium Acadiense</i> | Not Listed | Not Listed | Not Listed | S3S4 | -63.57306192, 45.52840153 | 2021 |
| Acadian Jellyfish Lichen | <i>Leptogium Acadiense</i> | Not Listed | Not Listed | Not Listed | S3S4 | -63.57310347, 45.52802778 | 2021 |
| Acadian Jellyfish Lichen | <i>Leptogium Acadiense</i> | Not Listed | Not Listed | Not Listed | S3S4 | -63.56902013, 45.52644471 | 2021 |
| Acadian Jellyfish Lichen | <i>Leptogium Acadiense</i> | Not Listed | Not Listed | Not Listed | S3S4 | -63.56843006, 45.52637654 | 2021 |
| Split Wing Monkey Flower | <i>Mimulus alatus</i> | Not Listed | Not Listed | Not Listed | S4S5 | -63.37160438, 45.42593044 | 2021 |
| Eastern Waterfan | <i>Peltigera hydrothyria</i> | Threatened | Threatened | Threatened | S1 | -63.57107694, 45.52728605 | 2021 |
| Eastern Waterfan | <i>Peltigera hydrothyria</i> | Threatened | Threatened | Threatened | S1 | -63.56150405, 45.52360257 | 2021 |

| Common Name | Scientific Name | SARA | COSEWIC | NS ESA | S-Rank | Location Coordinate (NAD 83 UTM Zone 20) | Survey Year |
|-----------------------------|--------------------------------|-----------------|-----------------|------------|--------|--|-------------|
| Rugel's Plantain* | <i>Plantago rugelii</i> | Not Listed | Not Listed | Not Listed | S3 | -63.41011484, 45.43371465 | 2021 |
| Large Purple Fringed Orchid | <i>Platanthera grandiflora</i> | Not Listed | Not Listed | Not Listed | S3 | -63.58181348, 45.53937557 | 2021 |
| Large Purple Fringed Orchid | <i>Platanthera grandiflora</i> | Not Listed | Not Listed | Not Listed | S3 | -63.58126773, 45.53849829 | 2021 |
| Large Purple Fringed Orchid | <i>Platanthera grandiflora</i> | Not Listed | Not Listed | Not Listed | S3 | -63.59201395, 45.55276844 | 2021 |
| Large purple fringed orchid | <i>Platanthera grandiflora</i> | Not Listed | Not Listed | Not Listed | S3 | 474895.68 E. 5028171.39 N | 2020 |
| Round-leaved Orchid | <i>Platanthera macrophylla</i> | Not Listed | Not Listed | Not Listed | S2 | -63.91763584, 45.79900076 | 2021 |
| Blood Milkwort | <i>Polygala sanguinea</i> | Not Listed | Not Listed | Not Listed | S3 | -63.72178817, 45.70090437 | 2021 |
| Blood Milkwort | <i>Polygala sanguinea</i> | Not Listed | Not Listed | Not Listed | S3 | -63.72277573, 45.70146903 | 2021 |
| Blood Milkwort | <i>Polygala sanguinea</i> | Not Listed | Not Listed | Not Listed | S3 | -63.91618938, 45.79777752 | 2021 |
| Blood Milkwort | <i>Polygala sanguinea</i> | Not Listed | Not Listed | Not Listed | S3 | -63.91149496, 45.79465728 | 2021 |
| Frosted Glass Whiskers | <i>Sclerophora peronella</i> | Special Concern | Special Concern | Not Listed | S1 | -63.61098245, 45.58002461 | 2021 |
| Yellow ladies' tresses | <i>Spiranthes ochroleuca</i> | Not Listed | Not Listed | Not Listed | S3 | 474903.69 E, 5028196.80 N | 2020 |
| Foam Lichen* | <i>Stereocaulon spp.</i> | Not Listed | Not Listed | Not Listed | S3 | -63.58488965, 45.54372816 | 2021 |
| Foam Lichen* | <i>Stereocaulon spp.</i> | Not Listed | Not Listed | Not Listed | S3 | -63.58261235, 45.54013861 | 2021 |
| Foam Lichen* | <i>Stereocaulon spp.</i> | Not Listed | Not Listed | Not Listed | S3 | -63.59504691, 45.55730565 | 2021 |
| Eastern White Cedar | <i>Thuja occidentalis</i> | Not Listed | Not Listed | Vulnerable | S1 | -63.76408462, 45.72052183 | 2021 |

*Low identification confidence due to lack of flowering and/or specimen quality

Geodatabase Description

The results of the 2021 rare plant surveys have been compiled into an ESRI geodatabase file titled '21-7902_RarePlants_Lichen_20210806'. The geodatabase file includes the species name, the species type (i.e., plant or lichen), photos, date of collection, location and any unique field notes taken during the survey. An electronic data glossary is attached that corresponds with the geodatabase's contents and attributes.

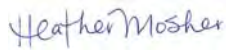
Conclusions and Recommendations

The rare plant surveys completed along the L8001 and L8005 Transmission Lines in 2021 identified numerous species of conservational interest in addition to the specimens observed during surveys in 2020. Species that had low identification confidence should be treated as positively identified for planning purposes unless the site is revisited at a future time to confirm identification.

It is recommended that avoidance and/or buffer zone requirements (applicable for lichen species) are incorporated into design and planning of any activities associated with the construction of the new L8005 Transmission Line. If avoidance is not feasible, Nova Scotia Department of Lands and Forests should be consulted to determine an appropriate course of action.

Should you have any questions, please do not hesitate to contact us.

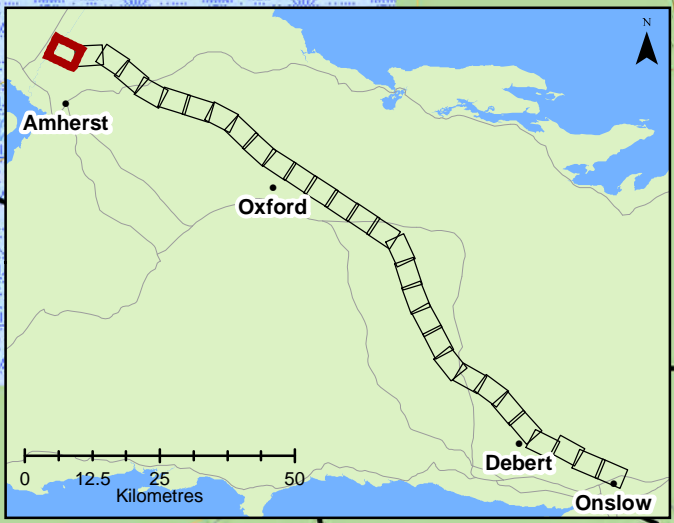
Thank you,



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Environmental Scientist
hmosher@strum.com



Scott Dickey, MREM
Manager, Environmental Services
sdickey@strum.com



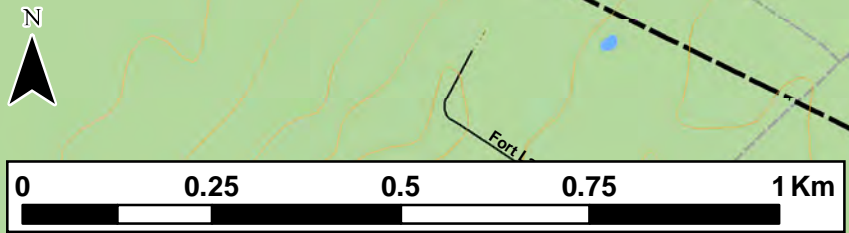
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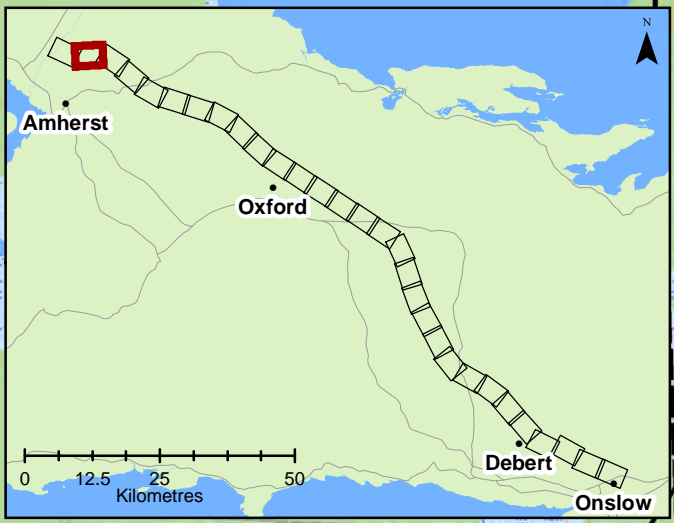
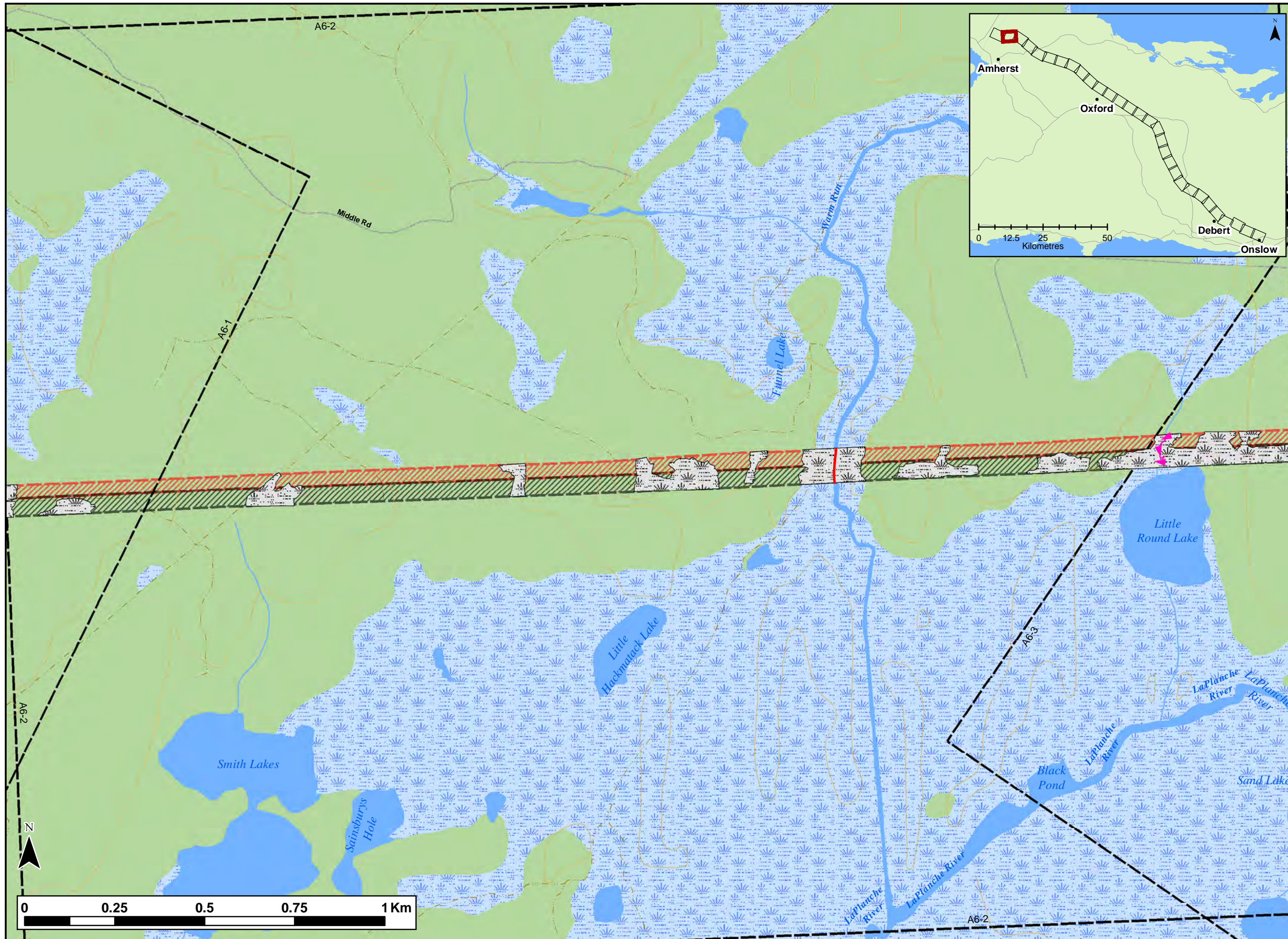
- Legend:**
- Field Identified Rare Species (2021)
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 - ▶ Field Identified Watercourse (2020)
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- Mapped Stream
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**L8001 & L8005
 Transmission Line
 ROW - Rare Plant
 and Lichen Results**



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| Date: Aug. 2021 | Project #: 21-7902 |
| Scale: 1:10,000 | Drawing #: A1-1 |
| Drawn By: M. Savelle | A1-1 |
| Checked By: H. Mosher | |





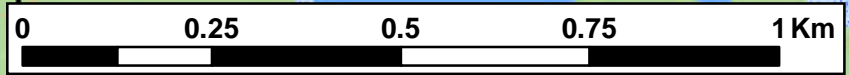
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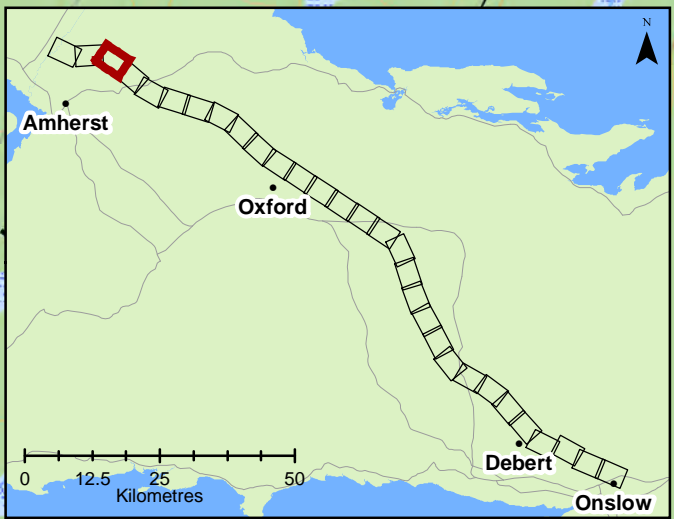
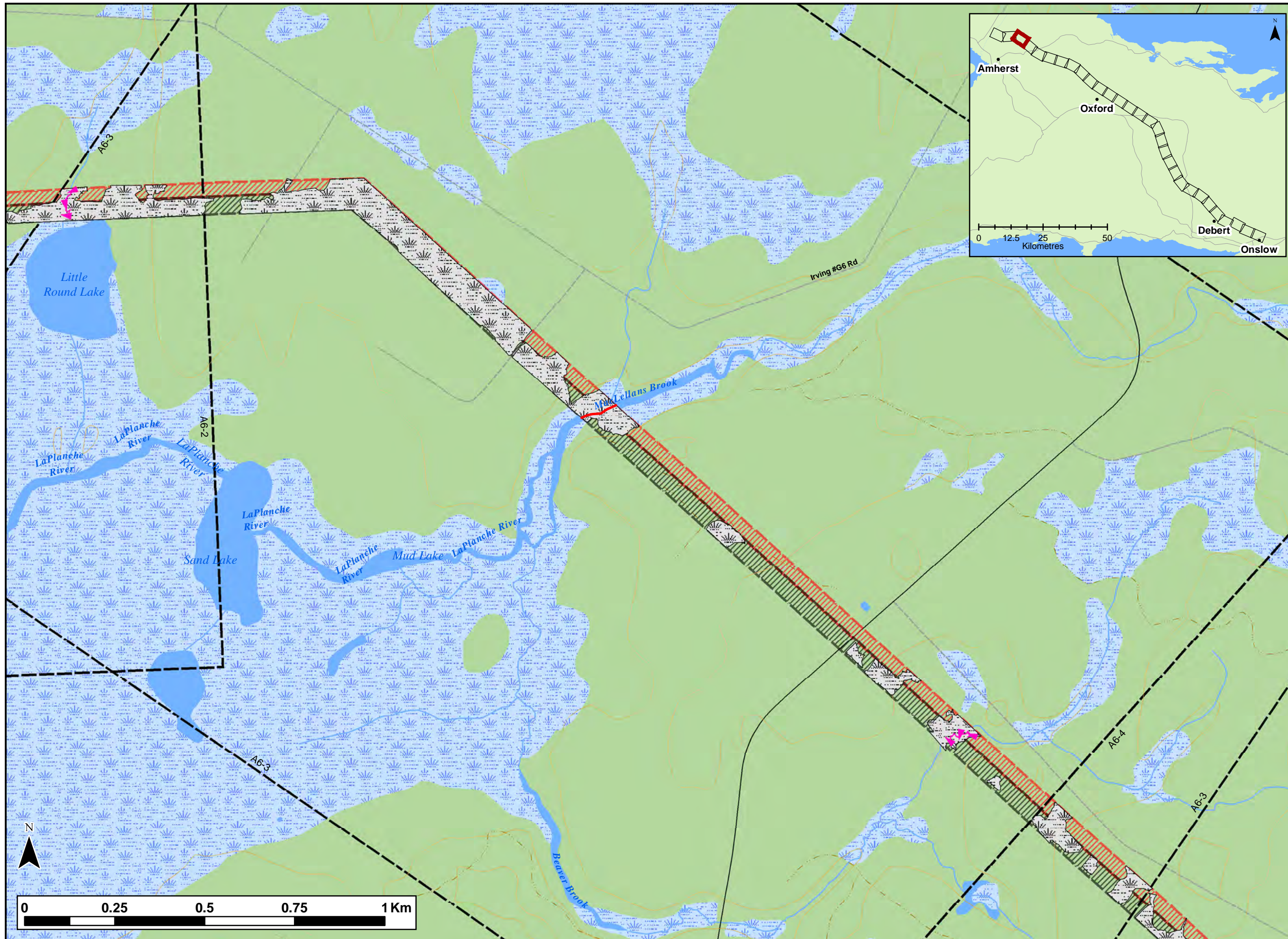
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 - ▶ Field Identified Watercourse (2020)
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**L8001 & L8005
 Transmission Line
 ROW - Rare Plant
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| Date: Aug. 2021 | Project #: 21-7902 |
| Scale: 1:10,000 | Drawing #: A1-2 |
| Drawn By: M. Savelle | |
| Checked By: H. Mosher | |





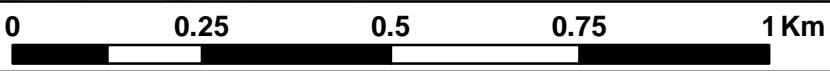
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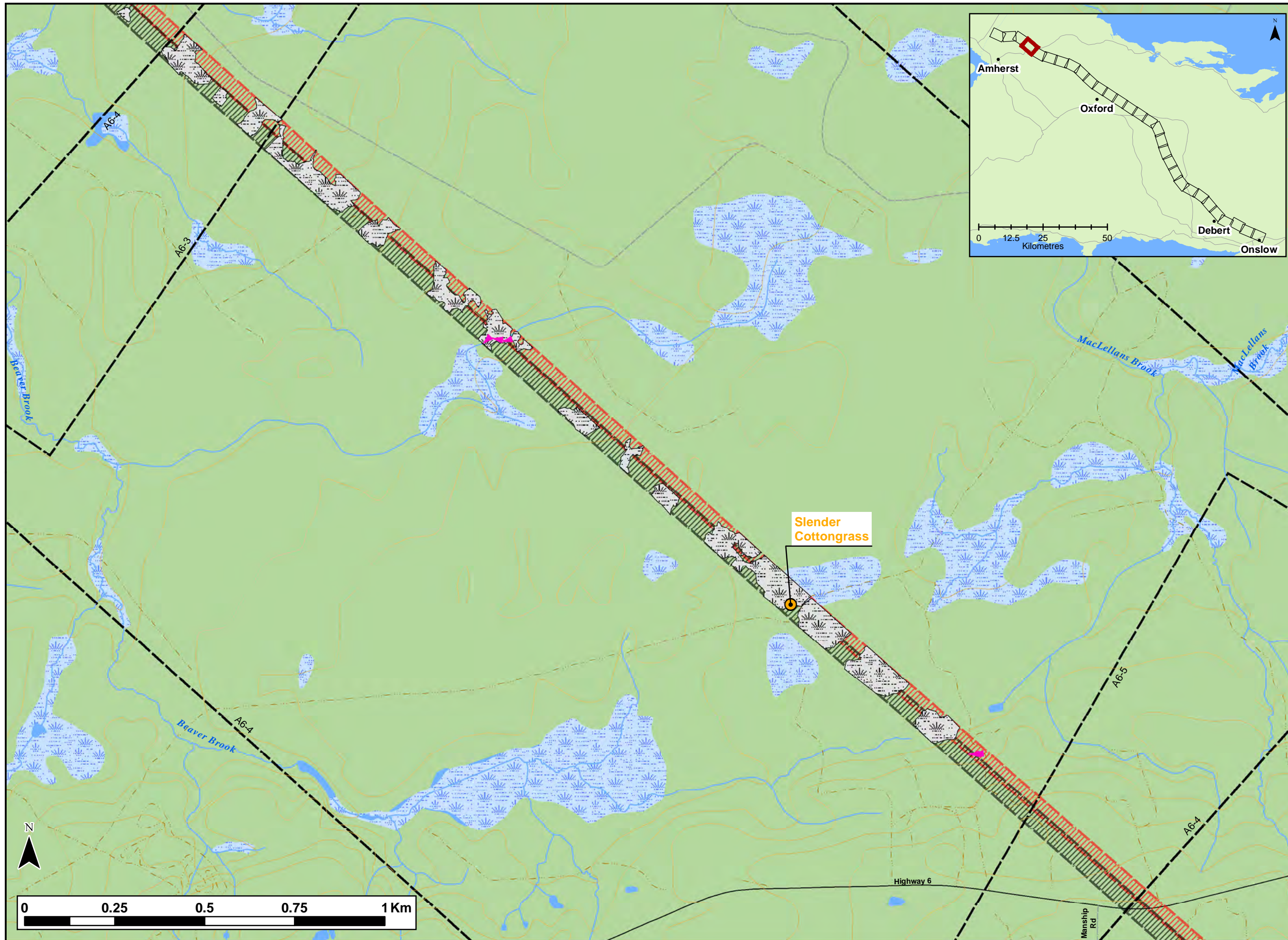
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**L8001 & L8005
 Transmission Line
 ROW - Rare Plant
 and Lichen Results**



