

Type of Decision									
Meeting Date	May 28, 2019			Report Date	May 15, 2019				
Decision Requested	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No	Priority	<input checked="" type="checkbox"/>	High	<input type="checkbox"/>	Low
	Direction Only				Type of Meeting	<input checked="" type="checkbox"/>	Open	<input type="checkbox"/>	Closed

Report Title
Federal Gas Tax Additional Funding

Resolution	Relationship to the Strategic Plan/Health Impact Assessment
<p>That the City of Greater Sudbury approves the recommended allocation of the additional Federal Gas Tax funding of \$10,209,759.96 and the allocation of \$800,000 from the Capital Financing Reserve Fund - Water as outlined in the report titled "Federal Gas Tax Additional Funding" from the General Manager of Growth and Infrastructure presented to City Council on May 28, 2019.</p>	<p>This report refers to proposed improvements to existing road infrastructure to improve the quality of our roads as identified in the Strategic Plan under the Pillar of Sustainable Infrastructure.</p>
Resolution Continued	Background Attached

Report Summary

As requested by the Finance and Administration Committee (Resolution FA2019-19 dated March 26, 2019), this report recommends the allocation of funding for the additional \$10,209,759.96 Federal Gas Tax funding.

Financial Implications

The additional one-time Gas Tax funding of \$10,209,759.96 and the allocation of \$800,000 from Capital Financing Reserve Fund - Water will supplement the City's existing approved Capital Budget for Roads and Water.

Report Prepared By


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Division Review


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Recommended by the Department


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Financial Implications


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Recommended by the C.A.O.


Ed Archer
Chief Administrative Officer

Introduction:

This report has been prepared to provide funding allocation recommendations for the additional one-time Federal Gas Tax funding of \$10,209,759.96. This amount is in addition to the existing Gas Tax funding identified in the 2019 Capital Budget.

Background:

The one-time Federal Gas Tax funding is in addition to the existing Federal Gas Tax funding in the 2019 Capital Budget of \$9,800,484 (split between Roads, Water, and Wastewater budgets). Federal Gas Tax is an annual funding source and the estimated funds that the City can expect to receive from 2019 to 2023 are summarized below:

- \$10,209,759.96 (one-time additional funding)
- \$9,800,484 (2019)
- \$9,800,484 (2020)
- \$10,245,960 (2021)
- \$10,245,960 (2022)
- \$10,691,437 (2023)

The funding must be spent in accordance with the existing Federal Gas Tax funding agreement. The funds must be spent on capital construction projects for rehabilitation or replacement of roads, must be spent within five years of receiving the funds, must be spent on capital projects with capitalized road work on the City's financial statements and the projects need to replace road components which will have a useful life of at least five years. The gas tax funding cannot be used for patching, repairs or other work that would be considered operating expenses.

Discussion:

A number of criteria were considered in the selection of the proposed road sections. Asset management principles were used to review road sections recommended in the pavement management program. Other factors considered in the road selection were to:

- Maximize the benefit to users by selecting roads with high traffic volumes;
- Maximize the locations that required pothole repair this spring to lower future maintenance costs, service requests, and claims;
- Minimize traffic disruptions and create synergies with other proposed construction in the 5-year Capital Budget outlook;
- Minimize traffic disruptions to frequent bus routes identified for improvements in 2019 under the City's Transit Action Plan;
- Select treatments to protect and extend the life of existing assets;
- Maximize number of lane km of road rehabilitation;
- Manage the risk of replacing asphalt over aging underground infrastructure;
- Minimize the amount of pre-engineering work to accelerate project schedule;

-
- Select locations that extend the rehabilitation corridor of roads recently constructed or already included in the Capital Budget outlook;
 - Consider the age and condition of road.

Recommendation:

The following road resurfacing locations are recommended:

- Barry Downe Rd (MR66) from Westmount Ave to Hawthorne Dr (\$2,000,000)
- Kingsway (MR55) from Bancroft Dr to Silver Hills Dr (\$1,800,000)
- Regent St (MR46) from Walford Rd to York St (\$2,100,000)

Refer to the attached "Table 1 – Proposed Additional Gas Tax Funded Road Project Locations" which informed the prioritization of the proposed locations, and summarizes the following information for each location: the cost estimate, length, traffic volume, pavement condition index, proposed treatment, and typical service life of the proposed treatment.

Refer to Appendix A that identifies the location and limits of each proposed location.

The proposed work will rehabilitate approximately 13.4 lane kilometers at an anticipated cost of \$5.9 million.

Some of the proposed projects have aging underground infrastructure, however staff have reviewed the proposed treatments, the benefits and risks associated with repairing these roads now without repairs or rehabilitation to the underground infrastructure. The proposed asphalt treatments in areas of underground infrastructure consist of only asphalt grinding and replacement (1 or 2 lifts of asphalt). This road repair strategy is required at this time to reduce the expected extensive road maintenance requirements along these sections. These cost effective repairs will extend the useful life of the road until such time we are in a position to either replace or rehabilitate the underground infrastructure.

It is expected that emergency repairs will be required to underground infrastructure for some of these locations. For example, on average the Kingsway is experiencing a water main break every two years, and over the typical service life of the proposed asphalt treatment approximately four to five breaks can be expected if recent trends continue. The total value of the asphalt removed to fix these breaks that would have been part of this contract is less than \$10,000 in current dollars.

The proposed asphalt treatments minimize the impact to traffic because there is minimal excavation required. The major items are milling, tack coat, and asphalt. There will be traffic disruptions while these items are occurring, however it will be for a short duration. Traffic can be restored soon after these items are completed.

The proposed projects will be completed in 2019 or 2020. Additional resources will be required to complete the projects within the proposed schedule. Retaining of external resources to supplement staff to complete this work will be required. Due to the nature of these projects, experienced City staff will be selected to execute these contracts. Additional temporary staff or consultants will be retained to execute other projects.

