

**MASTER ENVIRONMENTAL SERVICING PLAN
HIGHWAY 48 BLOCK**

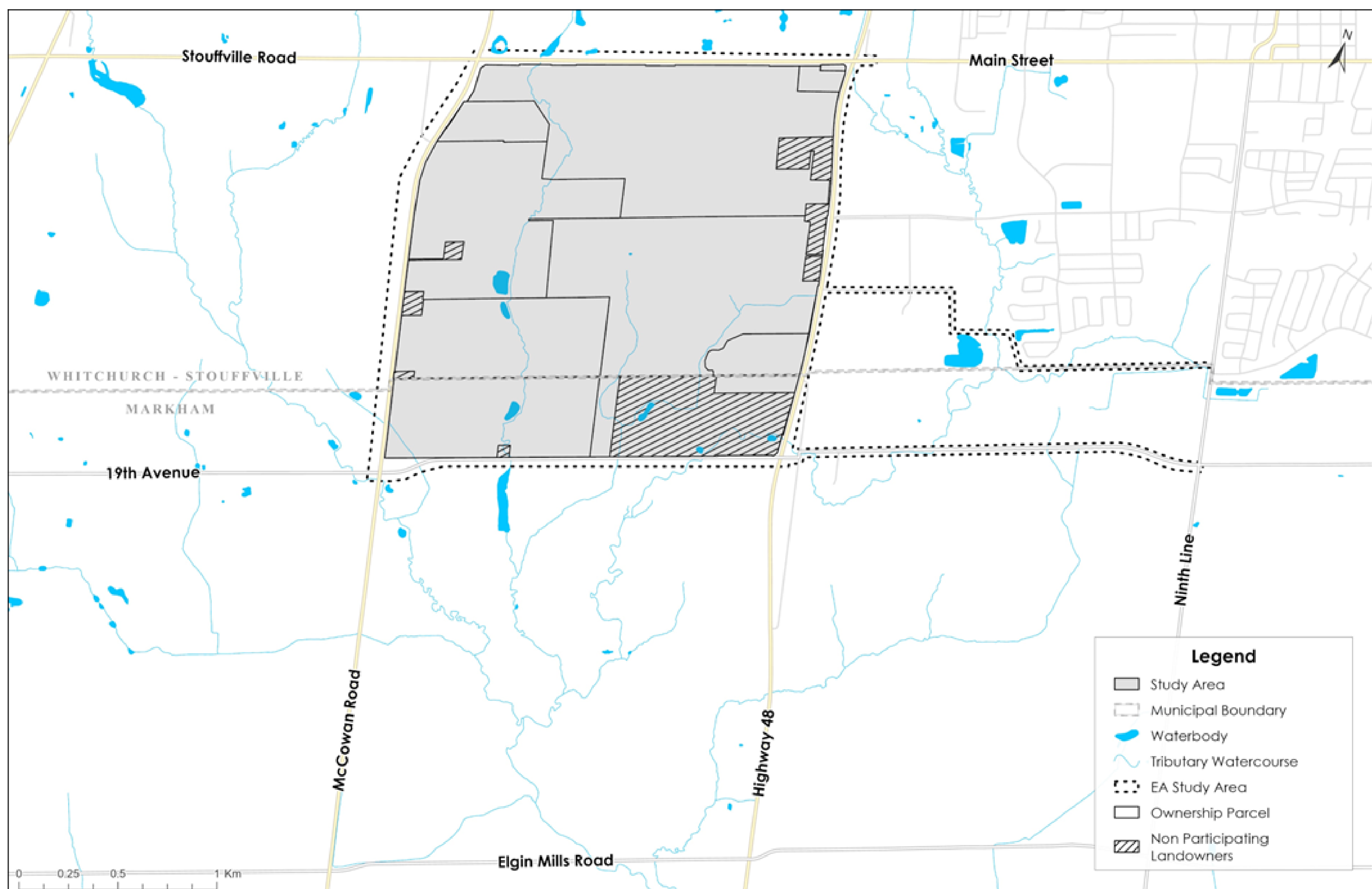


**PUBLIC INFORMATION
CENTRE**



MASTER ENVIRONMENTAL SERVICING PLAN HIGHWAY 48 BLOCK

STUDY BACKGROUND



C. F. Crozier & Associates Inc. on behalf of the proponent is undertaking a Master Environmental Servicing Plan (MESP) Study for the proposed water and wastewater servicing solutions, collector roads, and stormwater management facilities that will support the future growth of the Highway 48 Block in the Town of Whitchurch-Stouffville and City of Markham. The Highway 48 Block Landowners Group is the proponent, with the Town of Whitchurch-Stouffville and the City of Markham as key stakeholders for the MESP Study.