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| Date: Aug. 2021 | Project #: 21-7902 |
| Scale: 1:10,000 | Drawing #: A1-3 |
| Drawn By: M. Savelle | |
| Checked By: H. Mosher | |





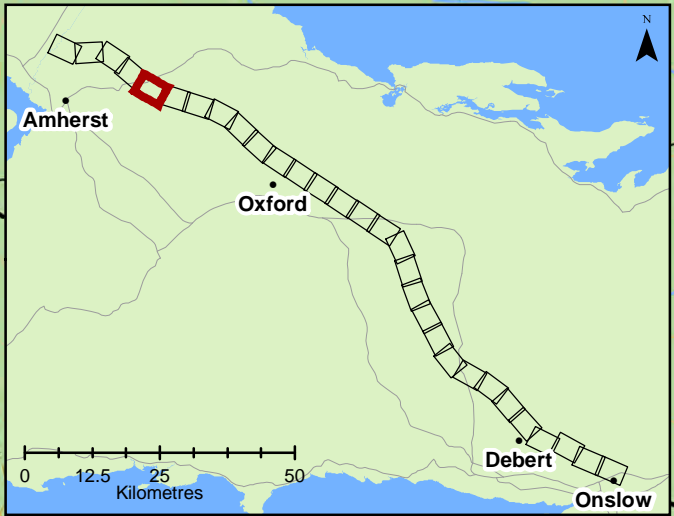
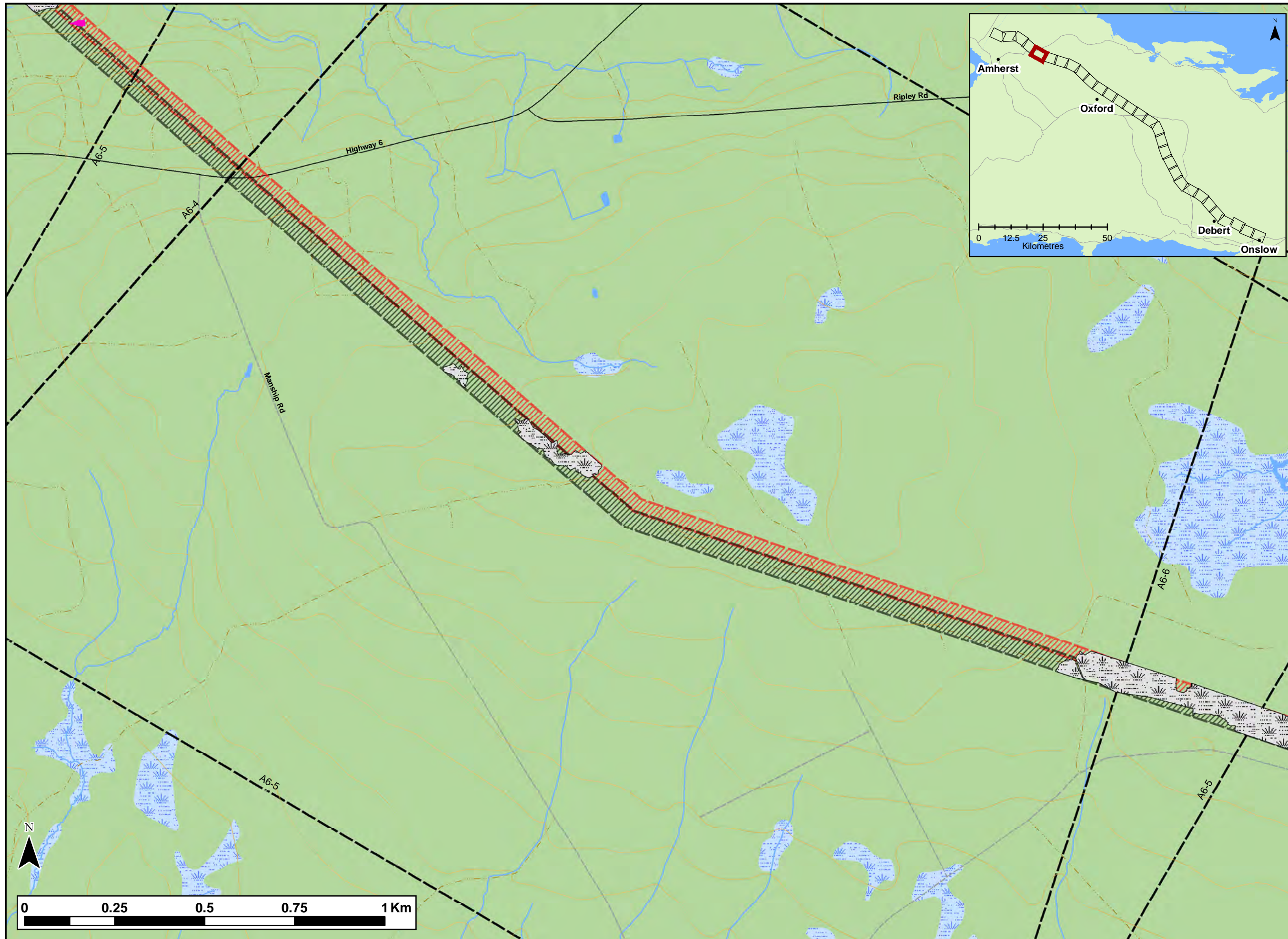
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- Legend:**
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**L8001 & L8005
 Transmission Line
 ROW - Rare Plant
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| Date: Aug. 2021 | Project #: 21-7902 |
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| Drawn By: M. Savelle | |
| Checked By: H. Mosher | |



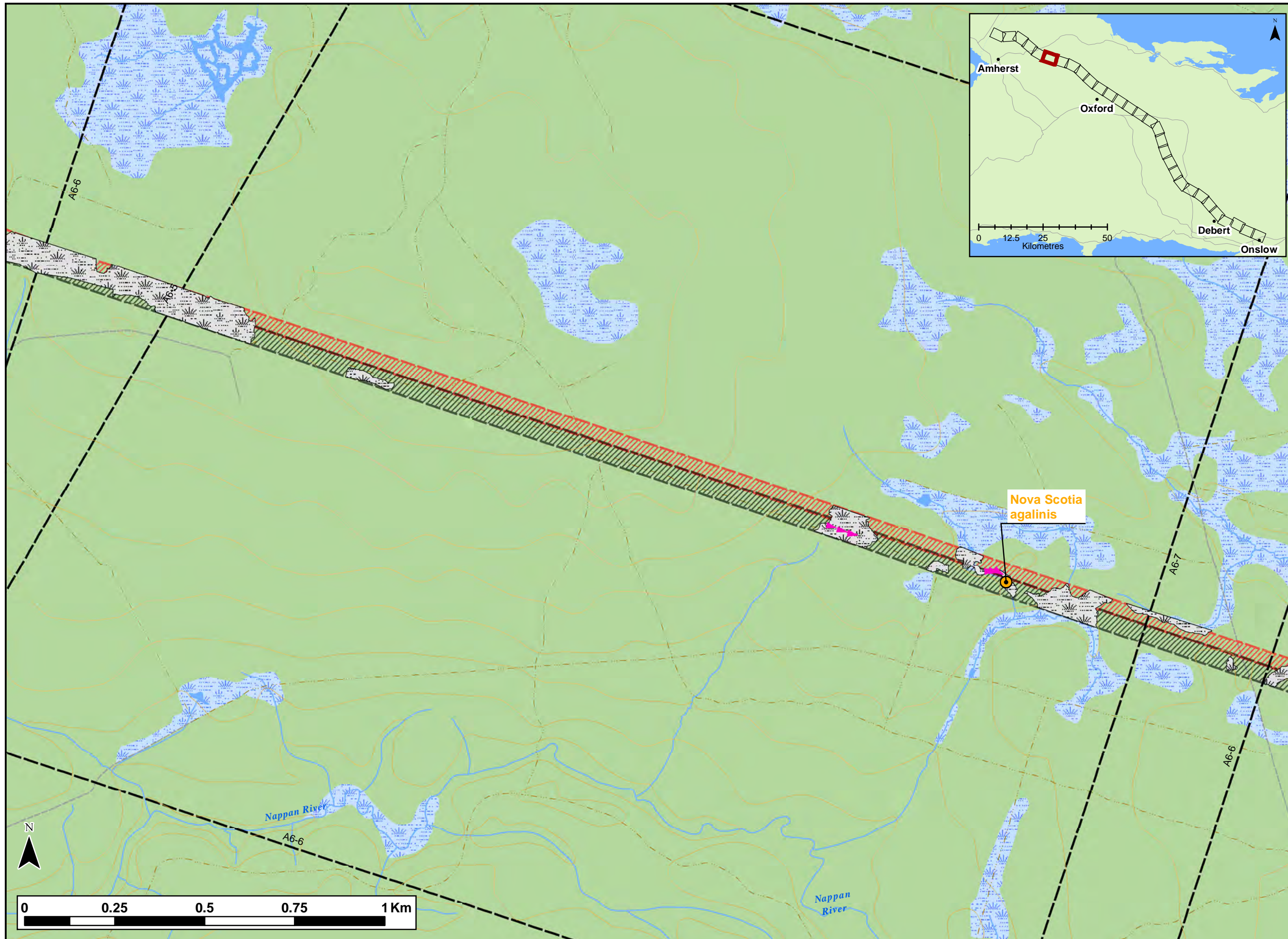
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**L8001 & L8005
 Transmission Line
 ROW - Rare Plant
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| Date: Aug. 2021 | Project #: 21-7902 |
| Scale: 1:10,000 | Drawing #: A1-5 |
| Drawn By: M. Savelle | |
| Checked By: H. Mosher | |



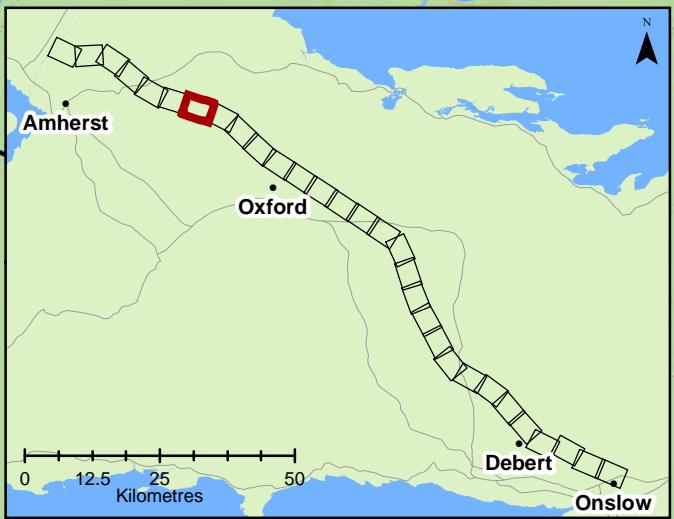
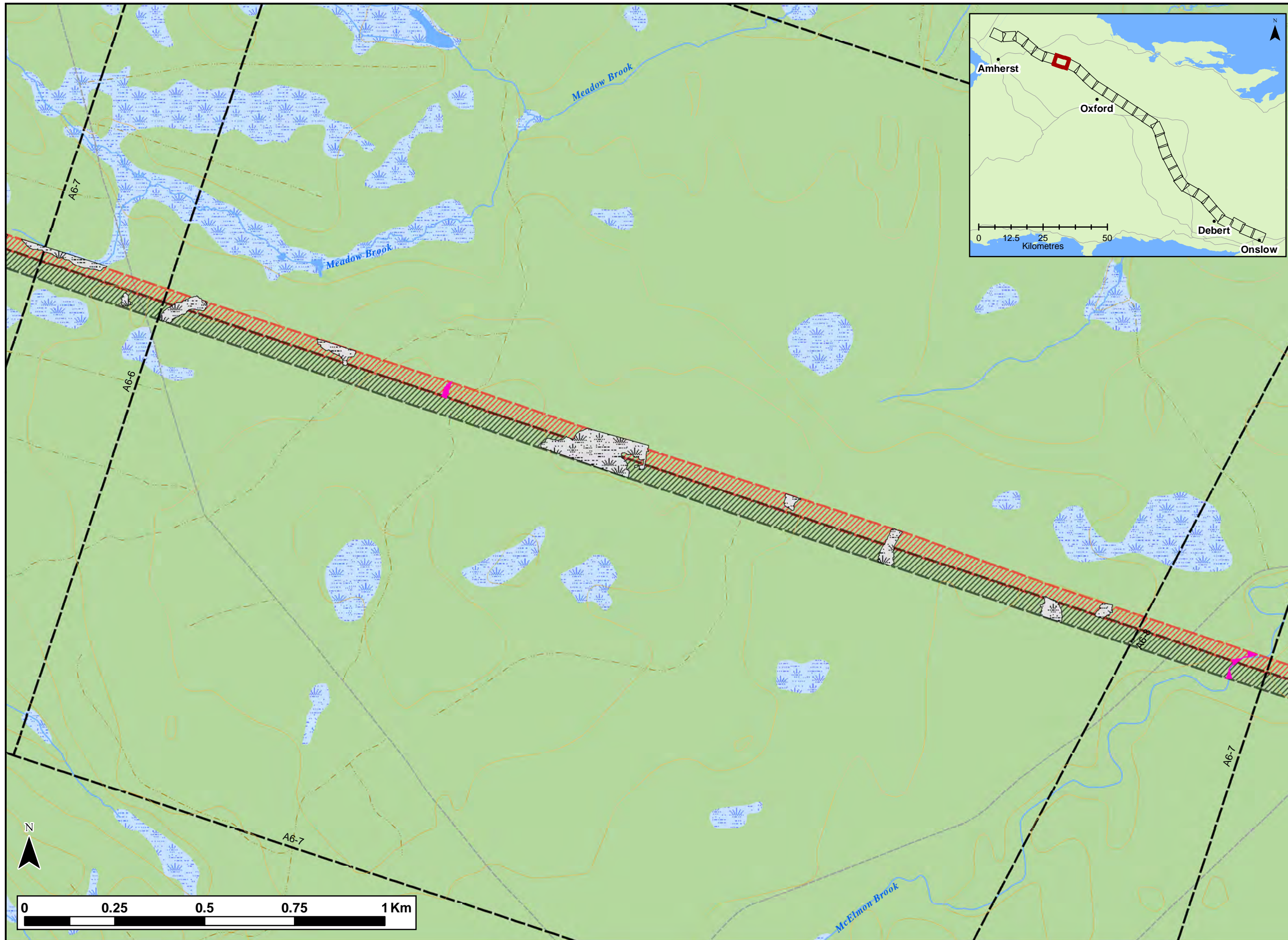
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 2. Projection: NAD83 UTM Zone 20 North.

- Legend:**
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**L8001 & L8005
 Transmission Line
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| Date: Aug. 2021 | Project #: 21-7902 |
| Scale: 1:10,000 | Drawing #: A1-6 |
| Drawn By: M. Savelle | |
| Checked By: H. Mosher | |



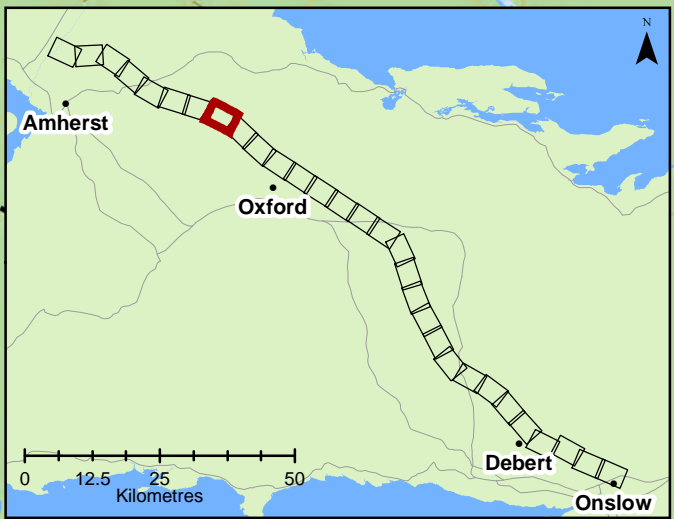
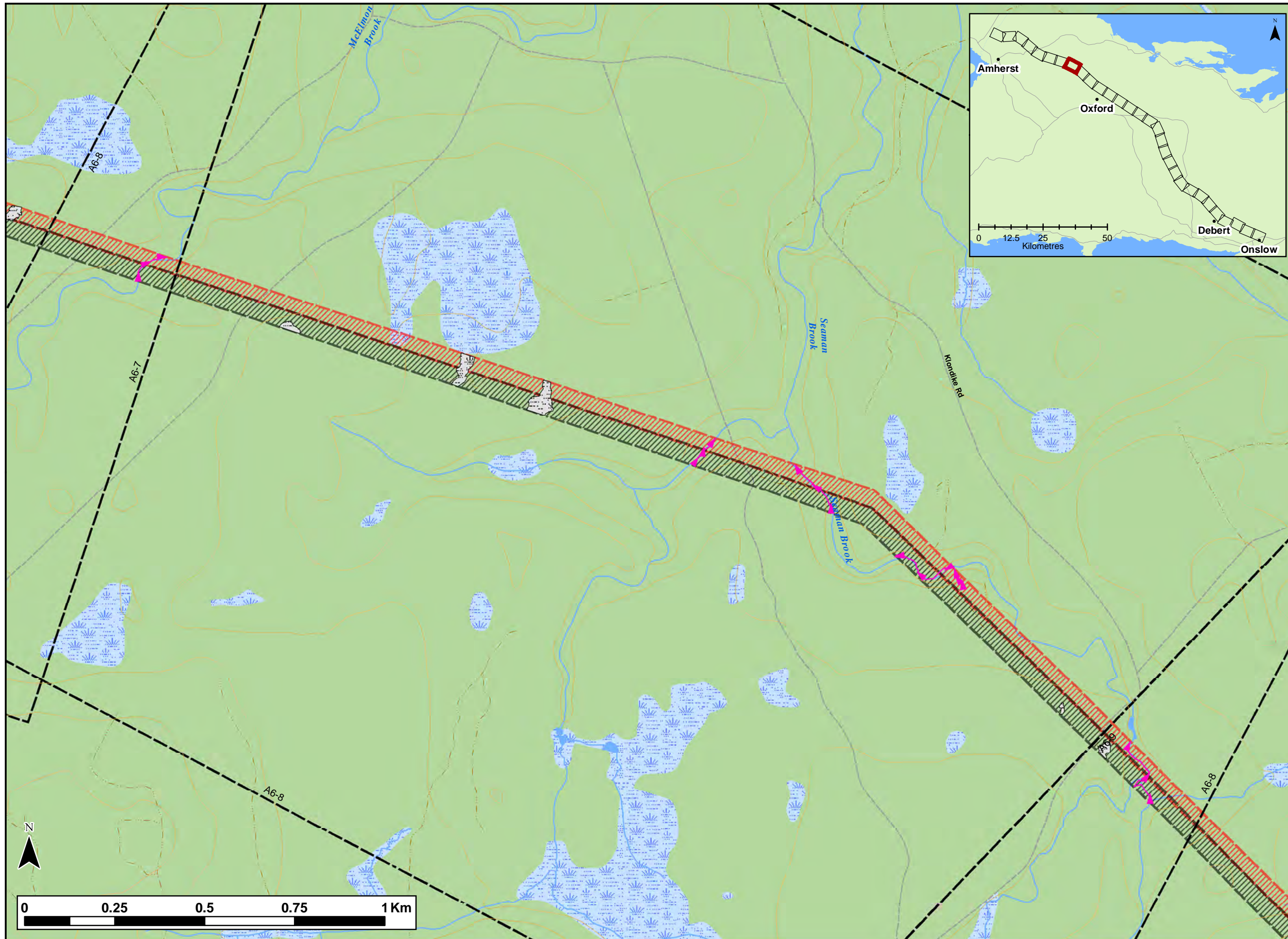
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 1. Data Sources: GeoNOVA, NSTD, NSTIR.
 2. Projection: NAD83 UTM Zone 20 North.