In developing the recommended list of projects, other roads were considered. These roads include:

- Frood Rd (MR42) from Elm St to College St (\$900,000)
- Old Hwy 17 (MR55) from Horizon Dr to Koti Rd (\$800,000)
- Old Hwy 69 (MR80) from North of Maley Drive to McCrea Heights (\$2,000,000)
- Ramsey Lake Road (MR39) from Paris Street to South Bay Road (\$1,600,000)
- Skead Rd (MR86) from MR85 to Airport Terminal Dr (\$1,900,000)

These roads will be submitted into the Capital Prioritization Process for consideration in future Capital Budgets.

Funding Shortfall in 2019 Roads and W/WW Capital Program

To date construction tenders for road and water/wastewater linear projects have been closing approximately 10% to 20% higher than estimated. This results in a requirement for council approval prior to award of the construction projects. It is recommended that \$3.6M of the Gas Tax Funding be allocated to the existing road capital program to cover the funding needs and allow the 2019 roads capital program to be completed. It is recommended that \$800,000 be transferred from the W/WW capital financing reserve funds to be used to complete the 2019 W/WW capital program.

For example, the local road rehabilitation contracts closed at a cost of \$5.2M and the budget for this program is \$4.0M. The contract for Elm Street and Beatty Street closed at a cost of \$5.1M and the budget is \$3.8M. These are the extreme examples. While some of the tenders have closed at or below budget, the majority are closing over budget.

Staff have reviewed the details of each of the tenders and there is not one specific item that is causing the cost increase. Some of the major items in road tenders that have seen price increases are asphalt and concrete. For asphalt, the price of asphalt cement (the glue in asphalt that represents approximately 5% of the volume) has risen from \$588/t in January 2018 to \$850/t in April 2019. This represents an increase of 45%, and historically the price has seasonally spiked in August and September. For concrete, the prices have significantly increased, with some contracts seeing prices doubled from the estimate. Explanations for these increases include general increases in fuel, material, and equipment costs, which have increased due to tariffs and the low Canadian Dollar.

The estimates that were prepared for the 2019 Capital Budget did include increases from the unit prices received on City tenders from 2018, however the unit price increases seen to date were not expected. Staff have reviewed the existing tenders that have closed and have revised the estimates for contracts that are yet to be tendered. From this review, it is estimated that if \$3.6M is allocated from the Gas Tax Funding to the 2019 Roads Capital Budget and \$800,000 be transferred from the capital financing reserve fund - water to the 2019 Water Capital Budget that all of the projects can be completed as outlined in the approved capital program.

Other Considerations:

The City has historically been an early adopter of asphalt recycling technology. From the late 1990's to date the City has continued to use asphalt recycling as a cost effective asphalt

treatment to stretch the capital budget with success. Contracts have been structured to allow different types of asphalt recycling to promote competition and, where possible, allow local contractors to bid.

Recently, a contractor approached the City promoting Hot In-place Recycling (HIR) as an alternative for the asphalt recycling already undertaken by the City. HIR is not a new process, it has been used by the MTO since 1990, however it has not been extensively used in Ontario in the recent past. As the City was not aware of many contractors offering this service, this type of asphalt recycling was not considered. In general terms, HIR is the recycling of existing asphalt with a rejuvenator. This process reworks the top 40 to 50 mm of the asphalt, and it is appropriate for roads that do not have significant cracking or structural deficiencies. The MTO Pavement Design and Rehabilitation Manual states that a typical service life for HIR, under freeway conditions, is seven years and under non-freeway conditions is nine years.

With the understanding that the HIR technology is making resurgence in Ontario, and that the MTO has received competitive bids on projects in their Northwestern Region in the last two years, staff will be undertaking a detailed review of recent projects using HIR. To allow staff time to review the HIR technology, It is recommended that the remaining \$700,000 of the Gas Tax Funding not be allocated to a specific location at this time. Staff will report back to Operations Committee with a suggested location or locations where a pilot project can be tendered with HIR option with the intent to utilize the remaining \$700,000 Gas Tax Funding.

Summary

The following is a summary of the recommendations for the allocation of the one-time Federal Gas Tax funding:

- \$1,800,000 for Kingsway (MR 55) from Bancroft Drive to Silver Hills Drive
- \$2,000,000 for Barry Downe Road (MR 66) from Westmont Avenue to Hawthorne Drive
- \$2,100,000 for Regent Street (MR 46) from Walford Road to York Street
- \$3,609,759.96 for the 2019 Roads and W/WW Capital Budget to fully fund projects that have been tendered or are in the process of being tendered.
- \$700,000 for an asphalt recycling pilot project.

The proposed allocation above totals the one-time Federal Gas Tax funding allotment of \$10,209,759.96.