The MESP Study is being conducted as a Master Plan following approach #2, as outlined in the Municipal Class Environmental Assessment (EA) process. Significant background work has been undertaken for the Study Area. As part of the work related to the ongoing MESP process, it was identified that a Municipal Class EA would be beneficial to the overall development process for the Study Area. As part of the Class EA, opportunities for public and stakeholder engagement are required and important to ensure everyone has an opportunity to learn about the project and to offer feedback. The MESP Study will identify both exempt and Schedule B projects and satisfy Schedule B requirements for the applicable projects.

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CLASS EA PROCESS

EXHIBIT A. 1

KEY FEATURES OF THE MCEA

	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5
BASIC PROCESS (See Exhibit A.2 for detailed flow chart)	PROBLEM OR OPPORTUNITY	ALTERNATIVE SOLUTIONS	ALTERNATIVE DESIGN CONCEPTS FOR PREFERRED SOLUTION	ENVIRONMENTAL STUDY REPORT	IMPLEMENTATION
Consultation Requirements	Optional	Mandatory	Mandatory	Mandatory	Optional
EXEMPT	✓				✓
SCHEDULE B PROJECTS	✓	✓			✓
SCHEDULE C PROJECTS	✓	✓	✓	✓	✓
MASTER PLANS	✓	✓	✓	✓	✓

Schedule B Project Components

Phase 1

- Identify the Problem

Phase 2

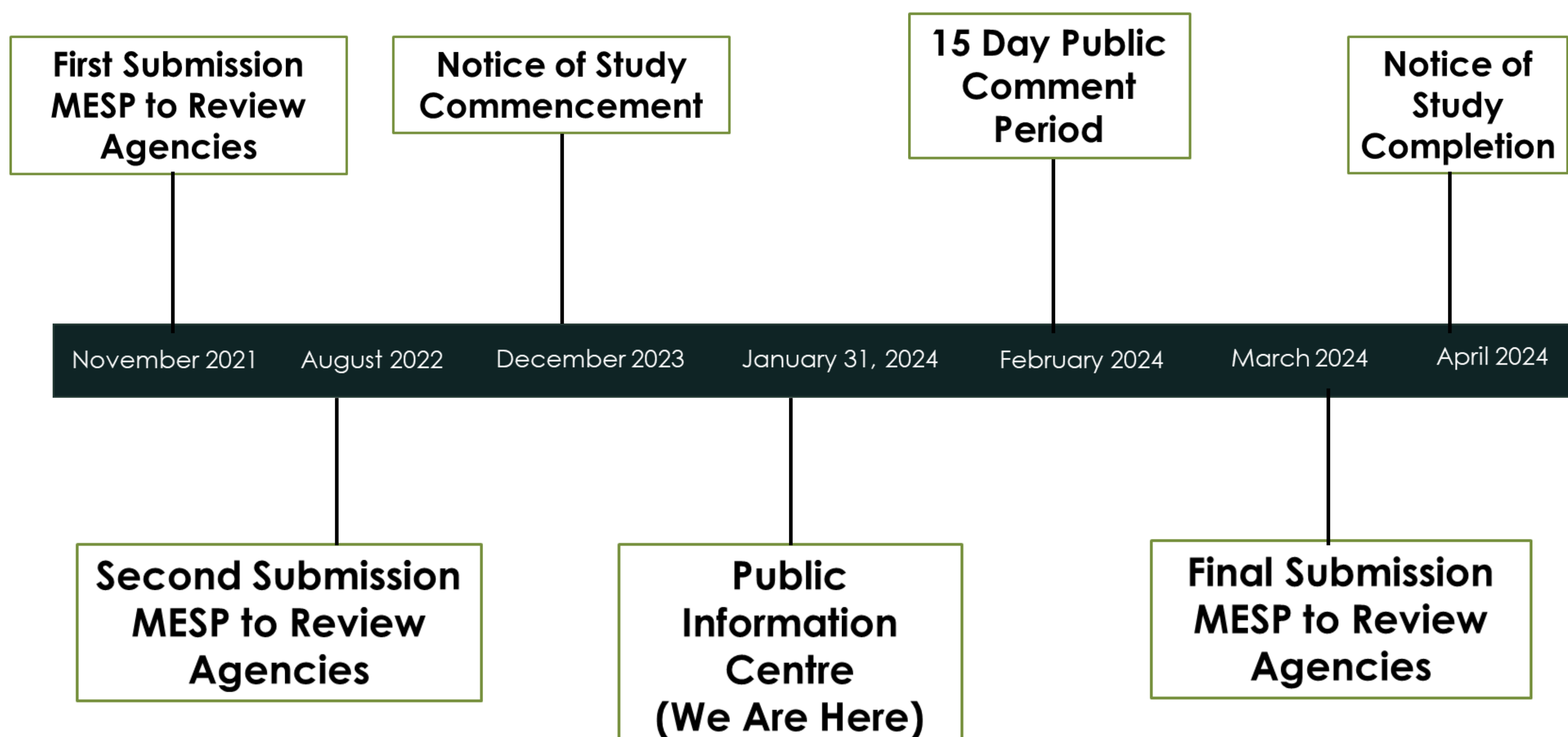
- Describe the Environmental Conditions
- Identify Alternative Solutions
- Evaluate and Rank the Alternatives
- Consult with the Public and Stakeholders
- Identify Preferred Solution(s)