- Legend:**
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**L8001 & L8005
 Transmission Line
 ROW - Rare Plant
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| Date: Aug. 2021 | Project #: 21-7902 |
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| Drawn By: M. Savelle | |
| Checked By: H. Mosher | |



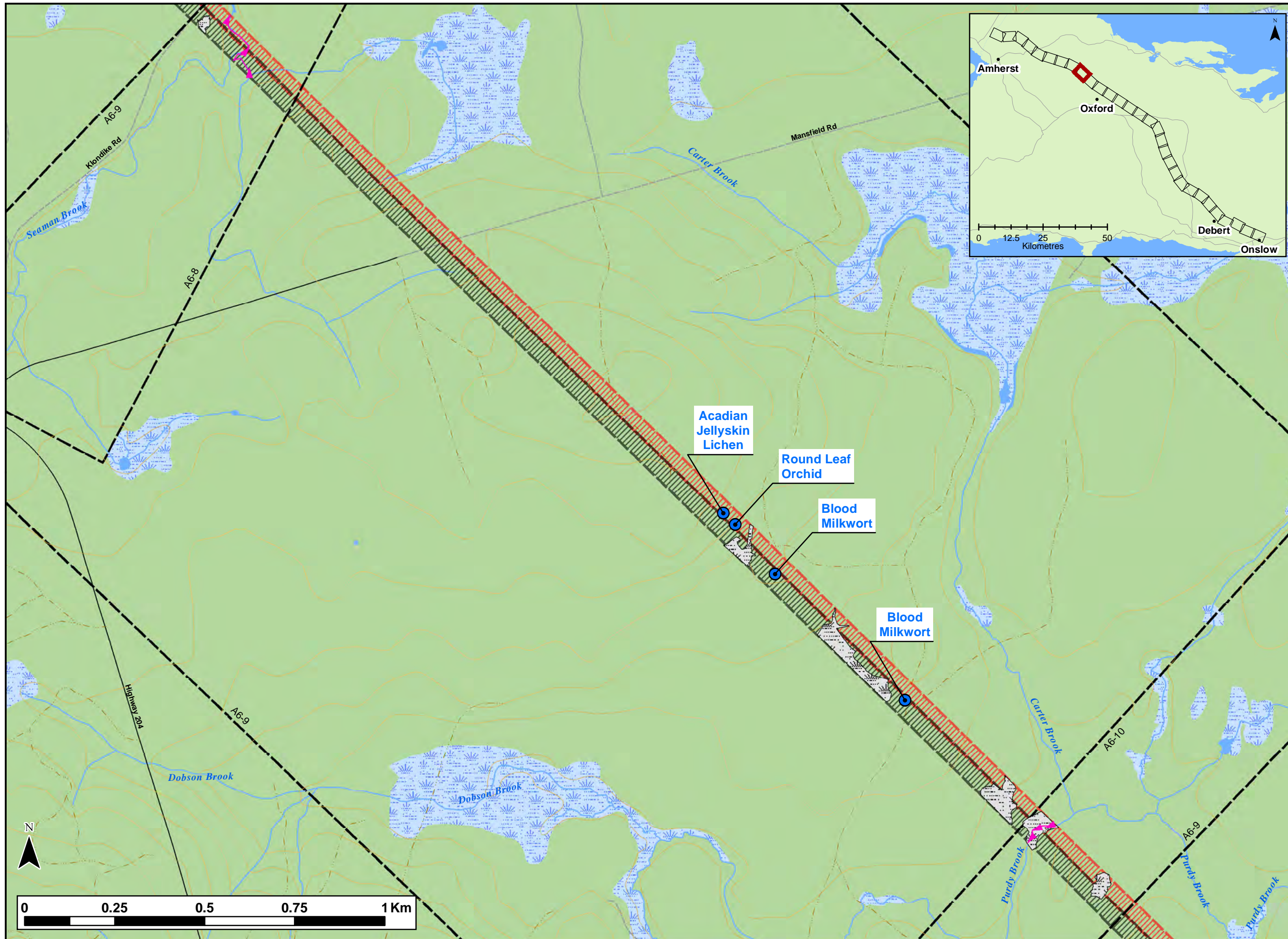
Notes:
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 2. Projection: NAD83 UTM Zone 20 North.

- Legend:**
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**L8001 & L8005
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| Date: Aug. 2021 | Project #: 21-7902 |
| Scale: 1:10,000 | Drawing #: A1-8 |
| Drawn By: M. Savelle | A1-8 |
| Checked By: H. Mosher | |



Notes:
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 2. Projection: NAD83 UTM Zone 20 North.

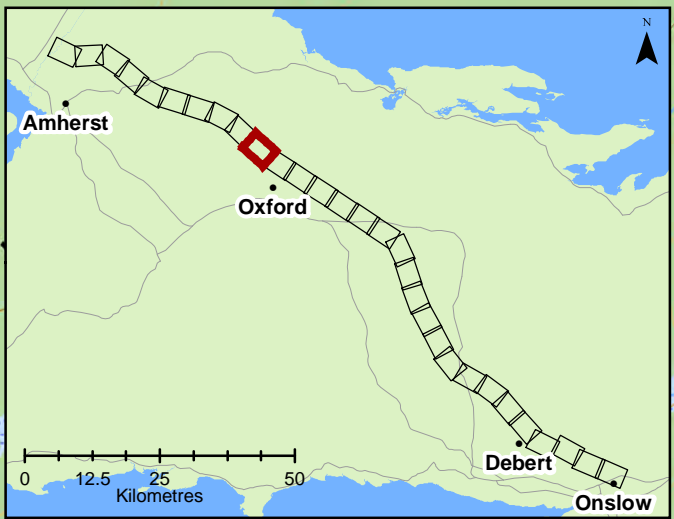
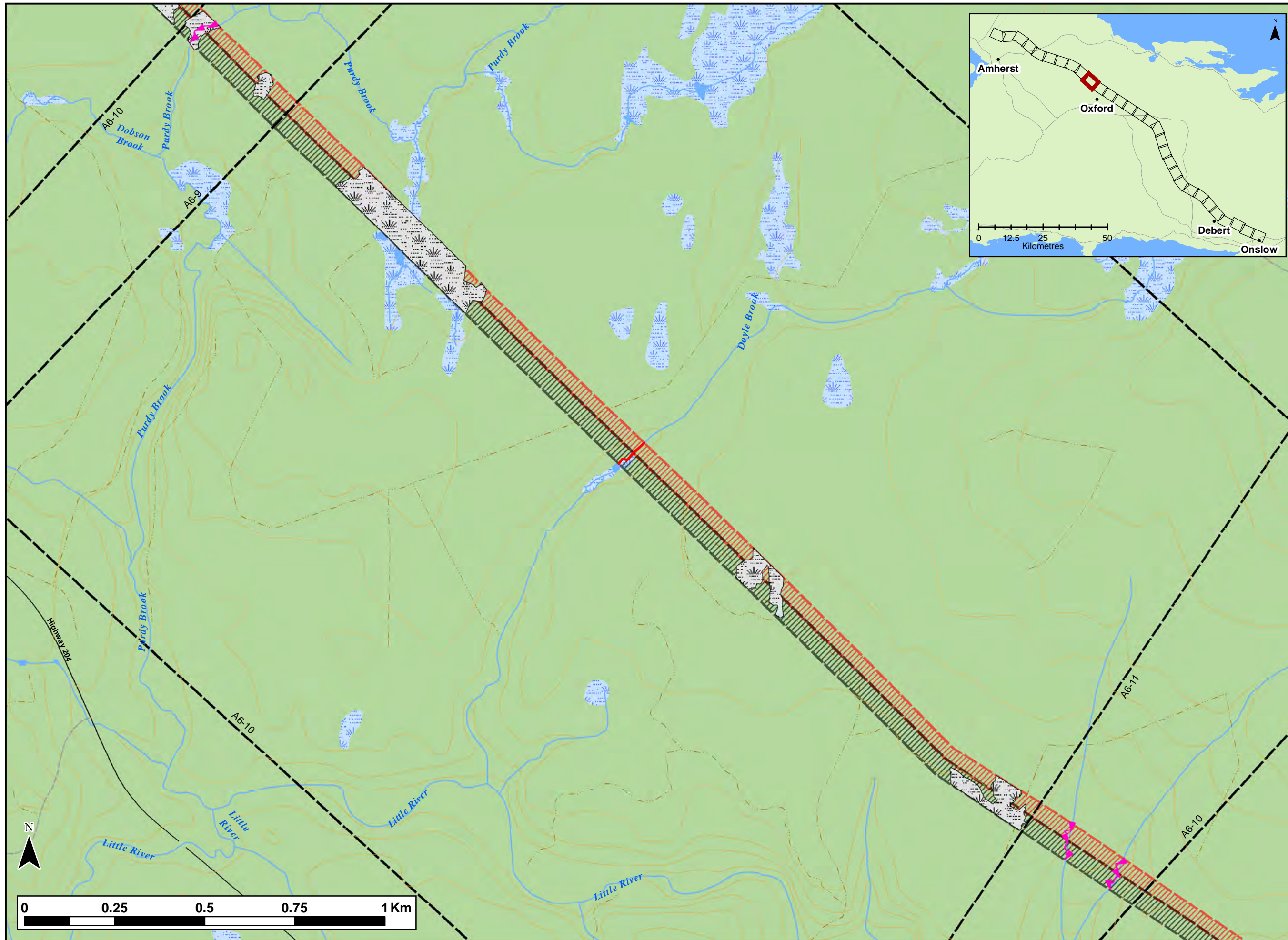
- Legend:**
- Field Identified Rare Species (2021)
 - Field Identified Rare Species (2020)
 - ▶ Field Identified Watercourse (2020)
 - Non-Delineated Watercourse (2020)
 - Field Identified Wetland (2020)
 - Existing L8001 ROW
 - Proposed L8005 ROW
 - Contours (m)
 - NB/NS Border
 - Drawing Sheet
- Transportation**
- Highway
 - Local Road
 - Unpaved Road
 - Track
 - Trail
 - Railroad
- Water Features**
- Mapped Stream
 - Mapped Indefinite Stream
 - Mapped Wet Area

**L8001 & L8005
 Transmission Line
 ROW - Rare Plant
 and Lichen Results**



| | |
|--------------------------|---------------------------|
| Date: Aug. 2021 | Project #: 21-7902 |
| Scale: 1:10,000 | Drawing #: A1-9 |
| Drawn By: M. Savelle | A1-9 |
| Checked By: H. Mosher | |





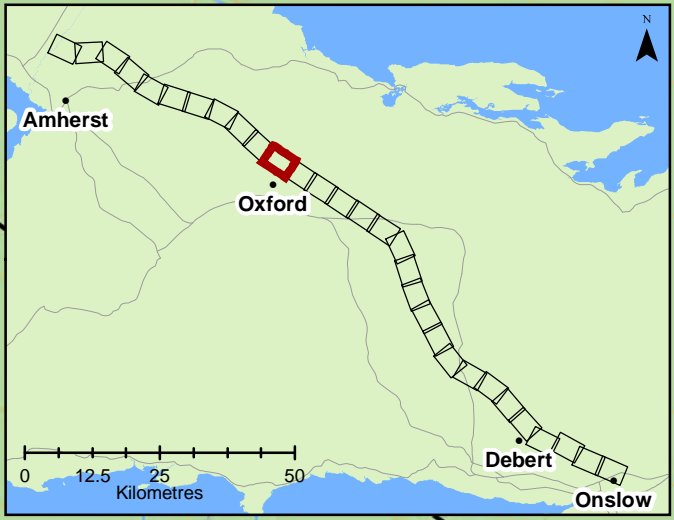
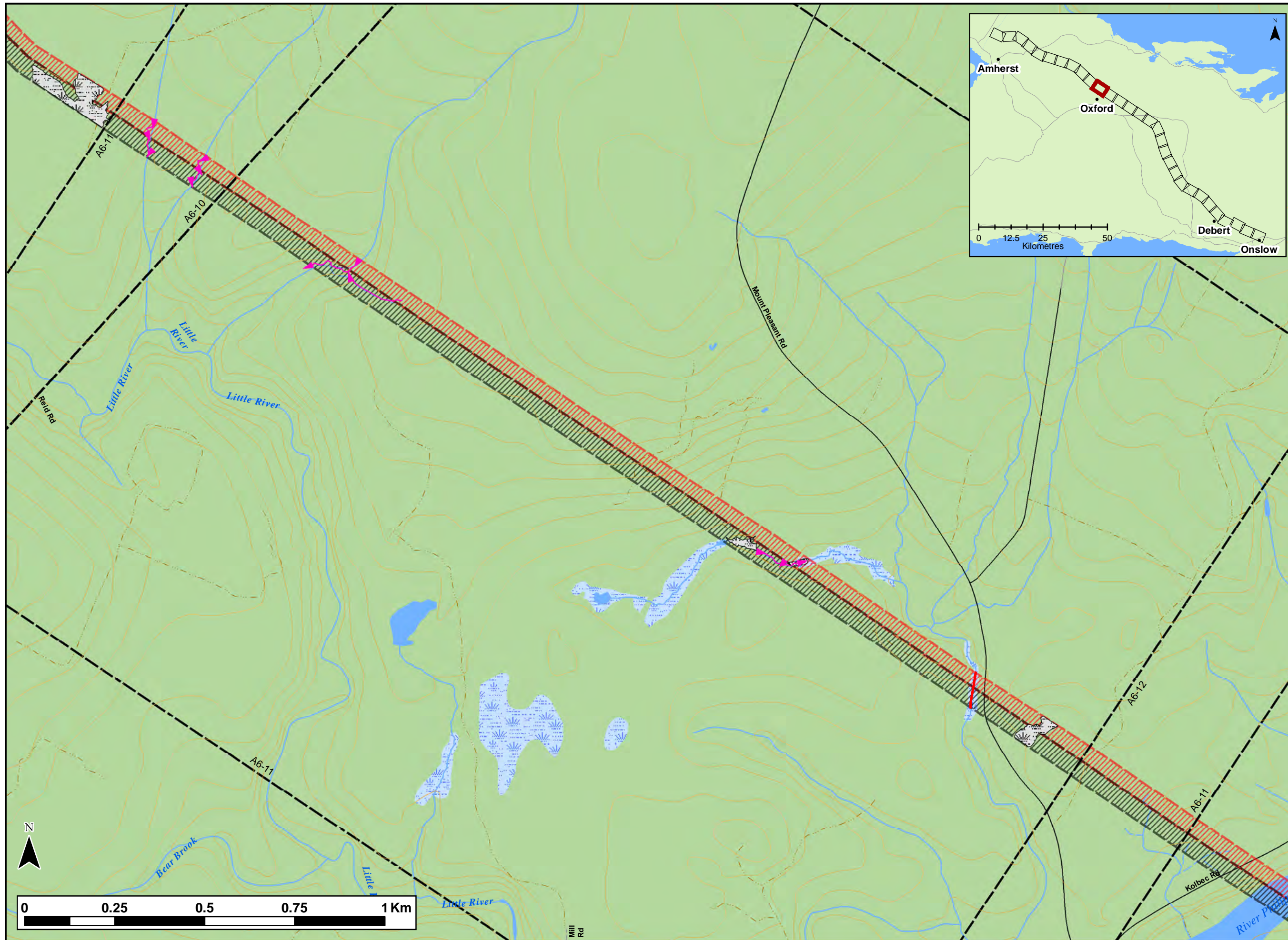
Notes:
 1. Data Sources: GeoNOVA, NSTD, NSTIR.
 2. Projection: NAD83 UTM Zone 20 North.

- Legend:**
- Field Identified Rare Species (2021)
 - Field Identified Rare Species (2020)
 - Field Identified Watercourse (2020)
 - Non-Delineated Watercourse (2020)
 - Field Identified Wetland (2020)
 - Existing L8001 ROW
 - Proposed L8005 ROW
 - Contours (m)
 - NB/NS Border
 - Drawing Sheet
- Transportation**
- Highway
 - Local Road
 - Unpaved Road
 - Track
 - Trail
 - Railroad
- Water Features**
- Mapped Stream
 - Mapped Indefinite Stream
 - Mapped Wet Area

**L8001 & L8005
 Transmission Line
 ROW - Rare Plant
 and Lichen Results**



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|-------------------------|----------------------------|
| Date: Aug. 2021 | Project #: 21-7902 |
| Scale: 1:10,000 | Drawing #: A1-10 |
| Drawn By: M. Savelle | Checked By: H. Mosher |



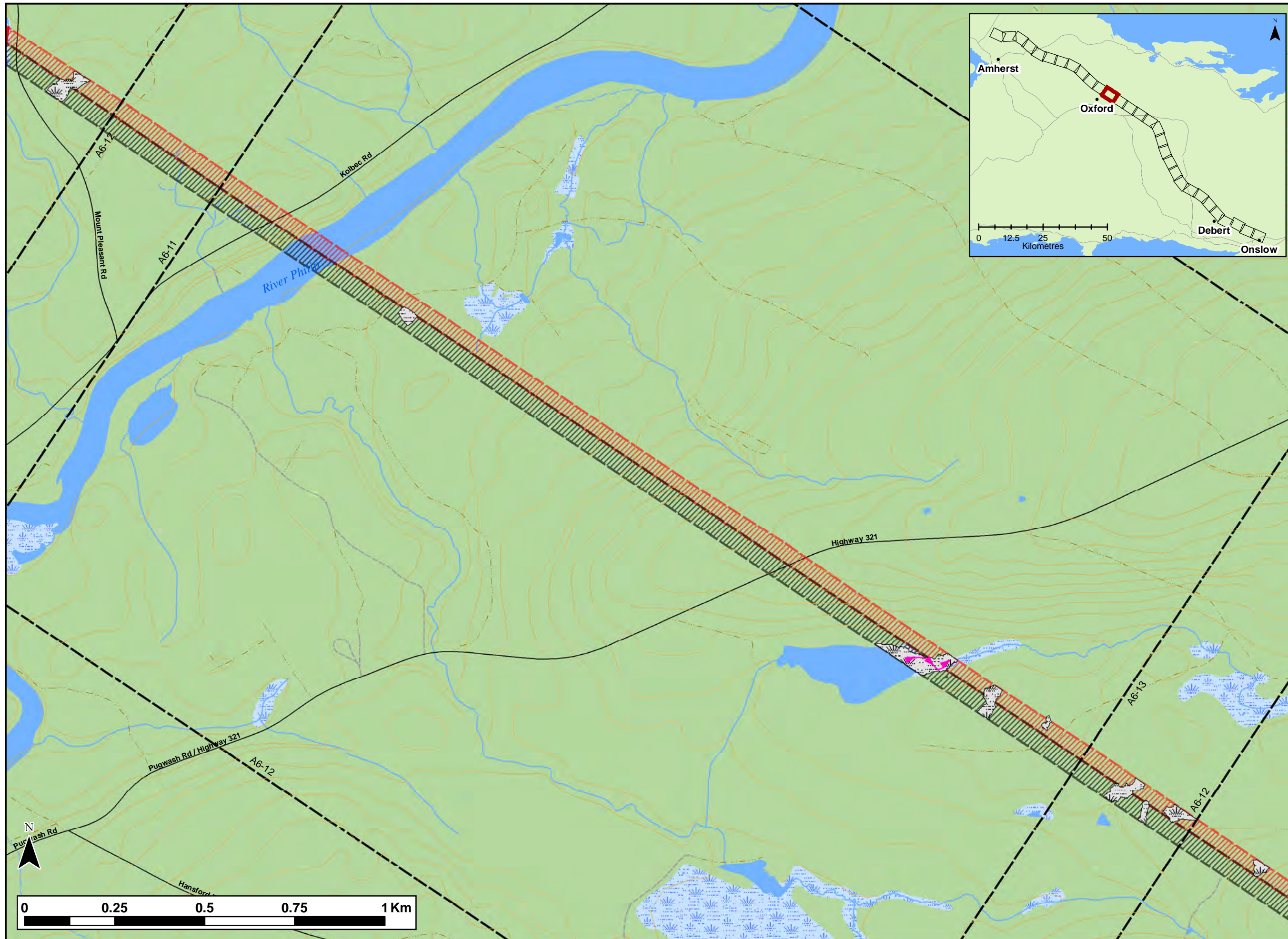
Notes:
 1. Data Sources: GeoNOVA, NSTD, NSTIR.
 2. Projection: NAD83 UTM Zone 20 North.