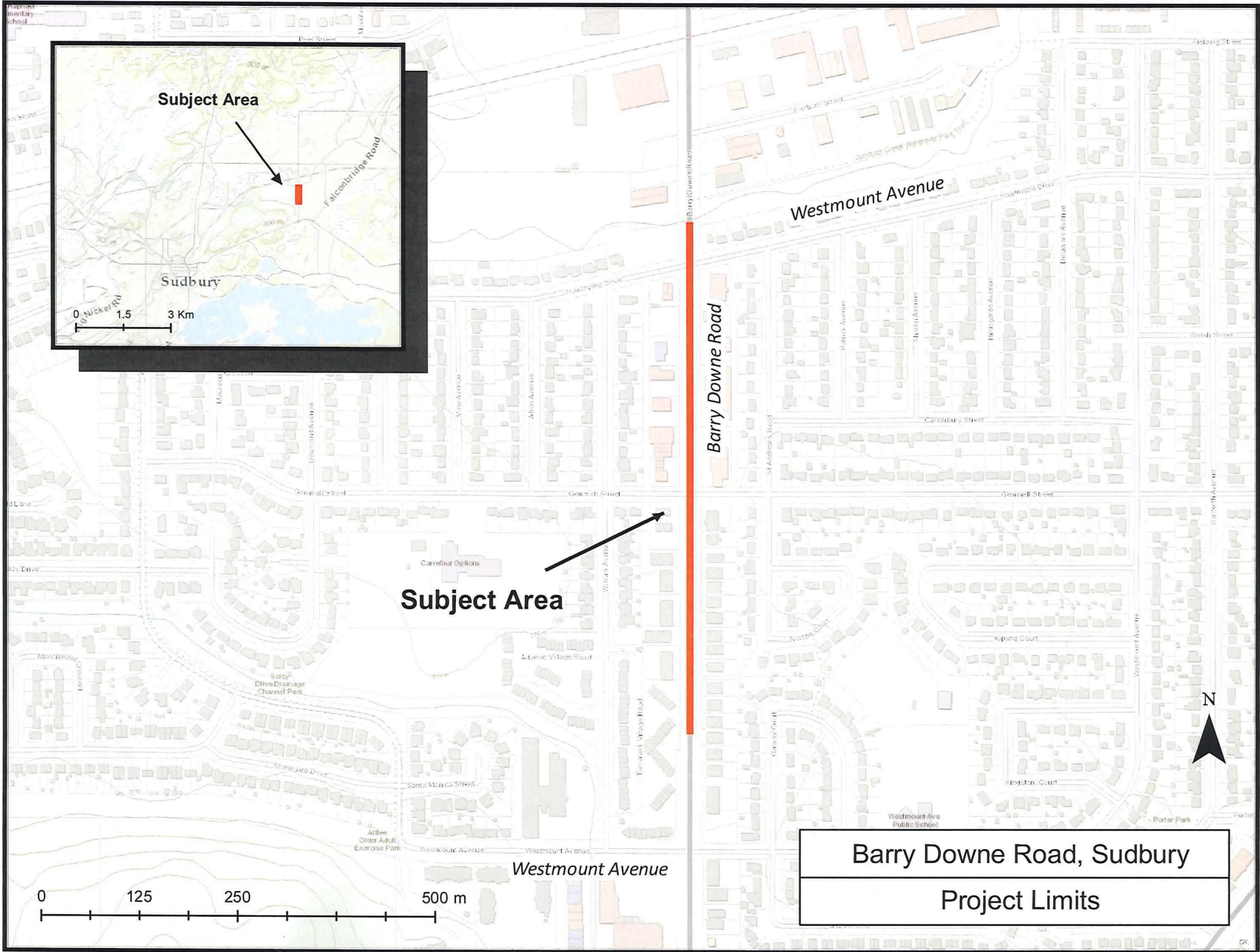
It is also recommended to transfer \$800,000 from the capital financing reserve fund - water to the 2019 Water Capital Budget.

Table 1 – Proposed Additional Gas Tax Funded Road Project Locations

	Location	Limits	Estimated Construction Cost (\$)	Segment Length (km)	Lane km	Traffic Volumes (AADT)	Average Existing Pavement Condition Index	Proposed Treatment	*Typical Service Life of Proposed Treatment (years)
Recommended Locations	Regent Street (MR46)	Walford Road to York Street	\$2,100,000	1.3	3.4	18,000	62	90mm Grind, 50mm Base Asphalt, 40mm Surface Asphalt, Spot Concrete Curb and Gutter Repairs	10 - 14
	Kingsway (MR55)	100m East Bancroft Drive to Silver Hills	\$1,800,000	1.1	5.5	44,000	30	50mm Grind, 50mm Surface Asphalt, Spot Concrete Curb and Gutter Repairs	7 - 10
	Barry Downe Road (MR66)	150m N Westmount to 50m N Hawthorne	\$2,000,000	0.9	4.5	33,000	40	40mm Partial Grind, 40mm Surface Asphalt Overlay, Spot Concrete Curb and Gutter Repairs	6 - 10
Other Locations Considered	Frood Road (MR42)	Elm Street to College Street	\$900,000	0.3	0.6	3,500	56	90mm Grind, 50mm Base Asphalt, 40mm Surface Asphalt, Spot Concrete Curb and Gutter Repairs	10 - 14
	Old Hwy 17 (MR55)	185m East Koti Road to Horizon Drive	\$800,000	0.7	1.4	3,200	55	Pulverize, 100mm Base Asphalt, 40mm Surface Asphalt, 2.0m Paved Shoulders, Culvert Replacements	13 - 17
	Skead Road (MR86)	MR85 to Airport Terminal Road	\$1,900,000	2.4	4.7	4,000	58	90mm Grind, 50mm Base Asphalt, 40mm Surface Asphalt, Paved Shoulders, Culvert Replacement	10 - 14
	Ramsey Lake Road (MR39)	Paris Street to South Bay Road	\$1,600,000	2.0	4.0	18,500	44	90mm Grind, 50mm Base Asphalt, 40mm Surface Asphalt	10 - 14
	Old Hwy 69 (MR80)	North of Maley to McCrea Heights	\$2,000,000	2.0	10.0	20,000	73	50mm Grind, 50mm Surface Asphalt	7 - 10