Phase 5

- Prepare engineering drawings/reports
- Secure required approvals and permits in consultation with authorizing agencies

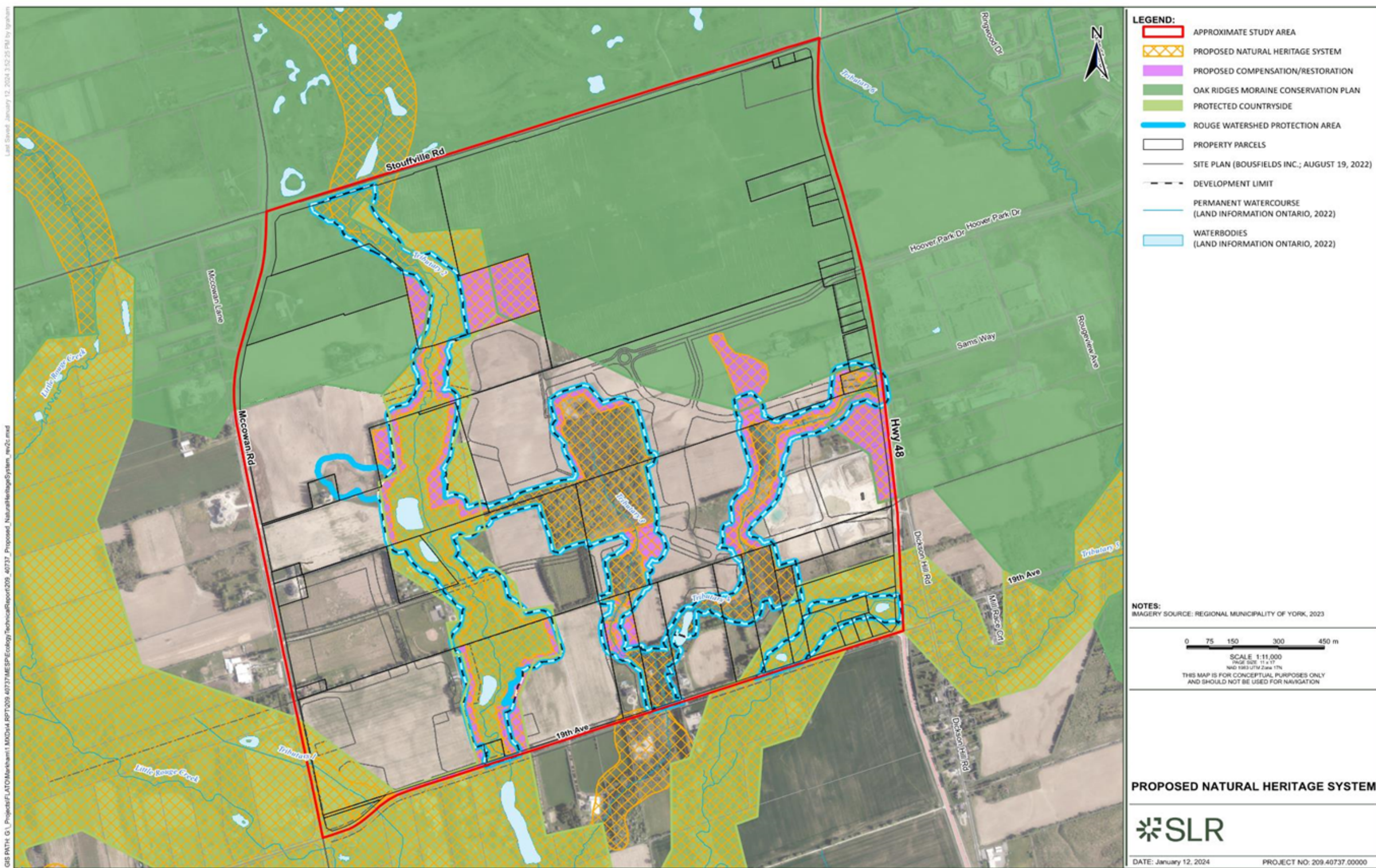
The MESP will satisfy Schedule B requirements for the recommended Water Servicing Solution and Transportation Road Network within the Study Area under the Municipal Class Environmental Assessment (MCEA) process. The recommended Wastewater Servicing and Stormwater Management Solutions are identified as Exempt Projects, however extensive agency consultation and approvals are required. The MESP Study is currently in Phase 2. Following completion of Phase 2, the MESP Study will proceed to Phase 5.