- Legend:**
- Field Identified Rare Species (2021)
 - Field Identified Rare Species (2020)
 - ▶ Field Identified Watercourse (2020)
 - Non-Delineated Watercourse (2020)
 - Field Identified Wetland (2020)
 - Existing L8001 ROW
 - Proposed L8005 ROW
 - Contours (m)
 - NB/NS Border
 - Drawing Sheet
- Transportation**
- Highway
 - Local Road
 - Unpaved Road
 - Track
 - Trail
 - Railroad
- Water Features**
- Mapped Stream
 - Mapped Indefinite Stream
 - Mapped Wet Area

**L8001 & L8005
 Transmission Line
 ROW - Rare Plant
 and Lichen Results**



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|-------------------------|----------------------------|
| Date: Aug. 2021 | Project #: 21-7902 |
| Scale: 1:10,000 | Drawing #: A1-11 |
| Drawn By: M. Savelle | Checked By: H. Mosher |



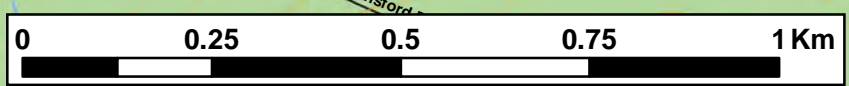
Notes:
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 2. Projection: NAD83 UTM Zone 20 North.

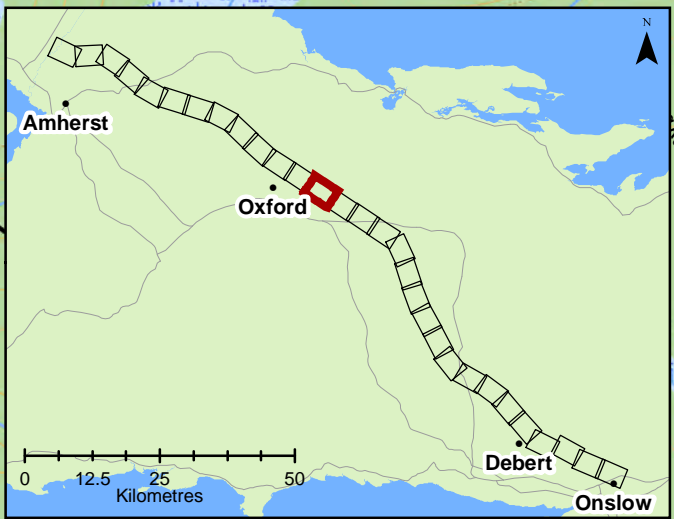
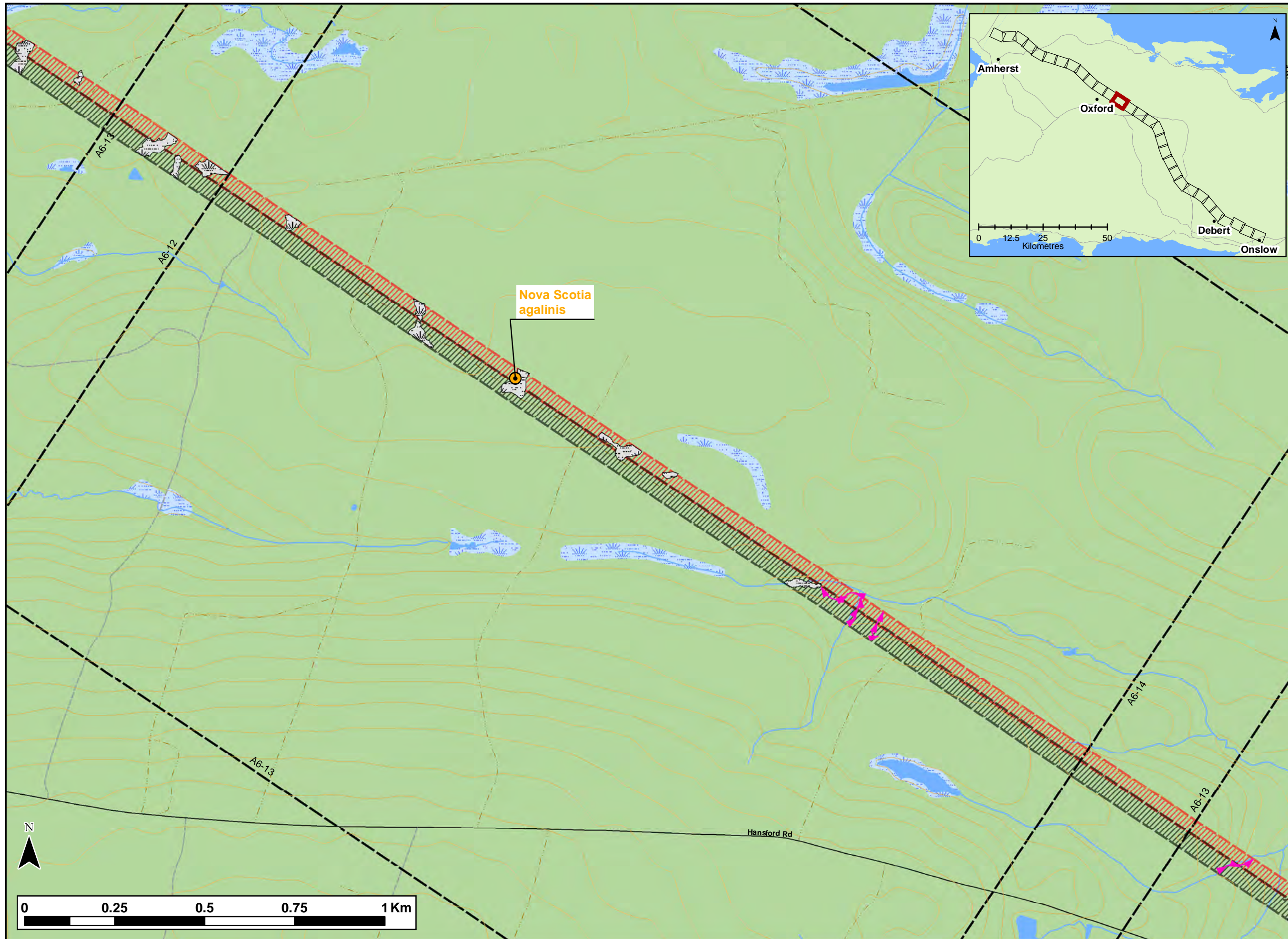
- Legend:**
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 - Field Identified Rare Species (2020)
 - ▶ Field Identified Watercourse (2020)
 - Non-Delineated Watercourse (2020)
 - Field Identified Wetland (2020)
 - Existing L8001 ROW
 - Proposed L8005 ROW
 - Contours (m)
 - NB/NS Border
 - Drawing Sheet
- Transportation**
- Highway
 - Local Road
 - Unpaved Road
 - Track
 - Trail
 - Railroad
- Water Features**
- Mapped Stream
 - Mapped Indefinite Stream
 - Mapped Wet Area

**L8001 & L8005
 Transmission Line
 ROW - Rare Plant
 and Lichen Results**



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|-------------------------|----------------------------|
| Date: Aug. 2021 | Project #: 21-7902 |
| Scale: 1:10,000 | Drawing #: A1-12 |
| Drawn By: M. Savelle | Checked By: H. Mosher |





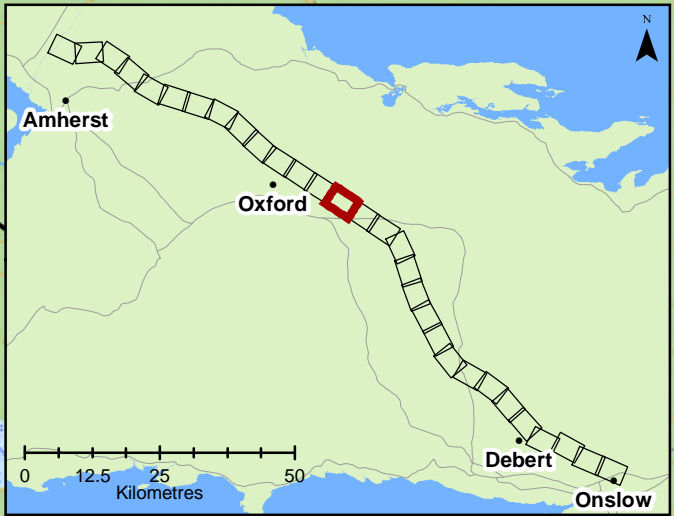
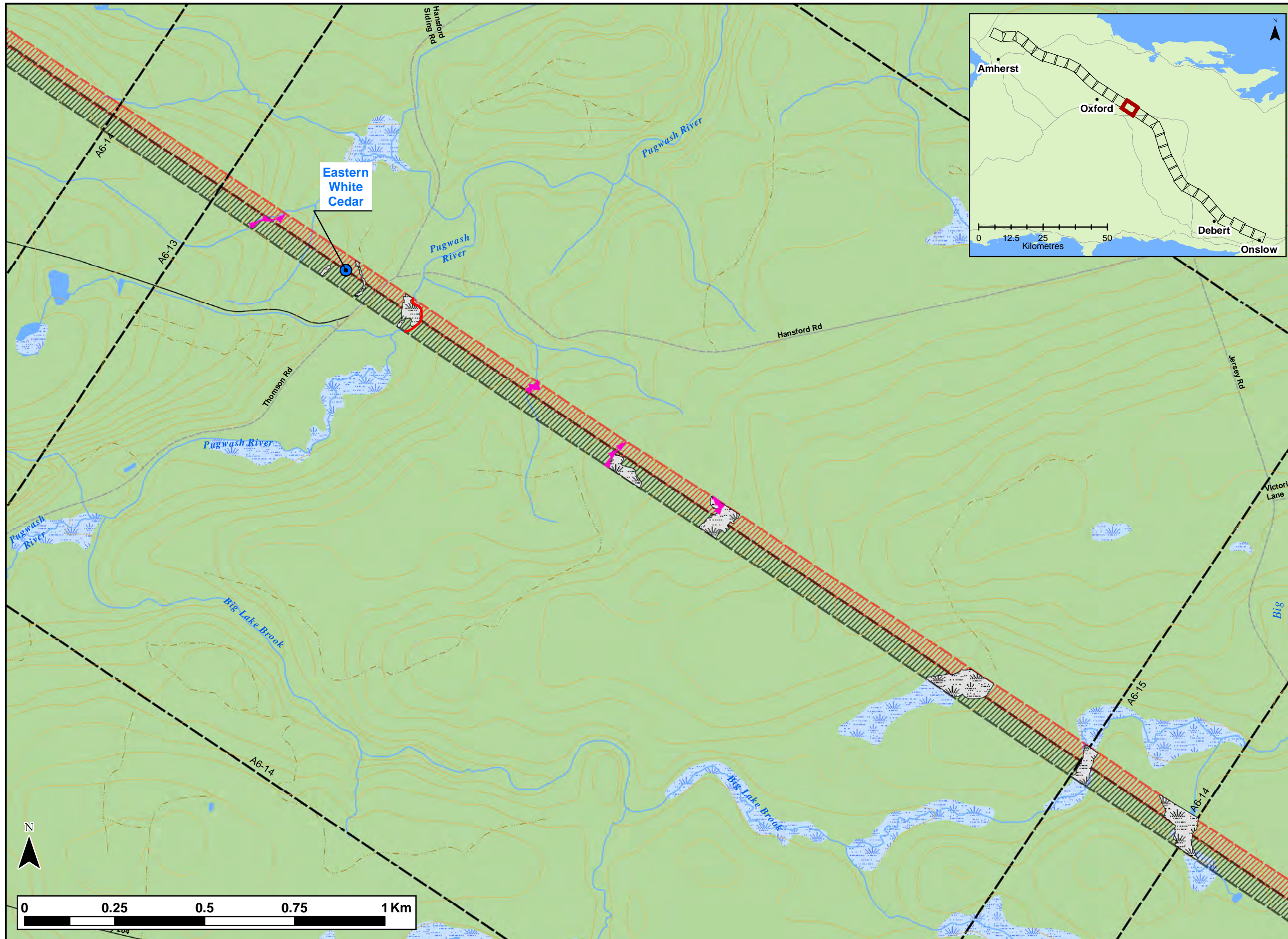
Notes:
 1. Data Sources: GeoNOVA, NSTD, NSTIR.
 2. Projection: NAD83 UTM Zone 20 North.

- Legend:**
- Field Identified Rare Species (2021)
 - Field Identified Rare Species (2020)
 - ▶ Field Identified Watercourse (2020)
 - Non-Delineated Watercourse (2020)
 - Field Identified Wetland (2020)
 - Existing L8001 ROW
 - Proposed L8005 ROW
 - Contours (m)
 - NB/NS Border
 - Drawing Sheet
- Transportation**
- Highway
 - Local Road
 - Unpaved Road
 - Track
 - Trail
 - Railroad
- Water Features**
- Mapped Stream
 - Mapped Indefinite Stream
 - Mapped Wet Area

**L8001 & L8005
 Transmission Line
 ROW - Rare Plant
 and Lichen Results**



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|--------------------------|----------------------------|
| Date: Aug. 2021 | Project #: 21-7902 |
| Scale: 1:10,000 | Drawing #: A1-13 |
| Drawn By: M. Savelle | |
| Checked By: H. Mosher | |



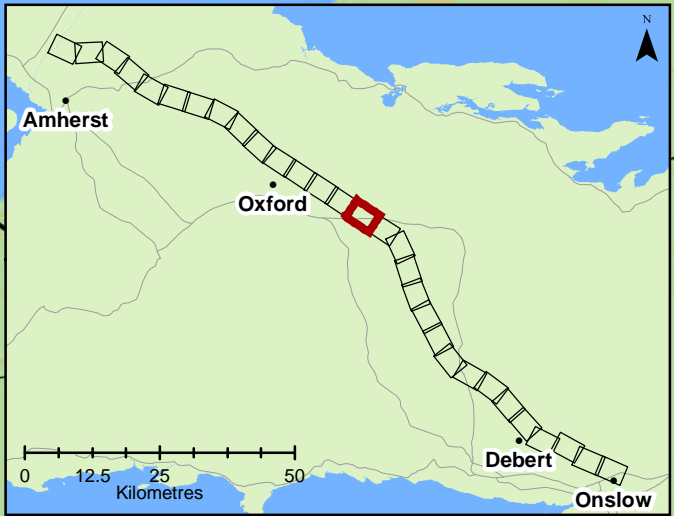
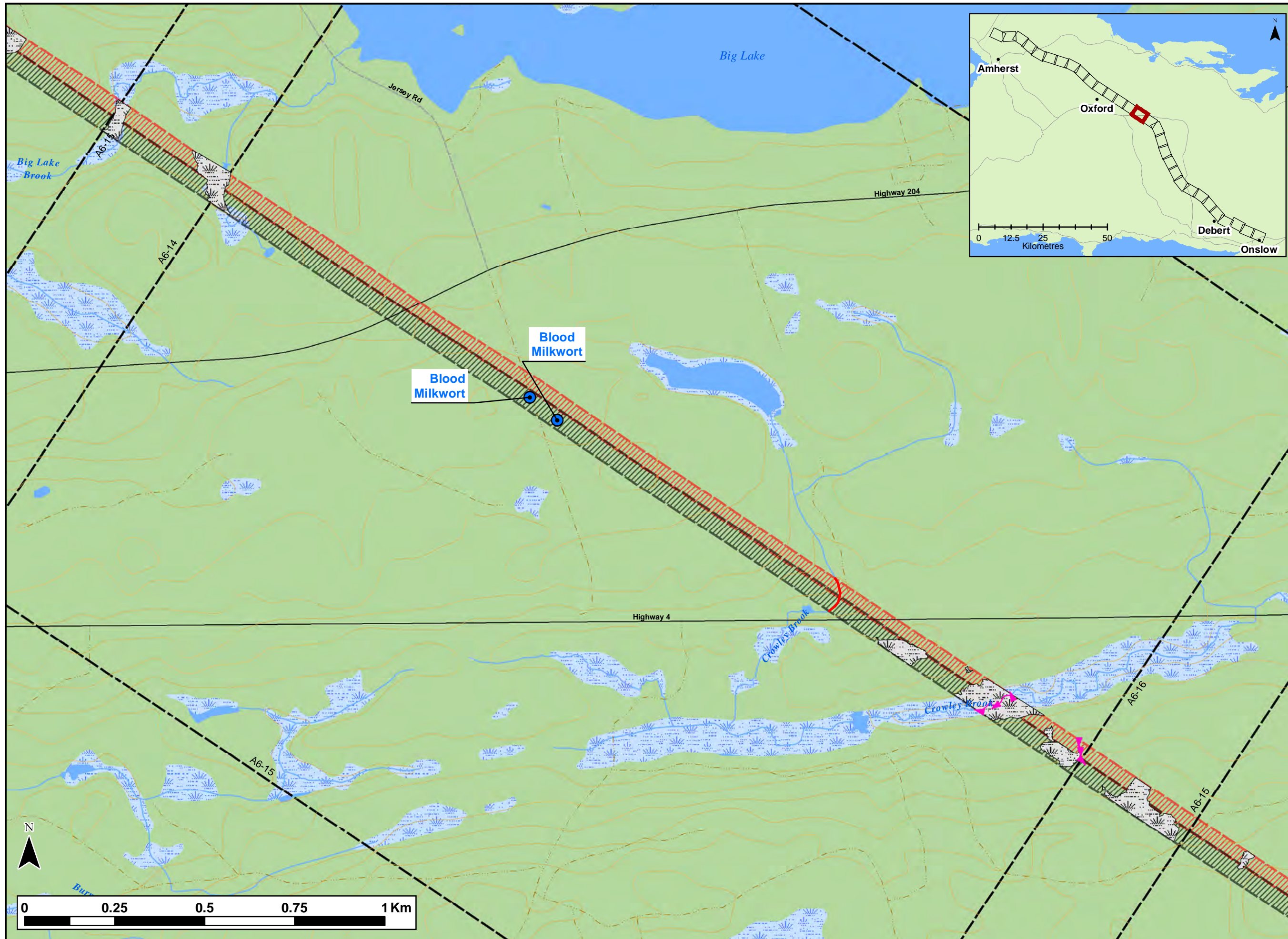
Notes:
 1. Data Sources: GeoNOVA, NSTD, NSTIR.
 2. Projection: NAD83 UTM Zone 20 North.