AADT = Annual Average Daily Traffic

* MTO Pavement Design and Rehabilitation Manual, Second Edition, Table 3.3.1



Subject Area

Sudbury

0 1.5 3 Km

Subject Area

Westmount Avenue

Westmount Avenue

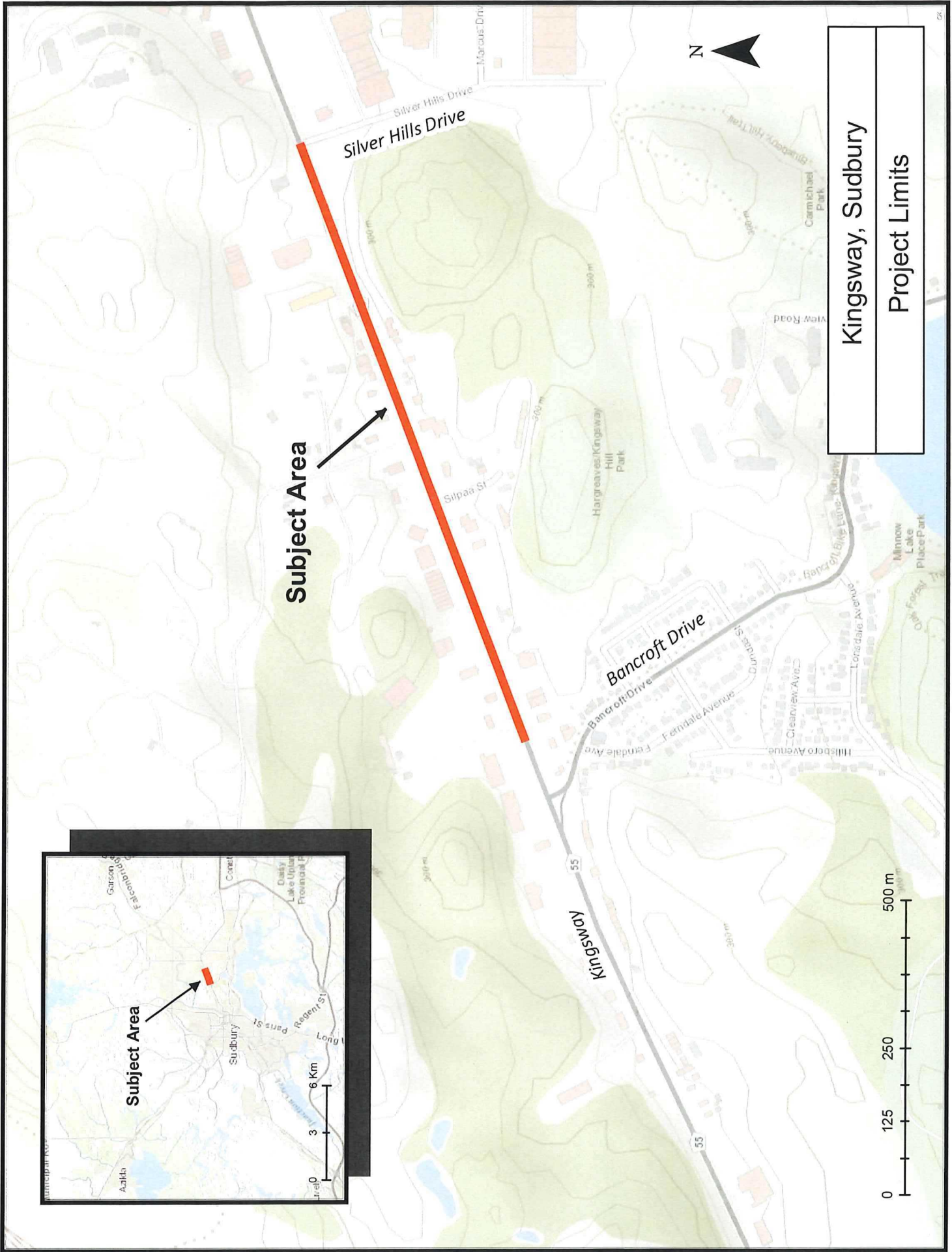
Barry Downe Road

Barry Downe Road, Sudbury

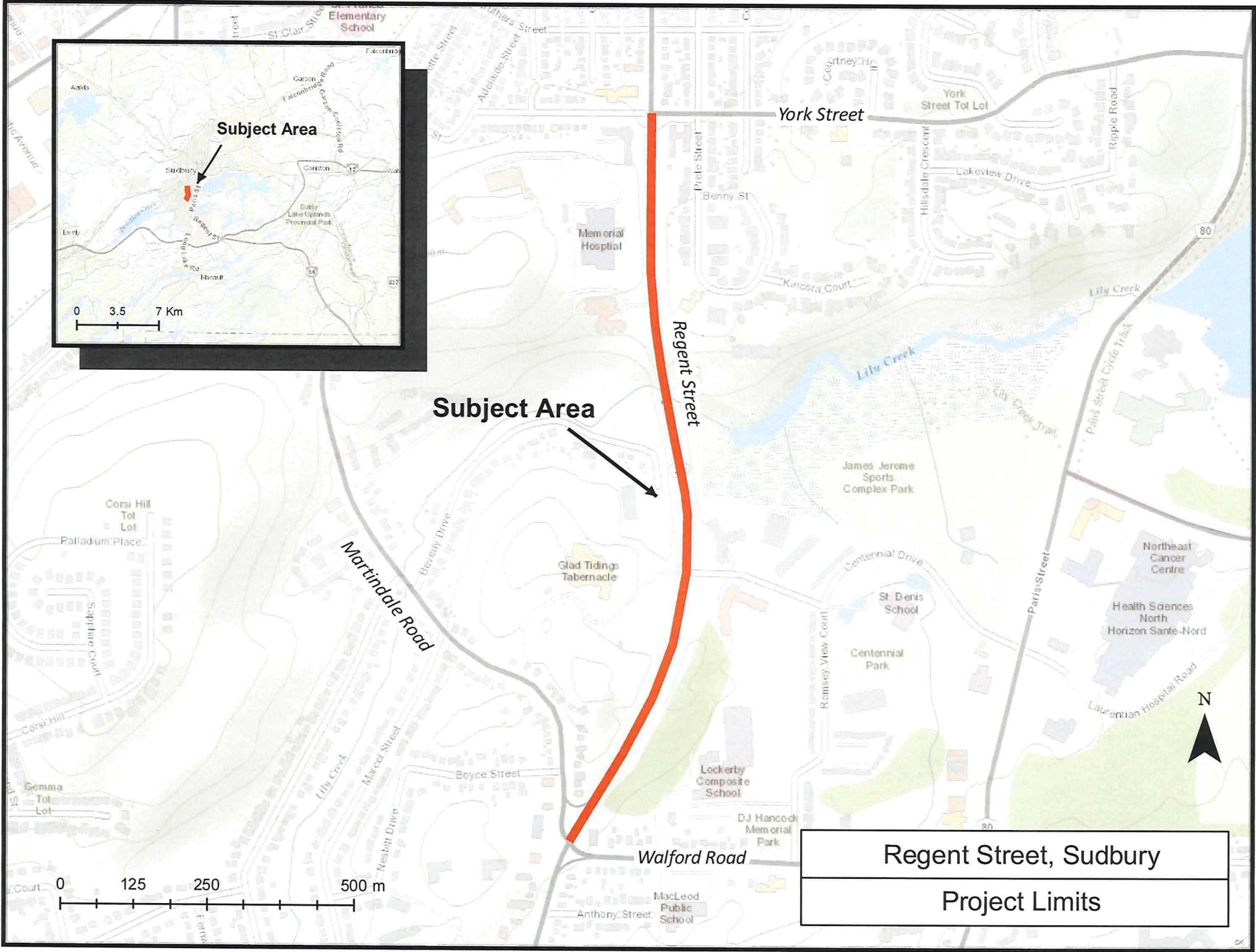
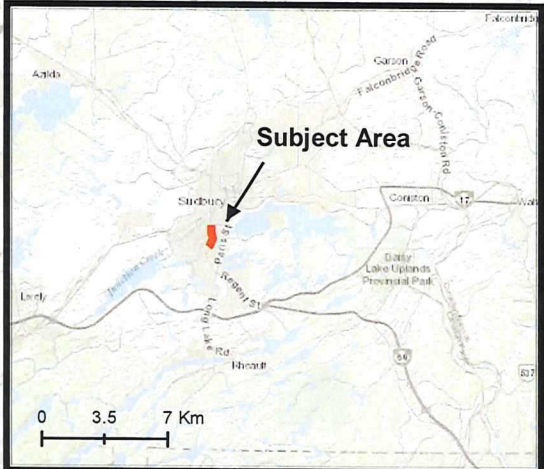
Project Limits

N

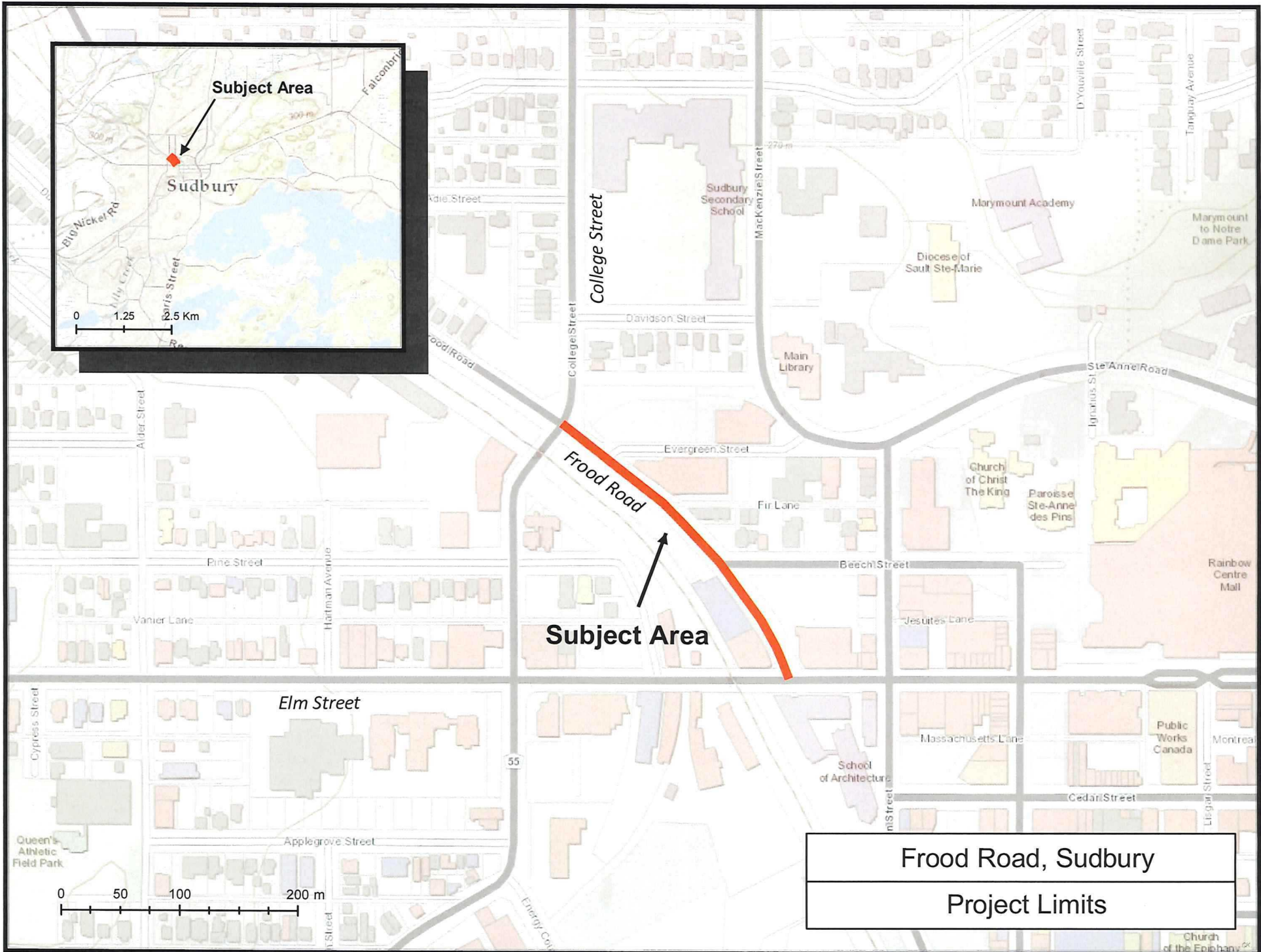
OK



Kingsway, Sudbury
Project Limits



Regent Street, Sudbury
Project Limits



Subject Area

Sudbury

0 1.25 2.5 Km

Subject Area

Frood Road

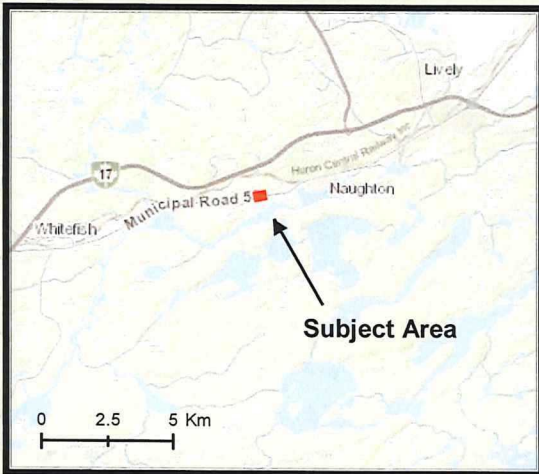
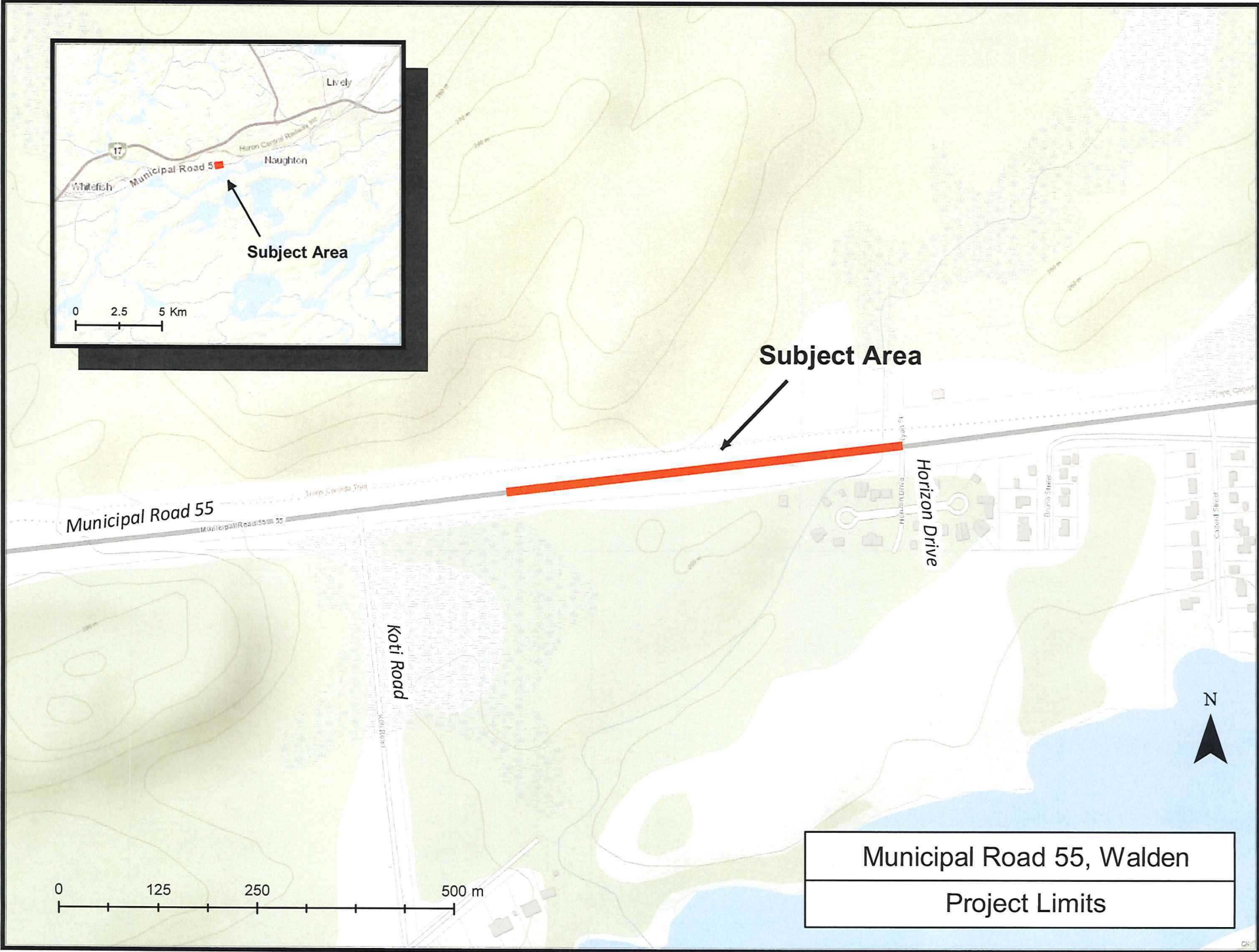
College Street