- Legend:**
- Field Identified Rare Species (2021)
 - Field Identified Rare Species (2020)
 - ▶ Field Identified Watercourse (2020)
 - Non-Delineated Watercourse (2020)
 - Field Identified Wetland (2020)
 - Existing L8001 ROW
 - Proposed L8005 ROW
 - Contours (m)
 - NB/NS Border
 - Drawing Sheet
- Transportation**
- Highway
 - Local Road
 - Unpaved Road
 - Track
 - Trail
 - Railroad
- Water Features**
- Mapped Stream
 - Mapped Indefinite Stream
 - ⋯ Mapped Wet Area

**L8001 & L8005
 Transmission Line
 ROW - Rare Plant
 and Lichen Results**



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|--------------------------|----------------------------|
| Date: Aug. 2021 | Project #: 21-7902 |
| Scale: 1:10,000 | Drawing #: A1-14 |
| Drawn By: M. Savelle | |
| Checked By: H. Mosher | |



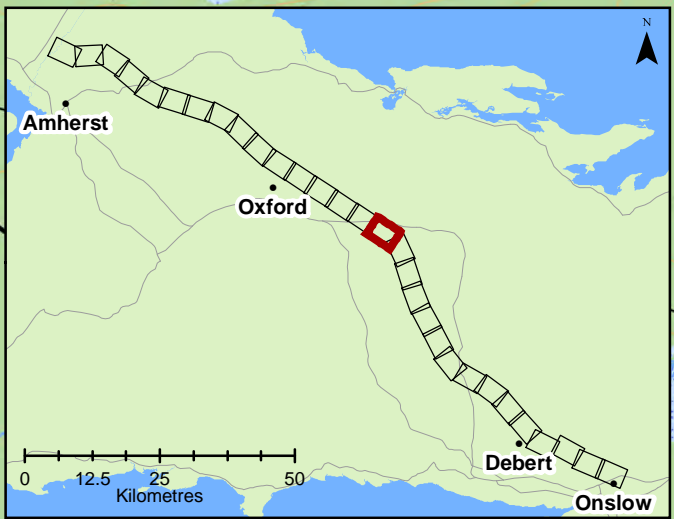
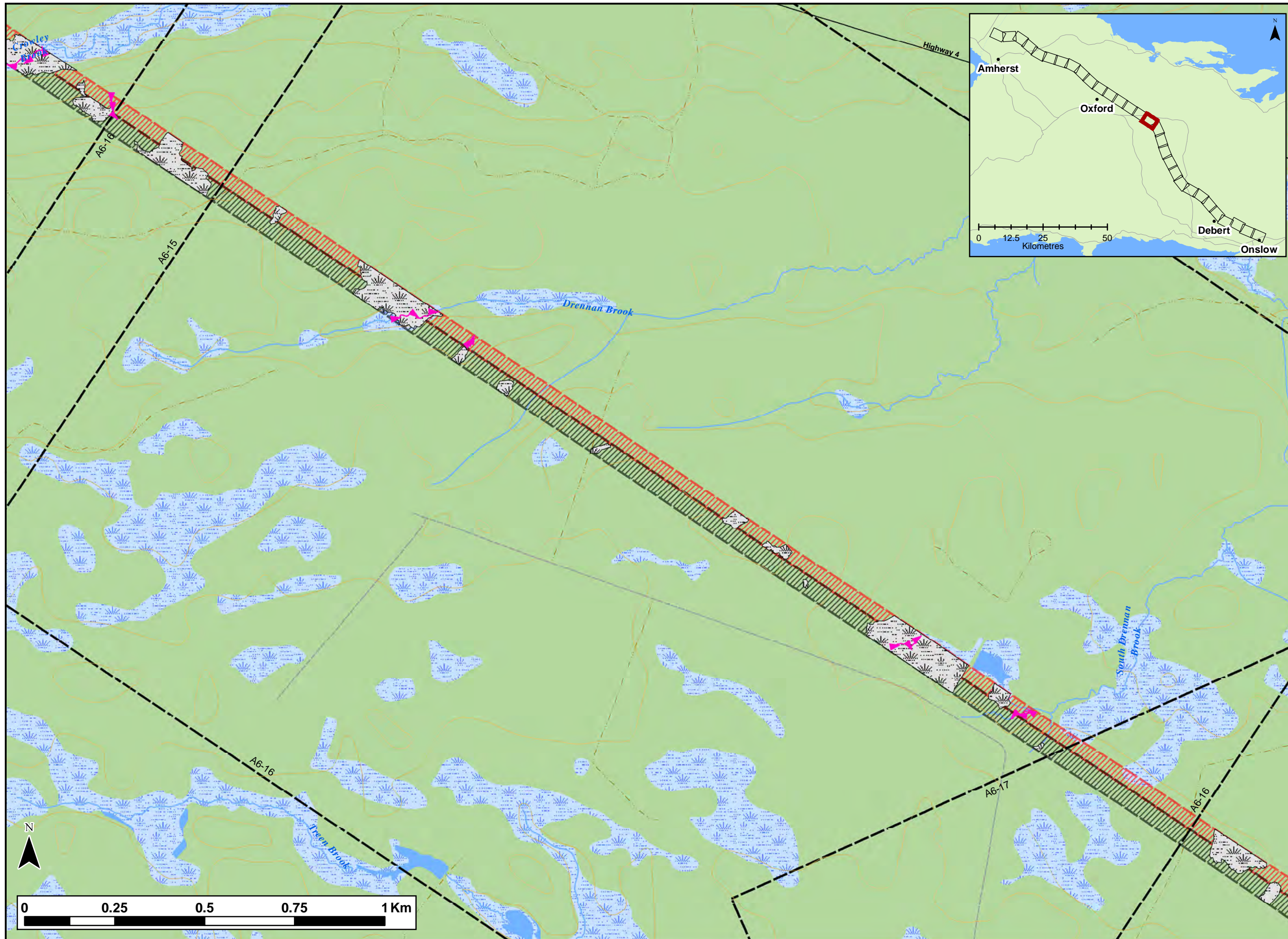
Notes:
 1. Data Sources: GeoNOVA, NSTD, NSTIR.
 2. Projection: NAD83 UTM Zone 20 North.

- Legend:**
- Field Identified Rare Species (2021)
 - Field Identified Rare Species (2020)
 - ▶ Field Identified Watercourse (2020)
 - Non-Delineated Watercourse (2020)
 - Field Identified Wetland (2020)
 - Existing L8001 ROW
 - Proposed L8005 ROW
 - Contours (m)
 - NB/NS Border
 - Drawing Sheet
- Transportation**
- Highway
 - Local Road
 - Unpaved Road
 - Track
 - Trail
 - Railroad
- Water Features**
- Mapped Stream
 - - - Mapped Indefinite Stream
 - Mapped Wet Area

**L8001 & L8005
 Transmission Line
 ROW - Rare Plant
 and Lichen Results**



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|--------------------------|----------------------------|
| Date: Aug. 2021 | Project #: 21-7902 |
| Scale: 1:10,000 | Drawing #: A1-15 |
| Drawn By: M. Savelle | |
| Checked By: H. Mosher | |



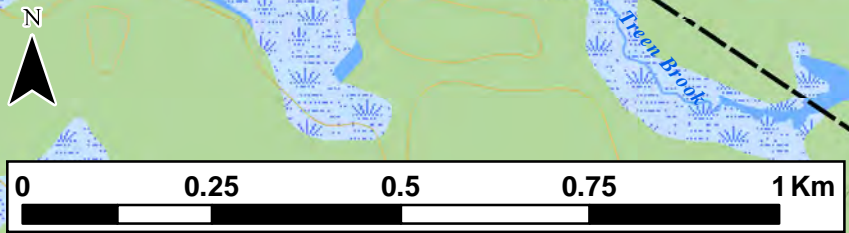
Notes:
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 2. Projection: NAD83 UTM Zone 20 North.

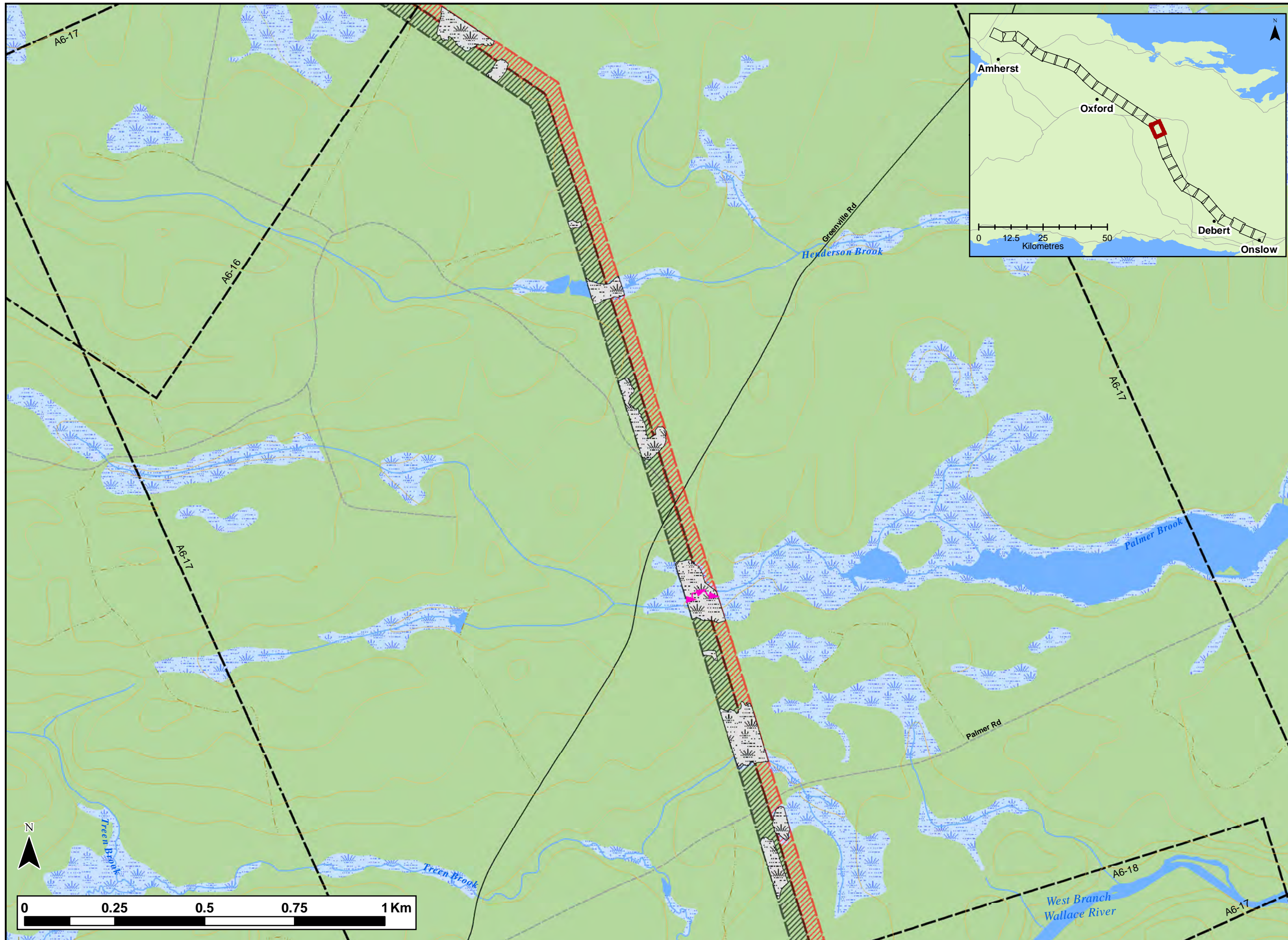
- Legend:**
- Field Identified Rare Species (2021)
 - Field Identified Rare Species (2020)
 - ▶ Field Identified Watercourse (2020)
 - Non-Delineated Watercourse (2020)
 - Field Identified Wetland (2020)
 - Existing L8001 ROW
 - Proposed L8005 ROW
 - Contours (m)
 - NB/NS Border
 - Drawing Sheet
- Transportation**
- Highway
 - Local Road
 - Unpaved Road
 - Track
 - Trail
 - Railroad
- Water Features**
- Mapped Stream
 - Mapped Indefinite Stream
 - Mapped Wet Area

**L8001 & L8005
 Transmission Line
 ROW - Rare Plant
 and Lichen Results**



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|--------------------------|----------------------------|
| Date: Aug. 2021 | Project #: 21-7902 |
| Scale: 1:10,000 | Drawing #: A1-16 |
| Drawn By: M. Savelle | |
| Checked By: H. Mosher | |





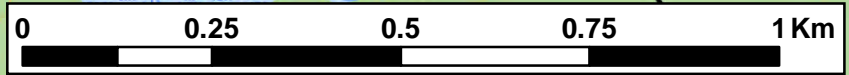
Notes:
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 2. Projection: NAD83 UTM Zone 20 North.

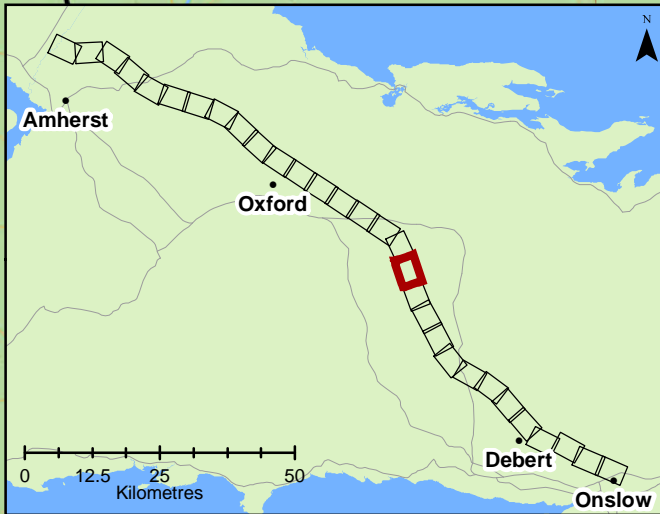
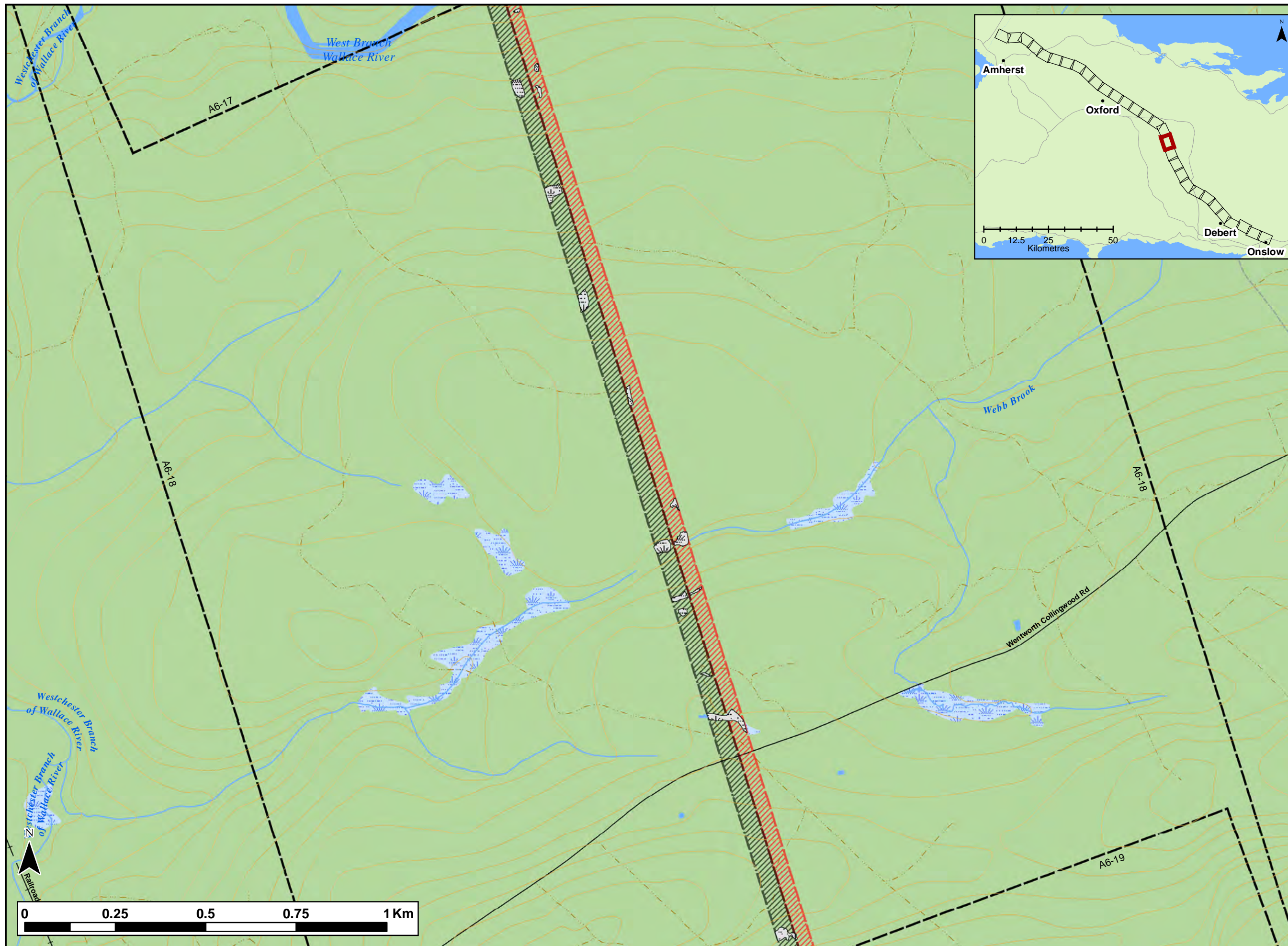
- Legend:**
- Field Identified Rare Species (2021)
 - Field Identified Rare Species (2020)
 - ▶ Field Identified Watercourse (2020)
 - Non-Delineated Watercourse (2020)
 - Field Identified Wetland (2020)
 - Existing L8001 ROW
 - Proposed L8005 ROW
 - Contours (m)
 - NB/NS Border
 - Drawing Sheet
- Transportation**
- Highway
 - Local Road
 - Unpaved Road
 - Track
 - Trail
 - Railroad
- Water Features**
- Mapped Stream
 - Mapped Indefinite Stream
 - ⋯ Mapped Wet Area

**L8001 & L8005
 Transmission Line
 ROW - Rare Plant
 and Lichen Results**



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| Date: Aug. 2021 | Project #: 21-7902 |
| Scale: 1:10,000 | Drawing #: A1-17 |
| Drawn By: M. Savelle | |
| Checked By: H. Mosher | |





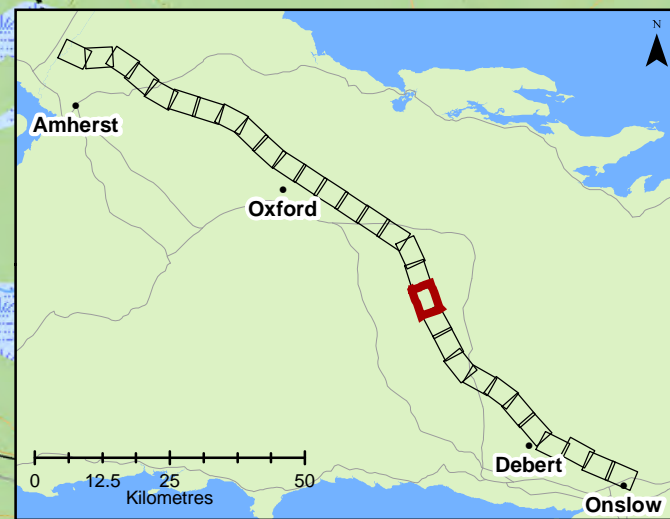
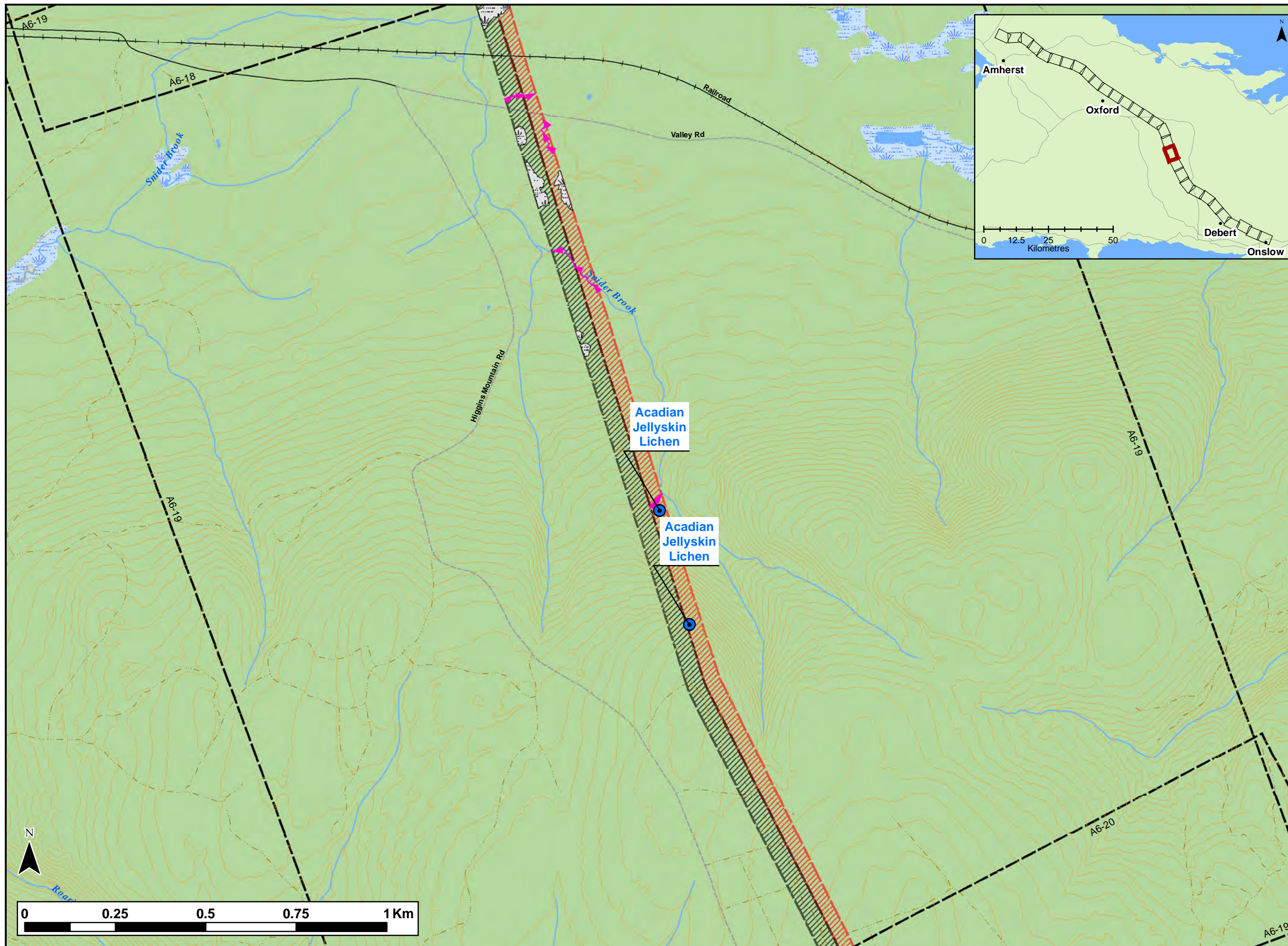
Notes:
 1. Data Sources: GeoNOVA, NSTD, NSTIR.
 2. Projection: NAD83 UTM Zone 20 North.