Elm Street

Frood Road, Sudbury

Project Limits

0 50 100 200 m



Subject Area

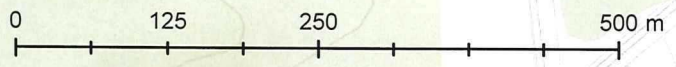
Municipal Road 55

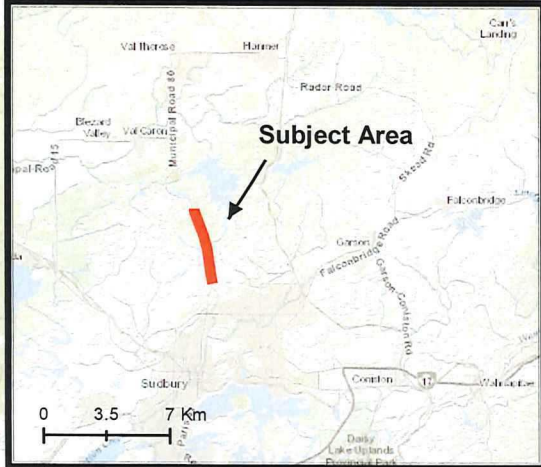
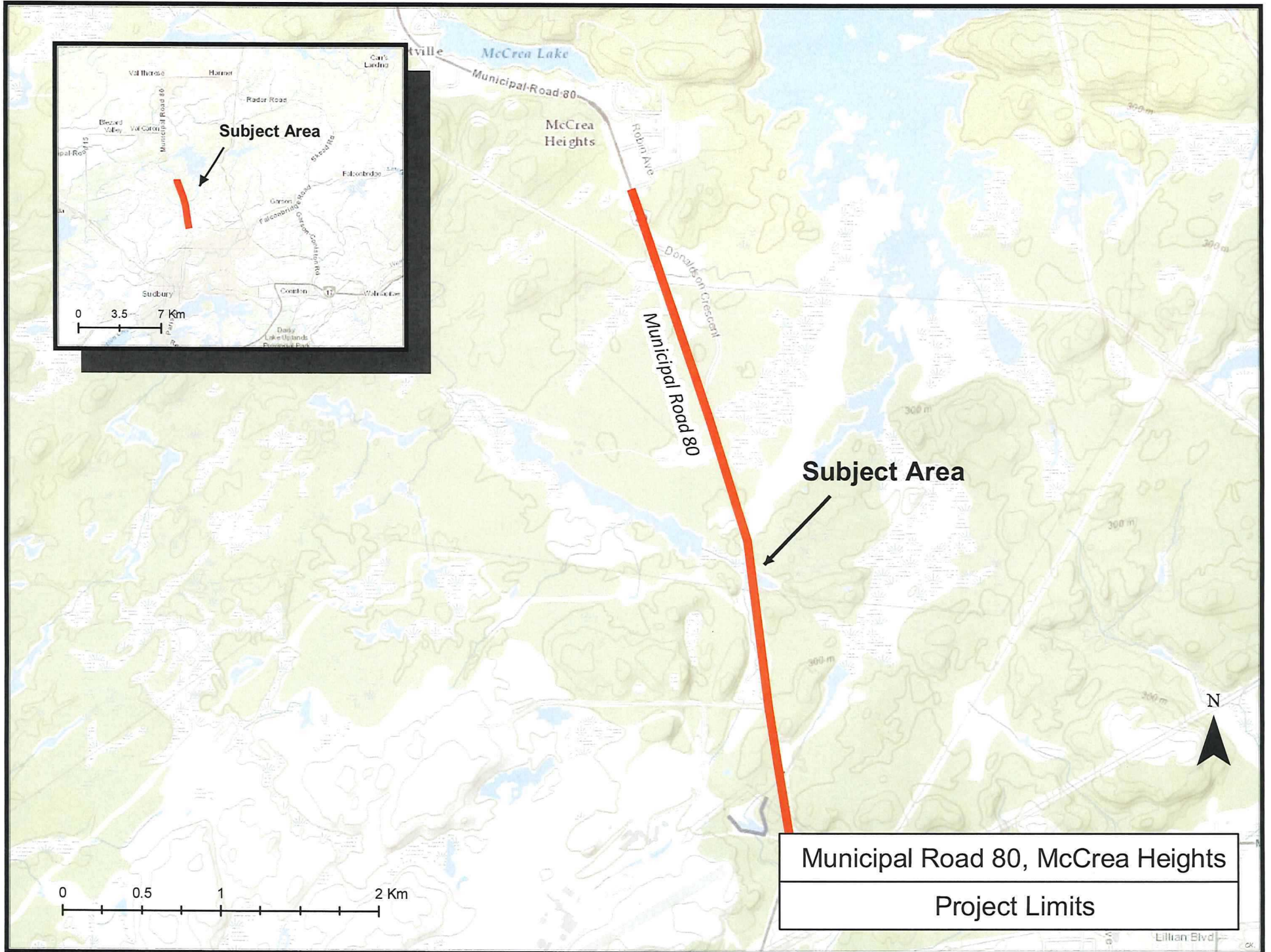
Koti Road

Horizon Drive



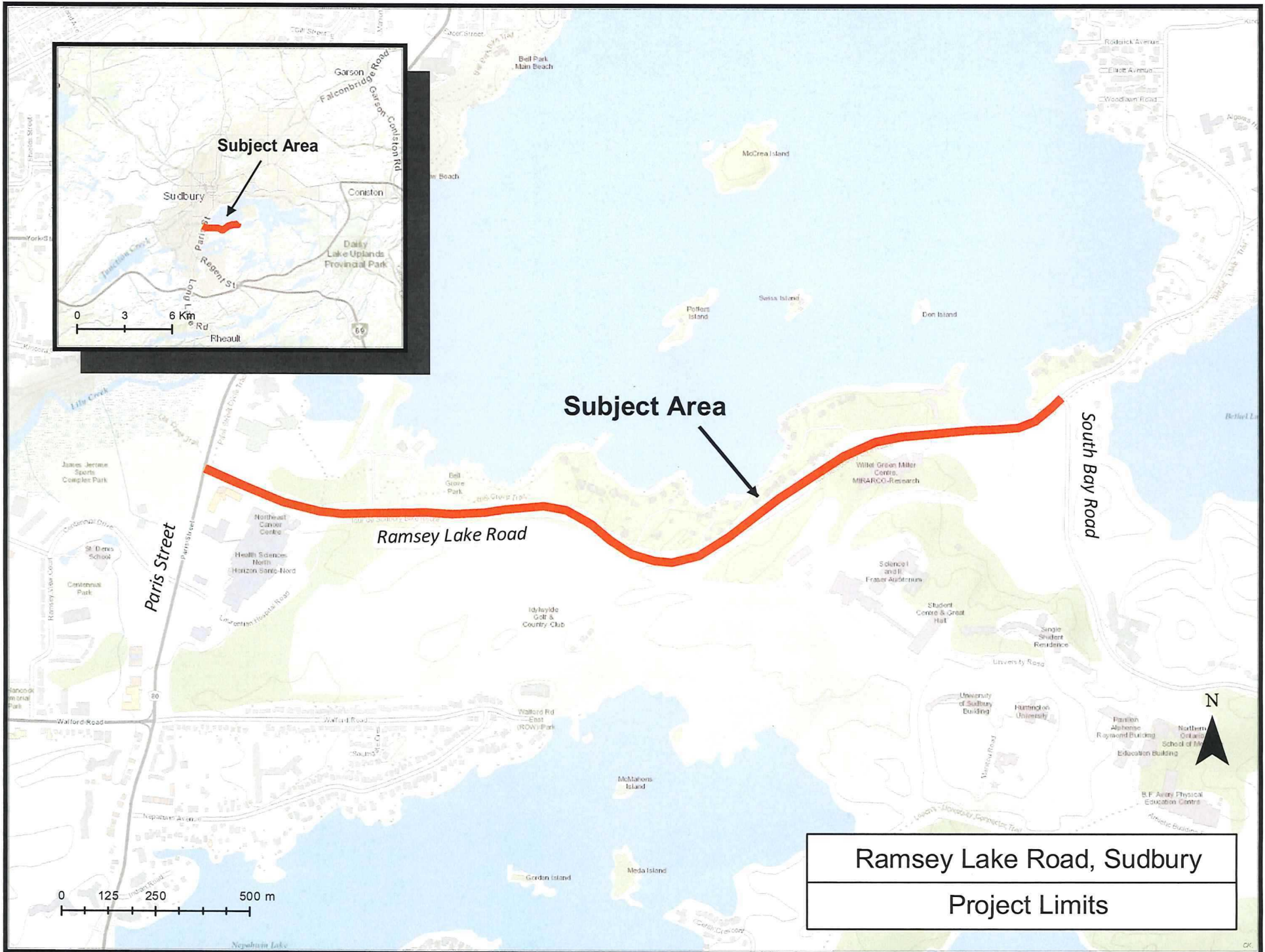
Municipal Road 55, Walden
Project Limits

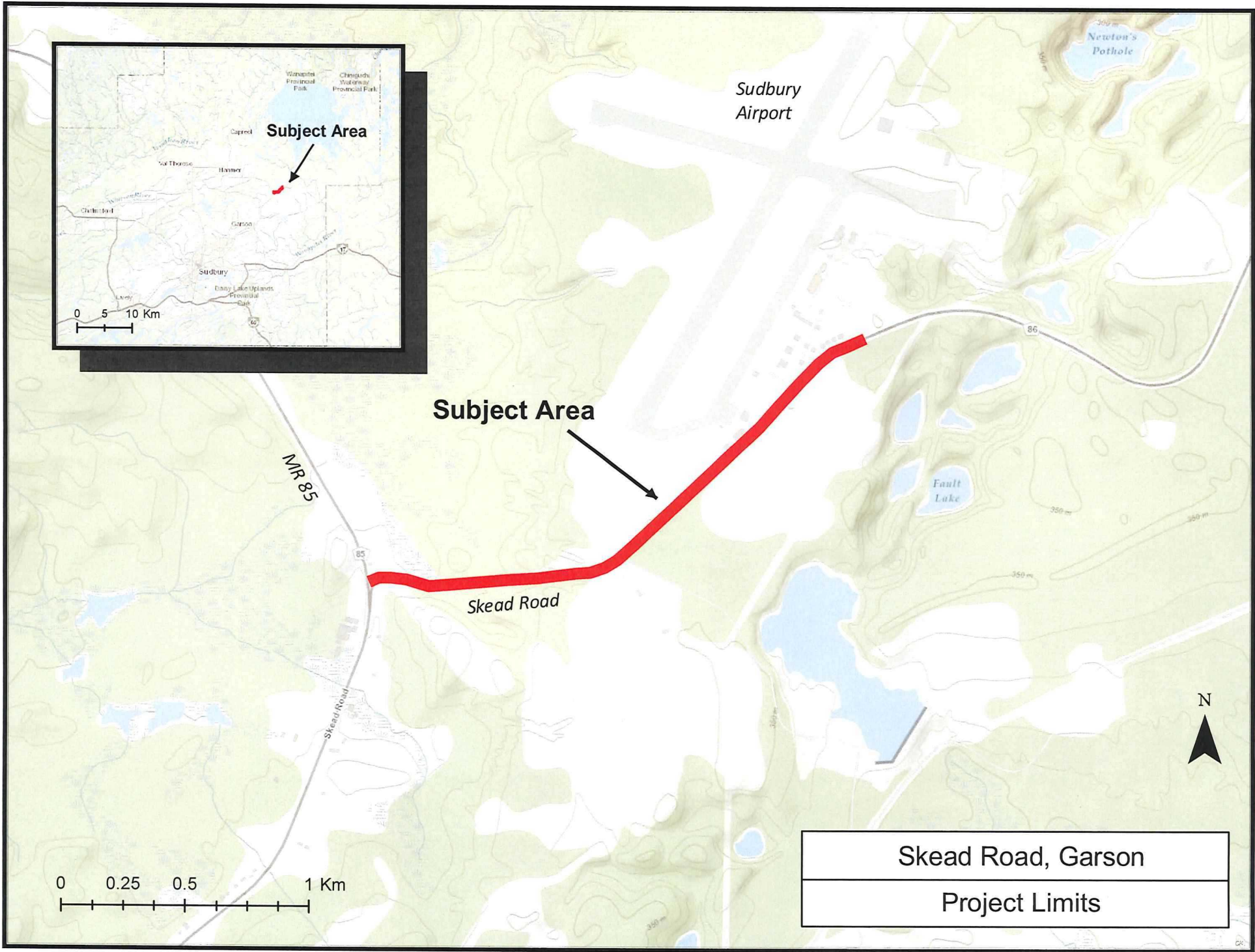




Subject Area

Municipal Road 80, McCre Heights
Project Limits





Sudbury
Airport

Subject Area

Subject Area

MR 85

Skead Road

Fault
Lake

Newton's
Pothole

N

Skead Road, Garson

Project Limits

0 5 10 Km

0 0.25 0.5 1 Km