- Legend:**
- Field Identified Rare Species (2021)
 - Field Identified Rare Species (2020)
 - Field Identified Watercourse (2020)
 - Non-Delineated Watercourse (2020)
 - Field Identified Wetland (2020)
 - Existing L8001 ROW
 - Proposed L8005 ROW
 - Contours (m)
 - NB/NS Border
 - Drawing Sheet
- Transportation**
- Highway
 - Local Road
 - Unpaved Road
 - Track
 - Trail
 - Railroad
- Water Features**
- Mapped Stream
 - Mapped Indefinite Stream
 - Mapped Wet Area

**L8001 & L8005
 Transmission Line
 ROW - Rare Plant
 and Lichen Results**



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|--------------------------|----------------------------|
| Date: Aug. 2021 | Project #: 21-7902 |
| Scale: 1:10,000 | Drawing #: A1-18 |
| Drawn By: M. Savelle | |
| Checked By: H. Mosher | |



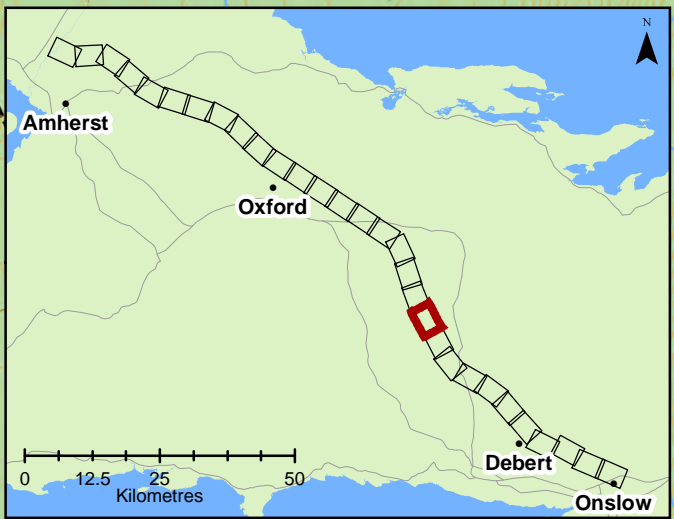
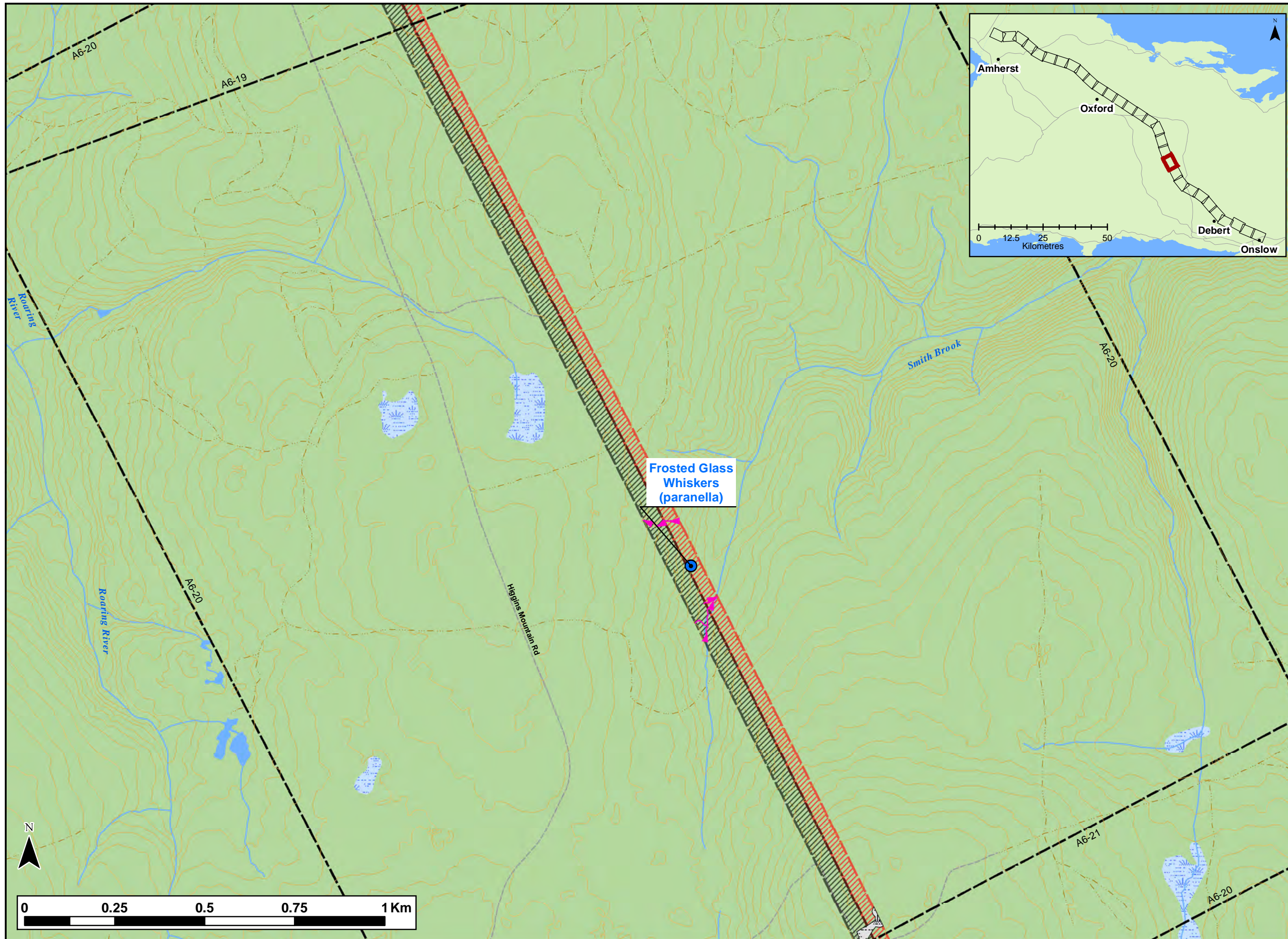
Notes:
 1. Data Sources: GeoNOVA, NSTD, NSTIR.
 2. Projection: NAD83 UTM Zone 20 North.

- Legend:**
- Field Identified Rare Species (2021)
 - Field Identified Rare Species (2020)
 - ▶ Field Identified Watercourse (2020)
 - Non-Delineated Watercourse (2020)
 - Field Identified Wetland (2020)
 - Existing L8001 ROW
 - Proposed L8005 ROW
 - Contours (m)
 - NB/NS Border
 - Drawing Sheet
- Transportation**
- Highway
 - Local Road
 - Unpaved Road
 - Track
 - Trail
 - Railroad
- Water Features**
- Mapped Stream
 - Mapped Indefinite Stream
 - Mapped Wet Area

**L8001 & L8005
 Transmission Line
 ROW - Rare Plant
 and Lichen Results**



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|--------------------------|----------------------------|
| Date: Aug. 2021 | Project #: 21-7902 |
| Scale: 1:10,000 | Drawing #: A1-19 |
| Drawn By: M. Savelle | A1-19 |
| Checked By: H. Mosher | |



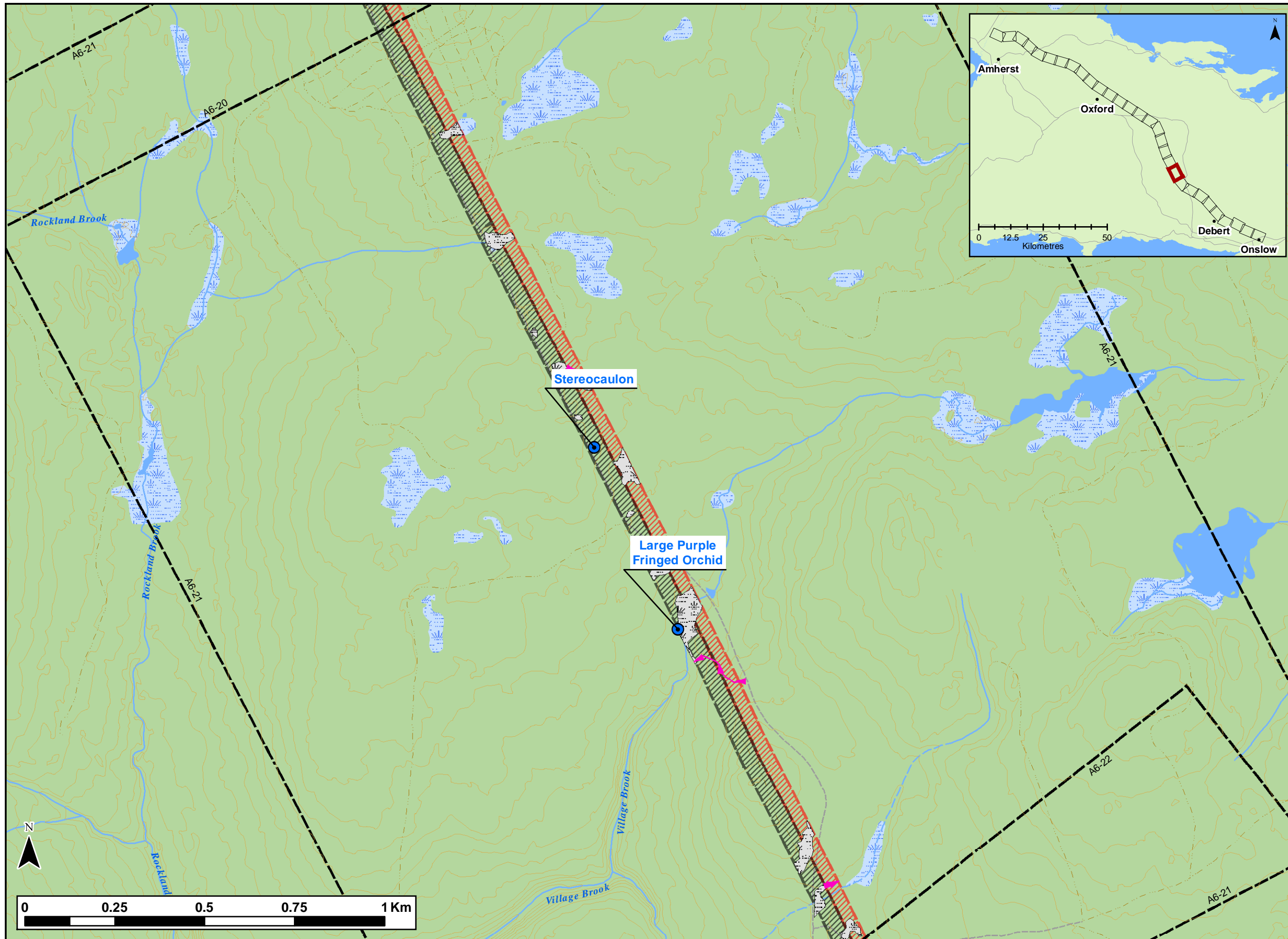
Notes:
 1. Data Sources: GeoNOVA, NSTD, NSTIR.
 2. Projection: NAD83 UTM Zone 20 North.

- Legend:**
- Field Identified Rare Species (2021)
 - Field Identified Rare Species (2020)
 - ▶ Field Identified Watercourse (2020)
 - Non-Delineated Watercourse (2020)
 - Field Identified Wetland (2020)
 - Existing L8001 ROW
 - Proposed L8005 ROW
 - Contours (m)
 - NB/NS Border
 - Drawing Sheet
- Transportation**
- Highway
 - Local Road
 - Unpaved Road
 - Track
 - Trail
 - Railroad
- Water Features**
- Mapped Stream
 - Mapped Indefinite Stream
 - Mapped Wet Area

**L8001 & L8005
 Transmission Line
 ROW - Rare Plant
 and Lichen Results**



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|--------------------------|----------------------------|
| Date: Aug. 2021 | Project #: 21-7902 |
| Scale: 1:10,000 | Drawing #: A1-20 |
| Drawn By: M. Savelle | A1-20 |
| Checked By: H. Mosher | |



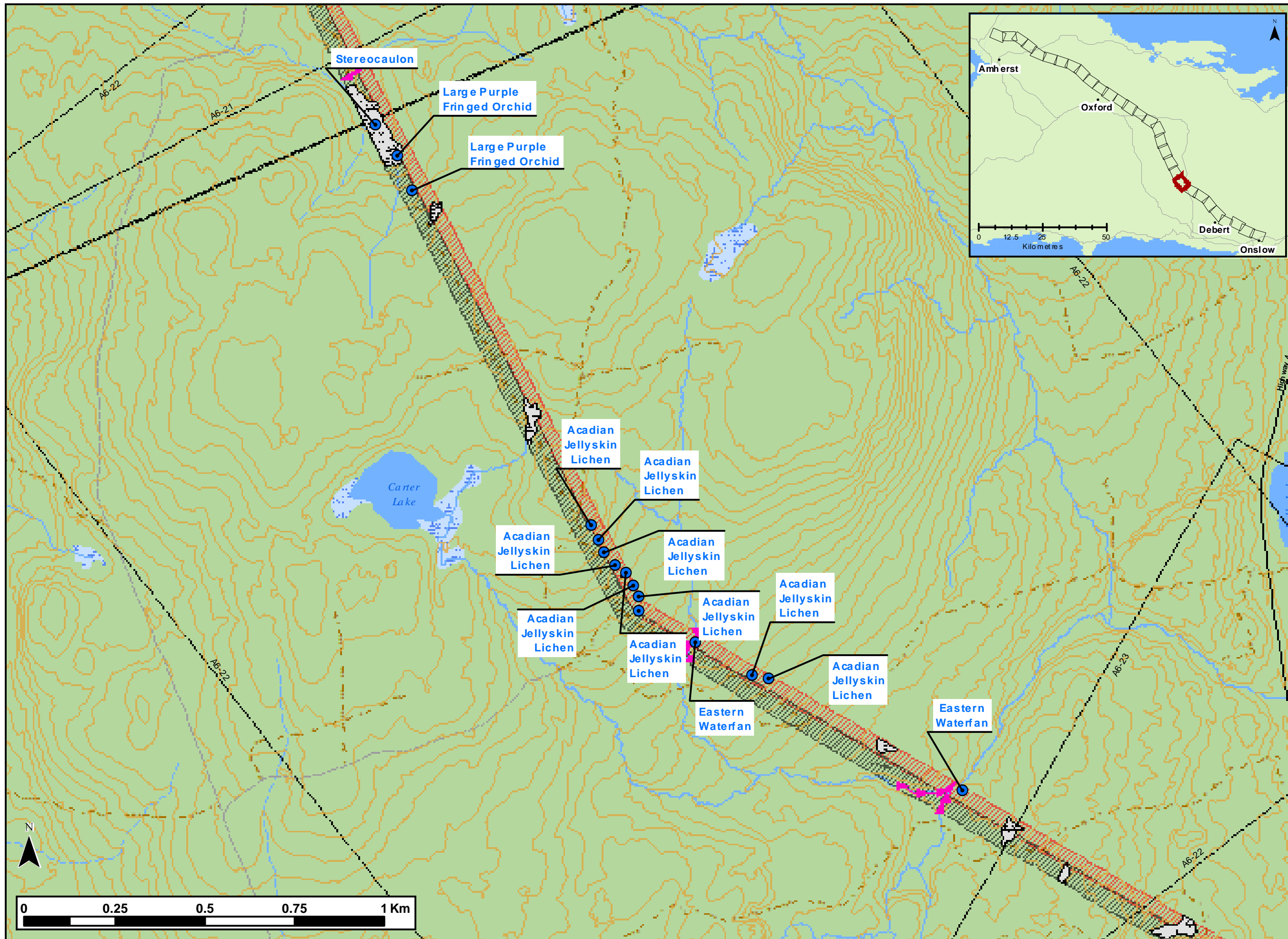
Notes:
 1. Data Sources: GeoNOVA, NSTD, NSTIR.
 2. Projection: NAD83 UTM Zone 20 North.

- Legend:**
- Field Identified Rare Species (2021)
 - Field Identified Rare Species (2020)
 - ▶ Field Identified Watercourse (2020)
 - Non-Delineated Watercourse (2020)
 - Field Identified Wetland (2020)
 - Existing L8001 ROW
 - Proposed L8005 ROW
 - Contours (m)
 - NB/NS Border
 - Drawing Sheet
 - Transportation**
 - Highway
 - Local Road
 - Unpaved Road
 - Track
 - Trail
 - + Railroad
 - Water Features**
 - Mapped Stream
 - Mapped Indefinite Stream
 - Mapped Wet Area

**L8001 & L8005
 Transmission Line
 ROW - Rare Plant
 and Lichen Results**



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|--------------------------|----------------------------|
| Date: Aug. 2021 | Project #: 21-7902 |
| Scale: 1:10,000 | Drawing #: A1-21 |
| Drawn By: M. Savelle | A1-21 |
| Checked By: H. Mosher | |



Notes:
 1. Data Sources: GeoNOVA, NSTD, NSTIR.
 2. Projection: NAD 83 UTM Zone 20 North.

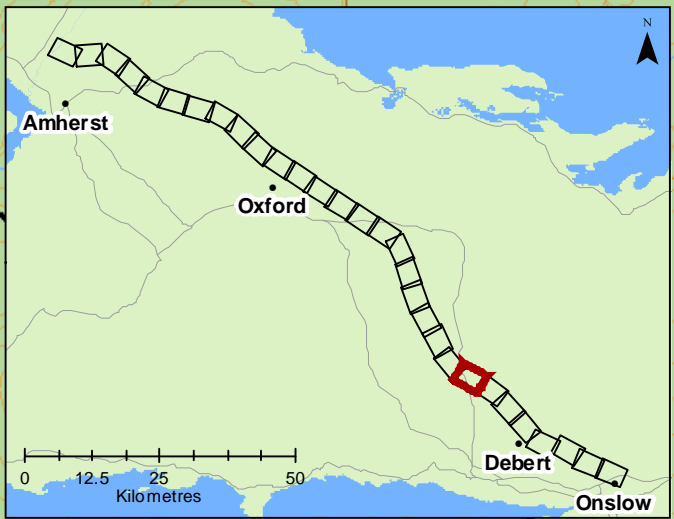
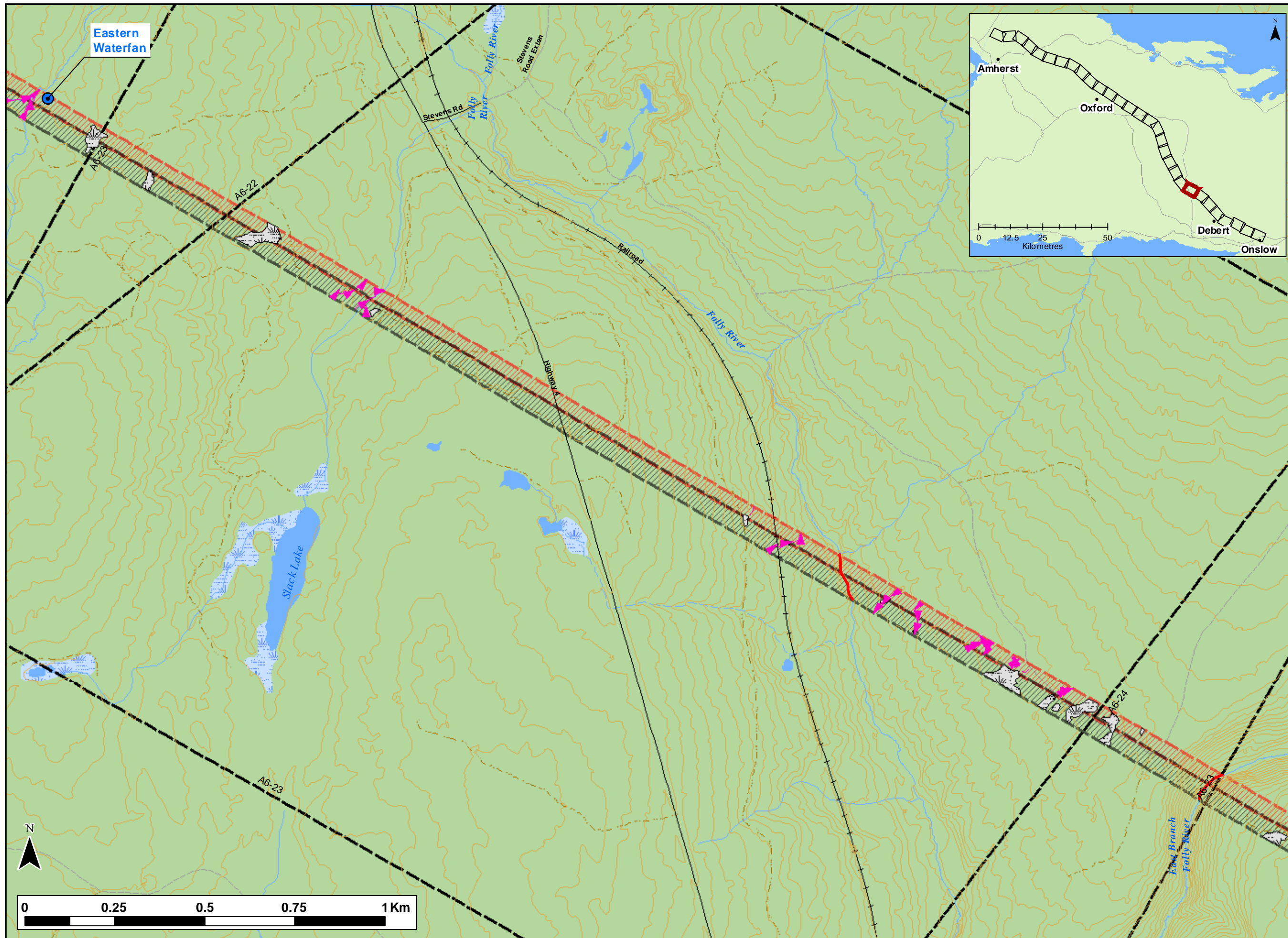
- Legend:**
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 - Field Identified Rare Species (2020)
 - ▲ Field Identified Watercourse (2020)
 - Non-Delineated Watercourse (2020)
 - ▨ Field Identified Wetland (2020)
 - ▨ Existing L8001 ROW
 - ▨ Proposed L8005 ROW
 - Contours (m)
 - ▭ NB/NS Border
 - ▭ Drawing Sheet
- Transportation**
- Highway
 - Local Road
 - - - Unpaved Road
 - · - · - Track
 - · - · - Trail
 - Rail road
- Water Features**
- Mapped Stream
 - · - · - Mapped Indefinite Stream
 - ▨ Mapped Wet Area

**L8001 & L8005
 Transmission Line
 ROW - Rare Plant
 and Lichen Results**



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| Date: Aug. 2021 | Project #: 21-7902 |
| Scale: 1:10,000 | Drawing #: A1-22 |
| Drawn By: M. Savelle | Checked By: H. Mosher |





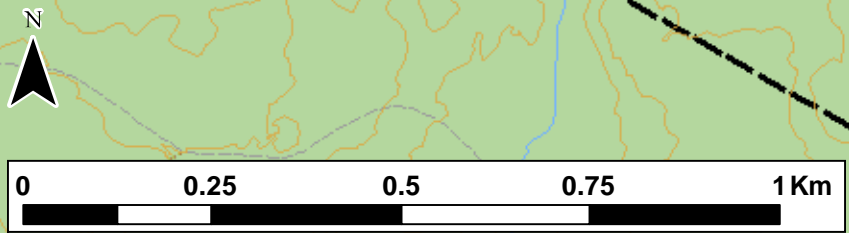
Notes:
 1. Data Sources: GeoNOVA, NSTD, NSTIR.
 2. Projection: NAD83 UTM Zone 20 North.

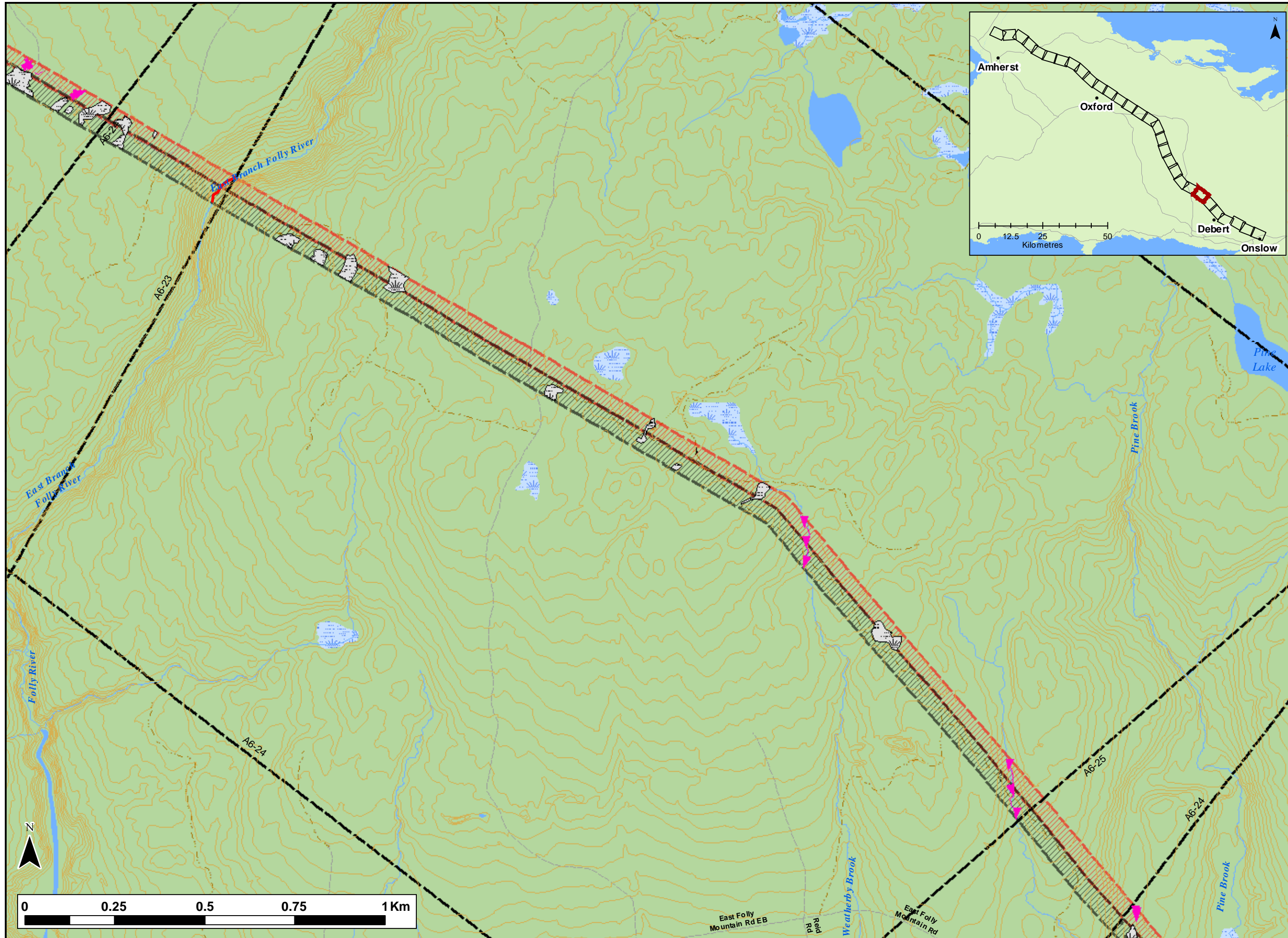
- Legend:**
- Field Identified Rare Species (2021)
 - Field Identified Rare Species (2020)
 - Field Identified Watercourse (2020)
 - Non-Delineated Watercourse (2020)
 - Field Identified Wetland (2020)
 - Existing L8001 ROW
 - Proposed L8005 ROW
 - Contours (m)
 - NB/NS Border
 - Drawing Sheet
- Transportation**
- Highway
 - Local Road
 - Unpaved Road
 - Track
 - Trail
 - Railroad
- Water Features**
- Mapped Stream
 - Mapped Indefinite Stream
 - Mapped Wet Area

**L8001 & L8005
 Transmission Line
 ROW - Rare Plant
 and Lichen Results**



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|-------------------------|----------------------------|
| Date: Aug. 2021 | Project #: 21-7902 |
| Scale: 1:10,000 | Drawing #: A1-23 |
| Drawn By: M. Savelle | Checked By: H. Mosher |





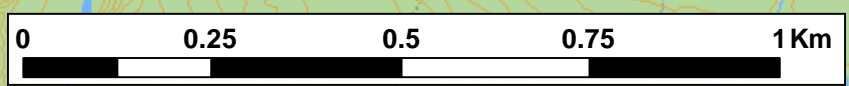
Notes:
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 2. Projection: NAD83 UTM Zone 20 North.

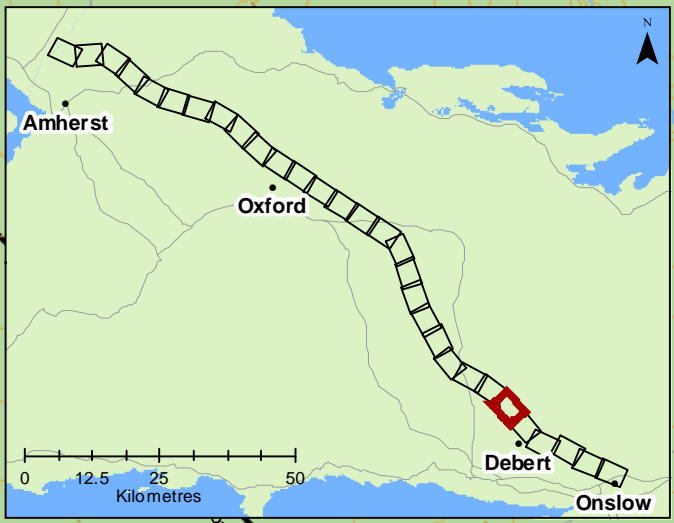
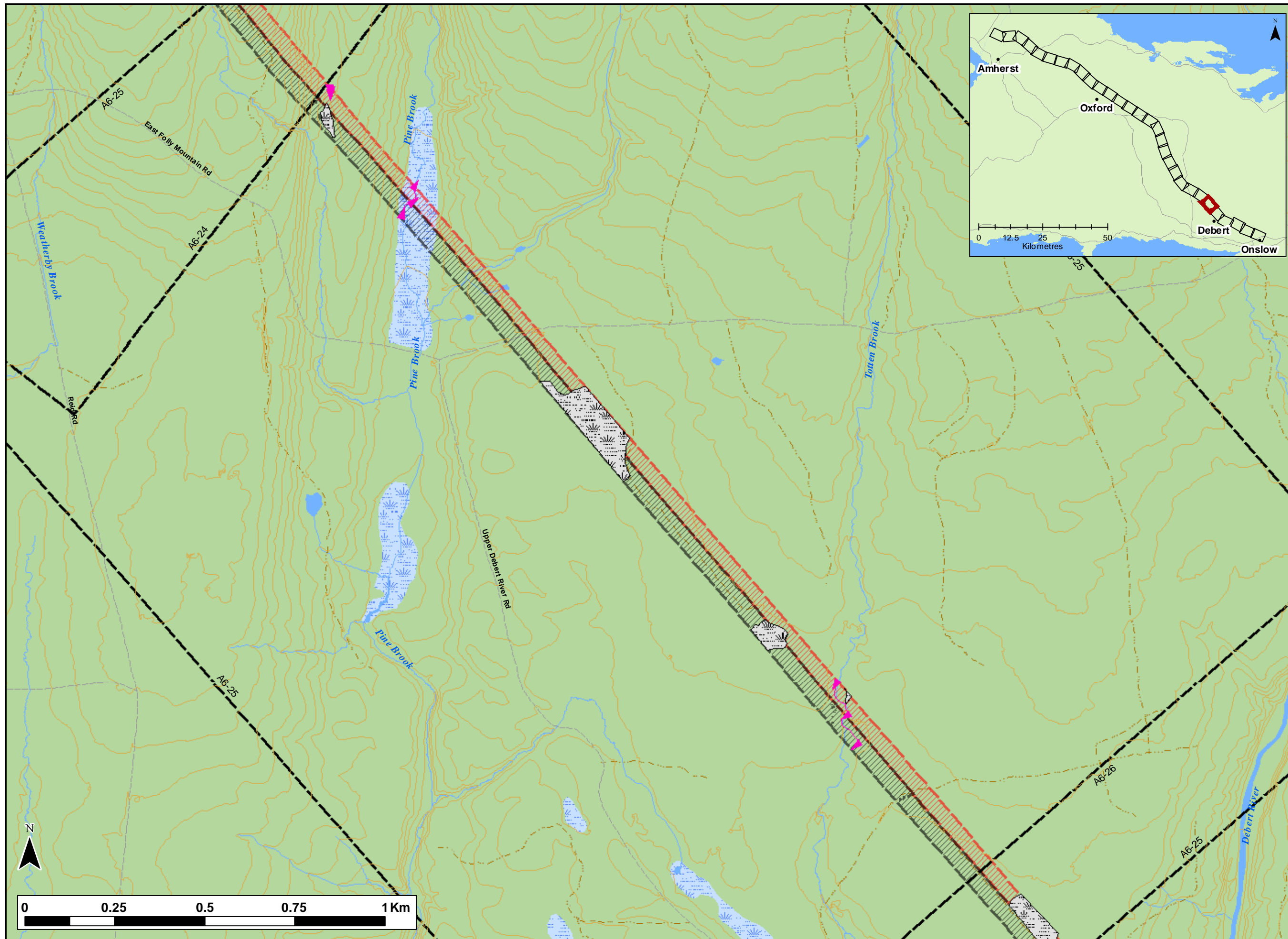
- Legend:**
- Field Identified Rare Species (2021)
 - Field Identified Rare Species (2020)
 - Field Identified Watercourse (2020)
 - Non-Delineated Watercourse (2020)
 - Field Identified Wetland (2020)
 - Existing L8001 ROW
 - Proposed L8005 ROW
 - Contours (m)
 - NB/NS Border
 - Drawing Sheet
- Transportation**
- Highway
 - Local Road
 - Unpaved Road
 - Track
 - Trail
 - Railroad
- Water Features**
- Mapped Stream
 - Mapped Indefinite Stream
 - Mapped Wet Area

**L8001 & L8005
 Transmission Line
 ROW - Rare Plant
 and Lichen Results**



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| Date: Aug. 2021 | Project #: 21-7902 |
| Scale: 1:10,000 | Drawing #: A1-24 |
| Drawn By: M. Savelle | Checked By: H. Mosher |





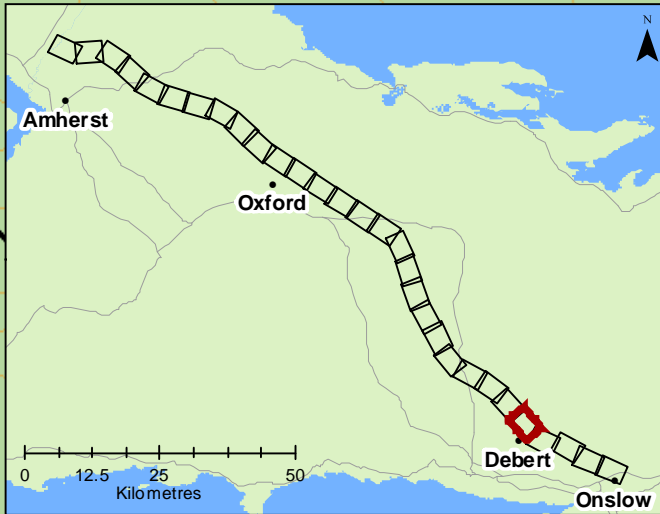
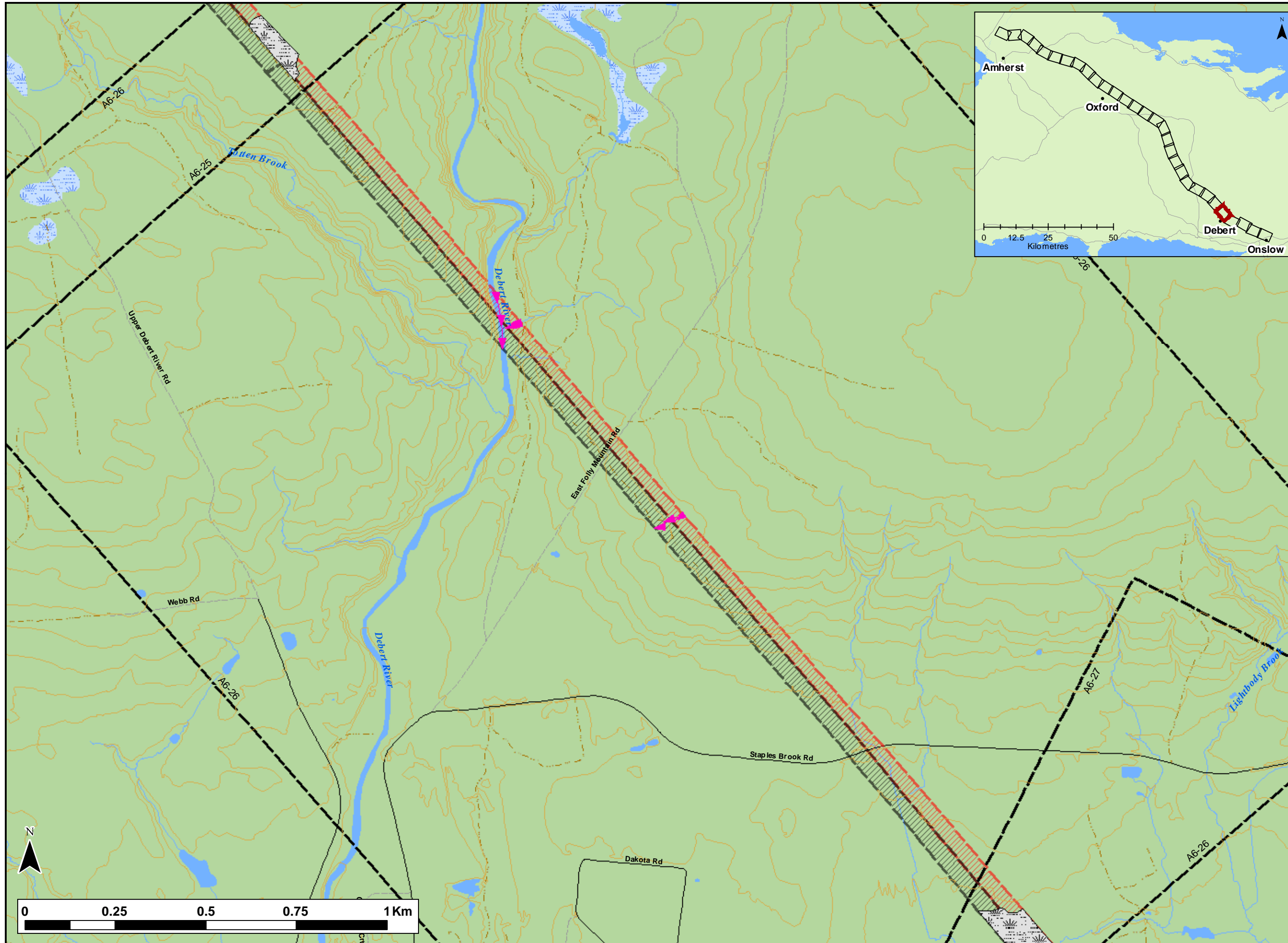
Notes:
 1. Data Sources: GeoNOVA, NSTD, NSTIR.
 2. Projection: NAD83 UTM Zone 20 North.

- Legend:**
- Field Identified Rare Species (2021)
 - Field Identified Rare Species (2020)
 - Field Identified Watercourse (2020)
 - Non-Delineated Watercourse (2020)
 - Field Identified Wetland (2020)
 - Existing L8001 ROW
 - Proposed L8005 ROW
 - Contours (m)
 - NB/NS Border
 - Drawing Sheet
- Transportation**
- Highway
 - Local Road
 - Unpaved Road
 - Track
 - Trail
 - Railroad
- Water Features**
- Mapped Stream
 - Mapped Indefinite Stream
 - Mapped Wet Area

**L8001 & L8005
 Transmission Line
 ROW - Rare Plant
 and Lichen Results**



| | |
|--------------------------|----------------------------|
| Date: Aug. 2021 | Project #: 21-7902 |
| Scale: 1:10,000 | Drawing #: A1-25 |
| Drawn By: M. Savelle | A1-25 |
| Checked By: H. Mosher | |



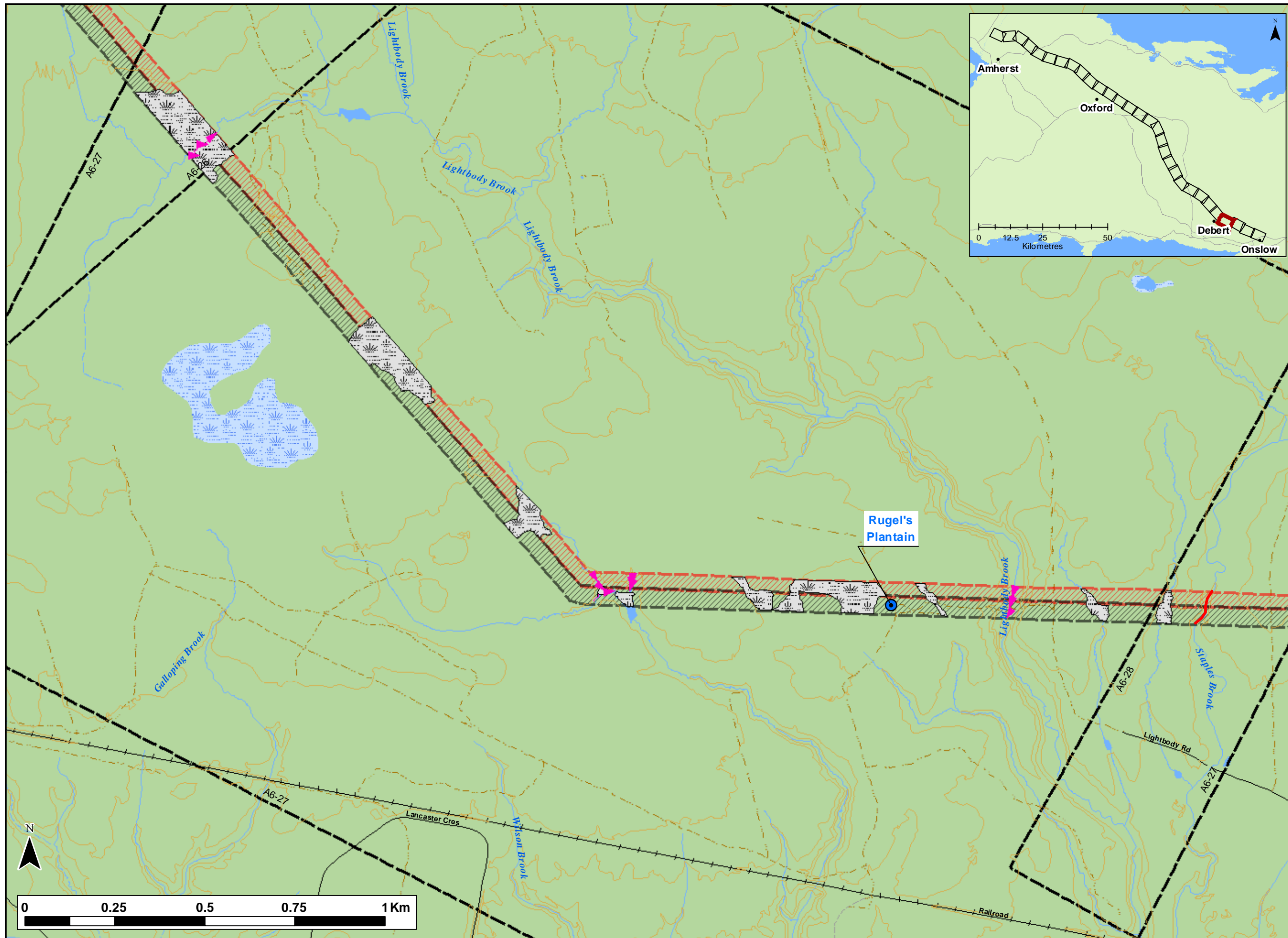
Notes:
 1. Data Sources: GeoNOVA, NSTD, NSTIR.
 2. Projection: NAD83 UTM Zone 20 North.

- Legend:**
- Field Identified Rare Species (2021)
 - Field Identified Rare Species (2020)
 - Field Identified Watercourse (2020)
 - Non-Delineated Watercourse (2020)
 - Field Identified Wetland (2020)
 - Existing L8001 ROW
 - Proposed L8005 ROW
 - Contours (m)
 - NB/NS Border
 - Drawing Sheet
- Transportation**
- Highway
 - Local Road
 - Unpaved Road
 - Track
 - Trail
 - Railroad
- Water Features**
- Mapped Stream
 - Mapped Indefinite Stream
 - Mapped Wet Area

**L8001 & L8005
 Transmission Line
 ROW - Rare Plant
 and Lichen Results**



| | |
|--------------------------|----------------------------|
| Date: Aug. 2021 | Project #: 21-7902 |
| Scale: 1:10,000 | Drawing #: A1-26 |
| Drawn By: M. Savelle | A1-26 |
| Checked By: H. Mosher | |



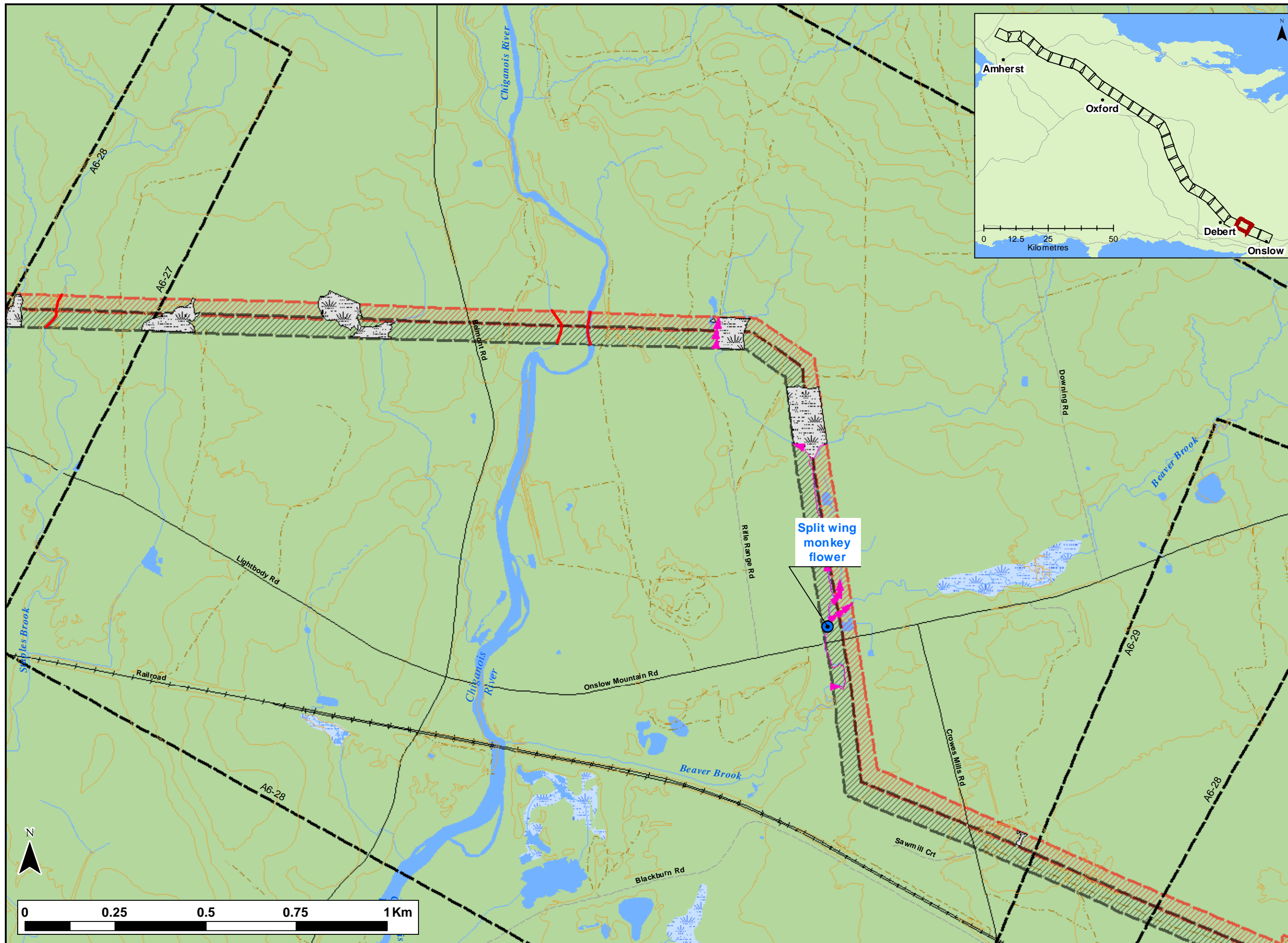
Notes:
 1. Data Sources: GeoNOVA, NSTD, NSTIR.
 2. Projection: NAD83 UTM Zone 20 North.

- Legend:**
- Field Identified Rare Species (2021)
 - Field Identified Rare Species (2020)
 - ▶ Field Identified Watercourse (2020)
 - Non-Delineated Watercourse (2020)
 - Field Identified Wetland (2020)
 - Existing L8001 ROW
 - Proposed L8005 ROW
 - Contours (m)
 - NB/NS Border
 - Drawing Sheet
- Transportation**
- Highway
 - Local Road
 - Unpaved Road
 - Track
 - Trail
 - Railroad
- Water Features**
- Mapped Stream
 - - - Mapped Indefinite Stream
 - Mapped Wet Area

**L8001 & L8005
 Transmission Line
 ROW - Rare Plant
 and Lichen Results**



| | |
|--------------------------|----------------------------|
| Date: Aug. 2021 | Project #: 21-7902 |
| Scale: 1:10,000 | Drawing #: A1-27 |
| Drawn By: M. Savelle | A1-27 |
| Checked By: H. Mosher | |



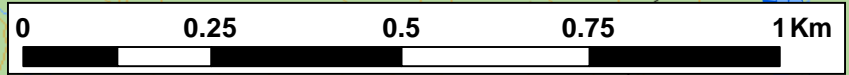
Notes:
 1. Data Sources: GeoNOVA, NSTD, NSTIR.
 2. Projection: NAD83 UTM Zone 20 North.

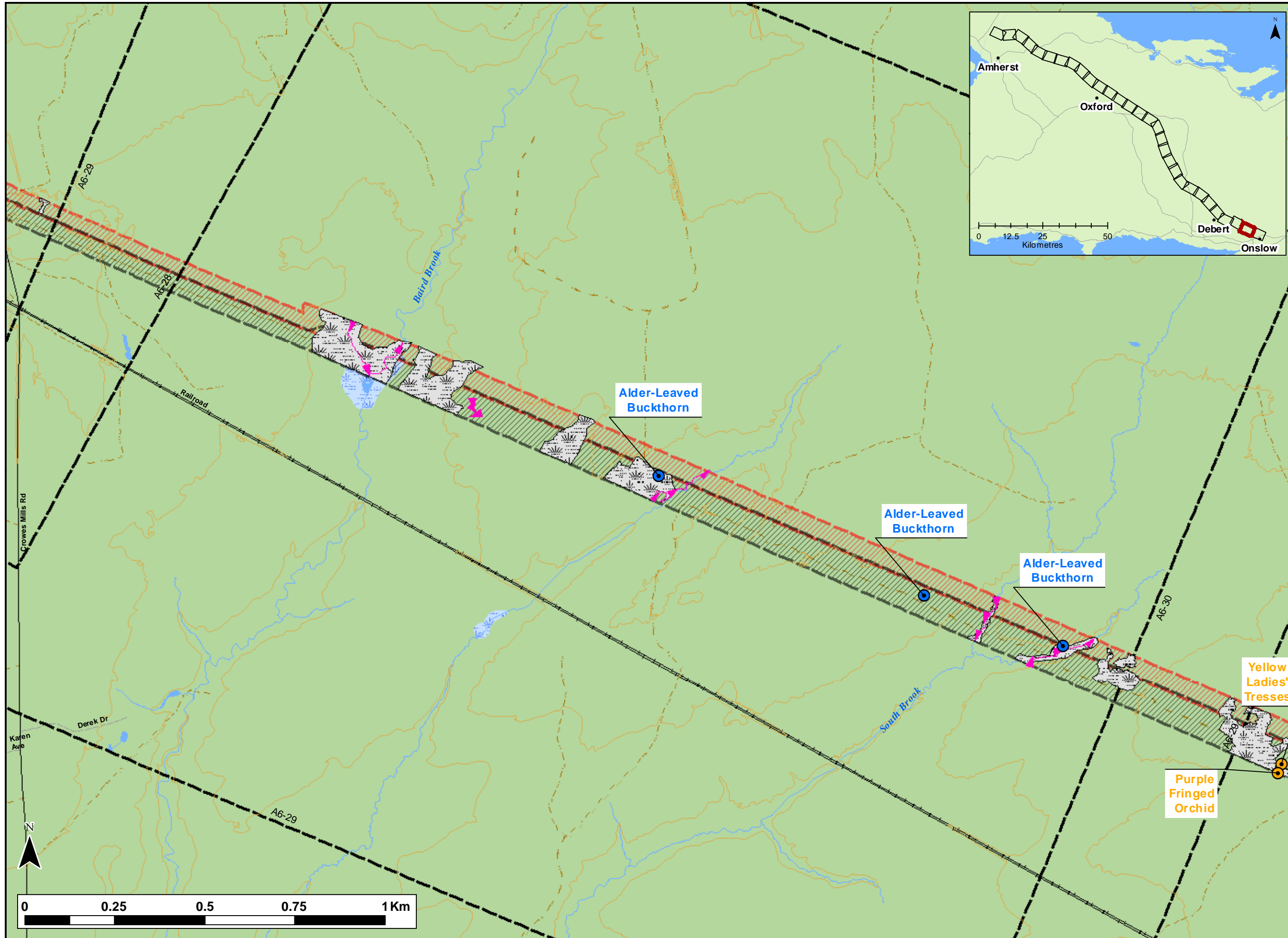
- Legend:**
- Field Identified Rare Species (2021)
 - Field Identified Rare Species (2020)
 - ▶ Field Identified Watercourse (2020)
 - Non-Delineated Watercourse (2020)
 - Field Identified Wetland (2020)
 - Existing L8001 ROW
 - Proposed L8005 ROW
 - Contours (m)
 - NB/NS Border
 - Drawing Sheet
- Transportation**
- Highway
 - Local Road
 - Unpaved Road
 - Track
 - Trail
 - Railroad
- Water Features**
- Mapped Stream
 - Mapped Indefinite Stream
 - Mapped Wet Area

**L8001 & L8005
 Transmission Line
 ROW - Rare Plant
 and Lichen Results**



| | |
|--------------------------|----------------------------|
| Date: Aug. 2021 | Project #: 21-7902 |
| Scale: 1:10,000 | Drawing #: A1-28 |
| Drawn By: M. Savelle | |
| Checked By: H. Mosher | |





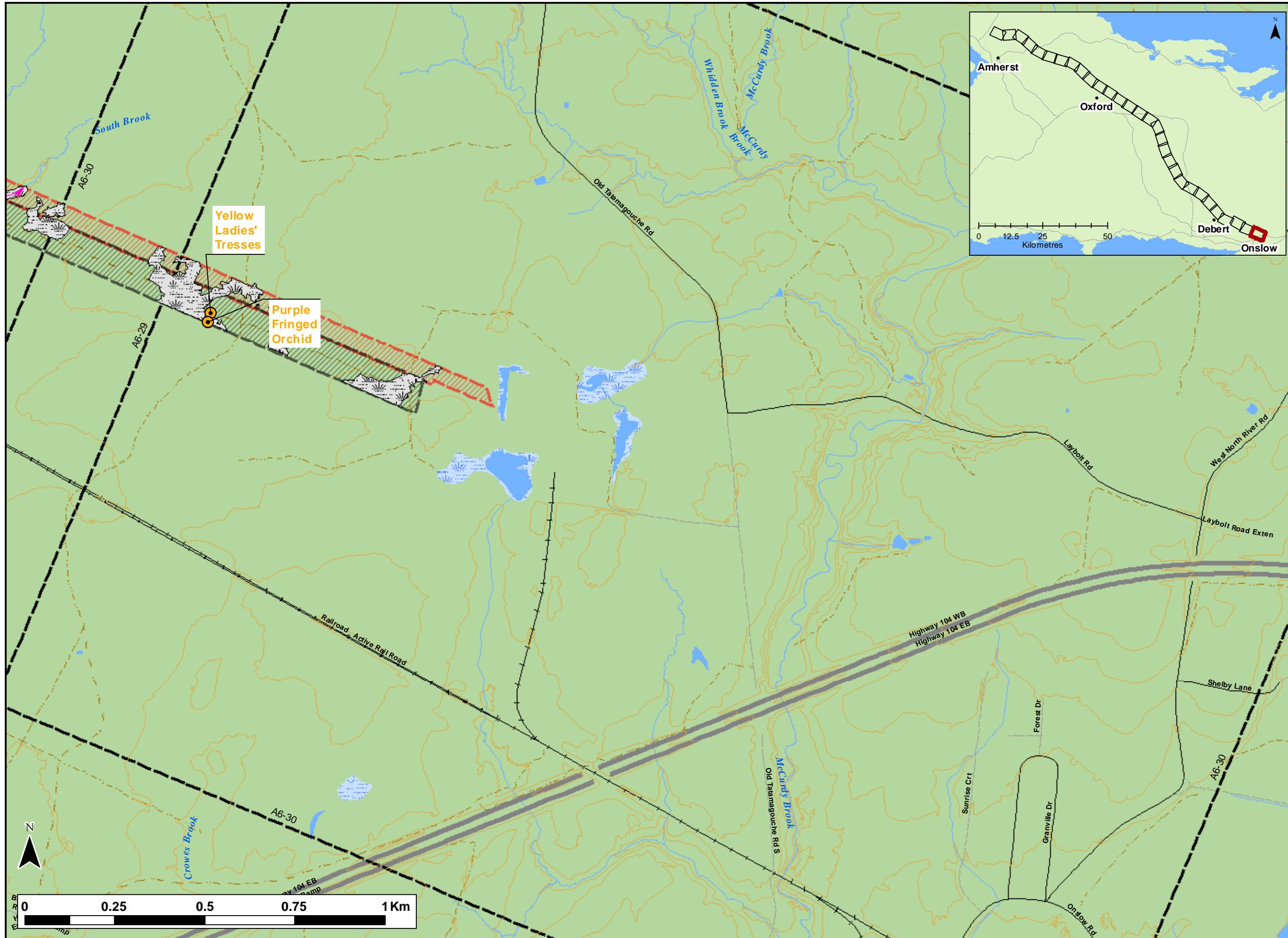
Notes:
 1. Data Sources: GeoNOVA, NSTD, NSTIR.
 2. Projection: NAD83 UTM Zone 20 North.

- Legend:**
- Field Identified Rare Species (2021)
 - Field Identified Rare Species (2020)
 - ▶ Field Identified Watercourse (2020)
 - Non-Delineated Watercourse (2020)
 - Field Identified Wetland (2020)
 - Existing L8001 ROW
 - Proposed L8005 ROW
 - Contours (m)
 - NB/NS Border
 - Drawing Sheet
- Transportation**
- Highway
 - Local Road
 - Unpaved Road
 - Track
 - Trail
 - Railroad
- Water Features**
- Mapped Stream
 - Mapped Indefinite Stream
 - Mapped Wet Area

**L8001 & L8005
Transmission Line
ROW - Rare Plant
and Lichen Results**



| | |
|--------------------------|----------------------------|
| Date: Aug. 2021 | Project #: 21-7902 |
| Scale: 1:10,000 | Drawing #: A1-29 |
| Drawn By: M. Savelle | Checked By: H. Mosher |
| Checked By: H. Mosher | |



Notes:
 1. Data Sources: GeoNOVA, NSTD, NSTIR.
 2. Projection: NAD83 UTM Zone 20 North.

- Legend:**
- Field Identified Rare Species (2021)
 - Field Identified Rare Species (2020)
 - ▶ Field Identified Watercourse (2020)
 - Non-Delineated Watercourse (2020)
 - Field Identified Wetland (2020)
 - Existing L8001 ROW
 - Proposed L8005 ROW
 - Contours (m)
 - NB/NS Border
 - Drawing Sheet
- Transportation**
- Highway
 - Local Road
 - - - Unpaved Road
 - - - Track
 - - - Trail
 - + + + Railroad
- Water Features**
- Mapped Stream
 - - - Mapped Indefinite Stream
 - Mapped Wet Area

**L8001 & L8005
 Transmission Line
 ROW - Rare Plant
 and Lichen Results**



| | |
|--------------------------|----------------------------|
| Date: Aug. 2021 | Project #: 21-7902 |
| Scale: 1:10,000 | Drawing #: A1-30 |
| Drawn By: M. Savelle | |
| Checked By: H. Mosher | |

**21-7902 NSPI Transmission Line
Rare Plants and Lichens
Geodatabase File Descriptions**

Spatial Data File Descriptions

A description of the shapefiles and field names is presented below.

SHAPEFILES:

| | | |
|---------------------|------------------------------------|---|
| Dataset | Rare Plants and Lichens | |
| Feature Type | Point | |
| Location | 21-7902_RarePlants_Lichen_20210806 | |
| | Attribute Field Name | Description |
| | FID | Unique ID |
| | objectid | ID associated with Survey123 data collector |
| | globalid | ID associated with Survey123 data collector |
| | datetime | Date of data collection |
| | field_Crew | Strum field crew initials |
| | species_co | Identifying species confidence: Low Medium High |
| | notes | Field notes taken during survey |
| | Easting | NAD83 UTM Zone 20 North Easting |
| | Northing | NAD83 UTM Zone 20 North Northing |
| | MAP_ID | ID based on south to north species ID |
| | SPECIES | Species name (Latin or common); genus given if species name unknown |
| | Pla_Lic | Plant or Lichen |