PROJECT SCHEDULE



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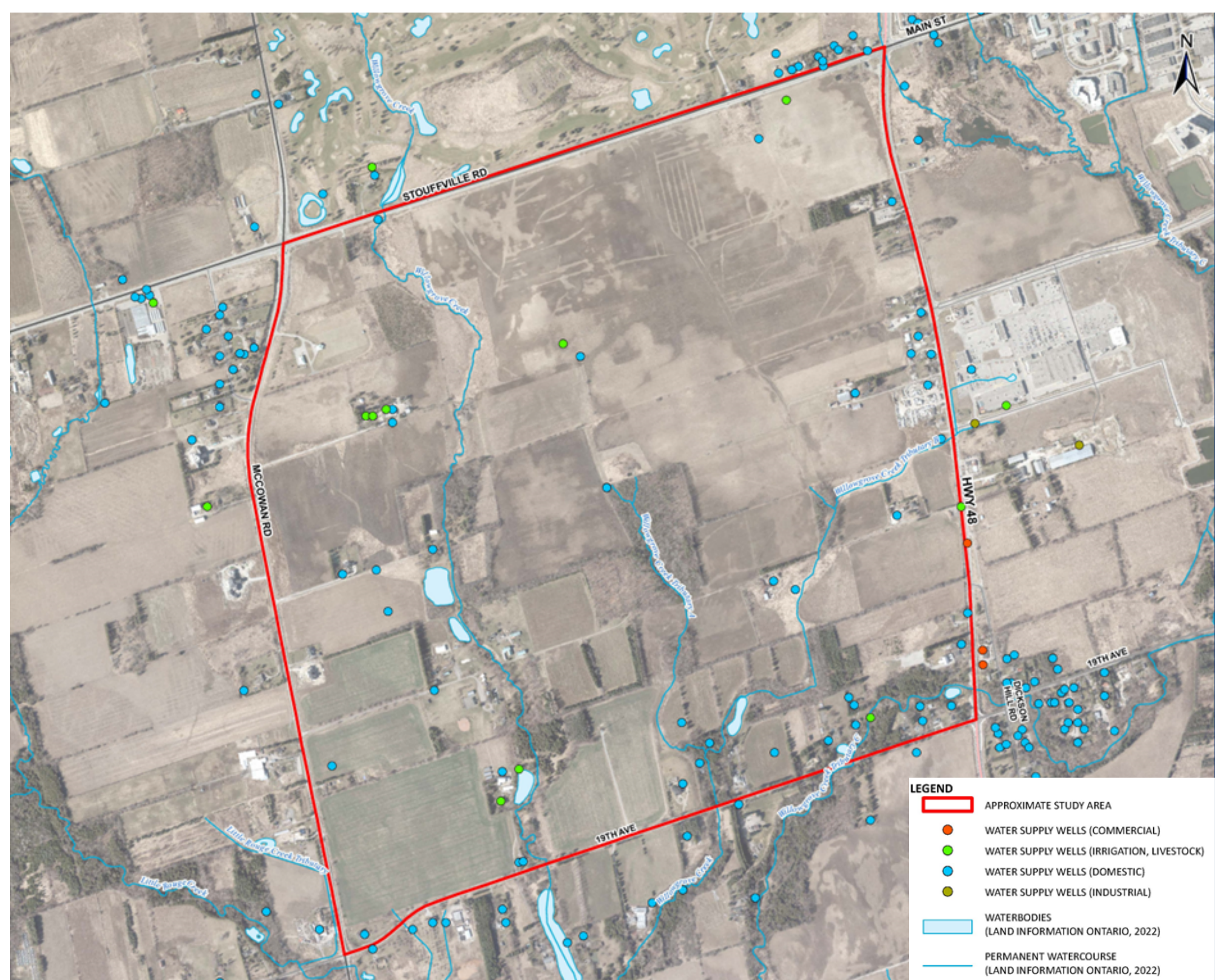
EXISTING CONDITIONS: NATURAL HERITAGE



RESIDENTIAL WELL WATER MONITORING PROGRAM

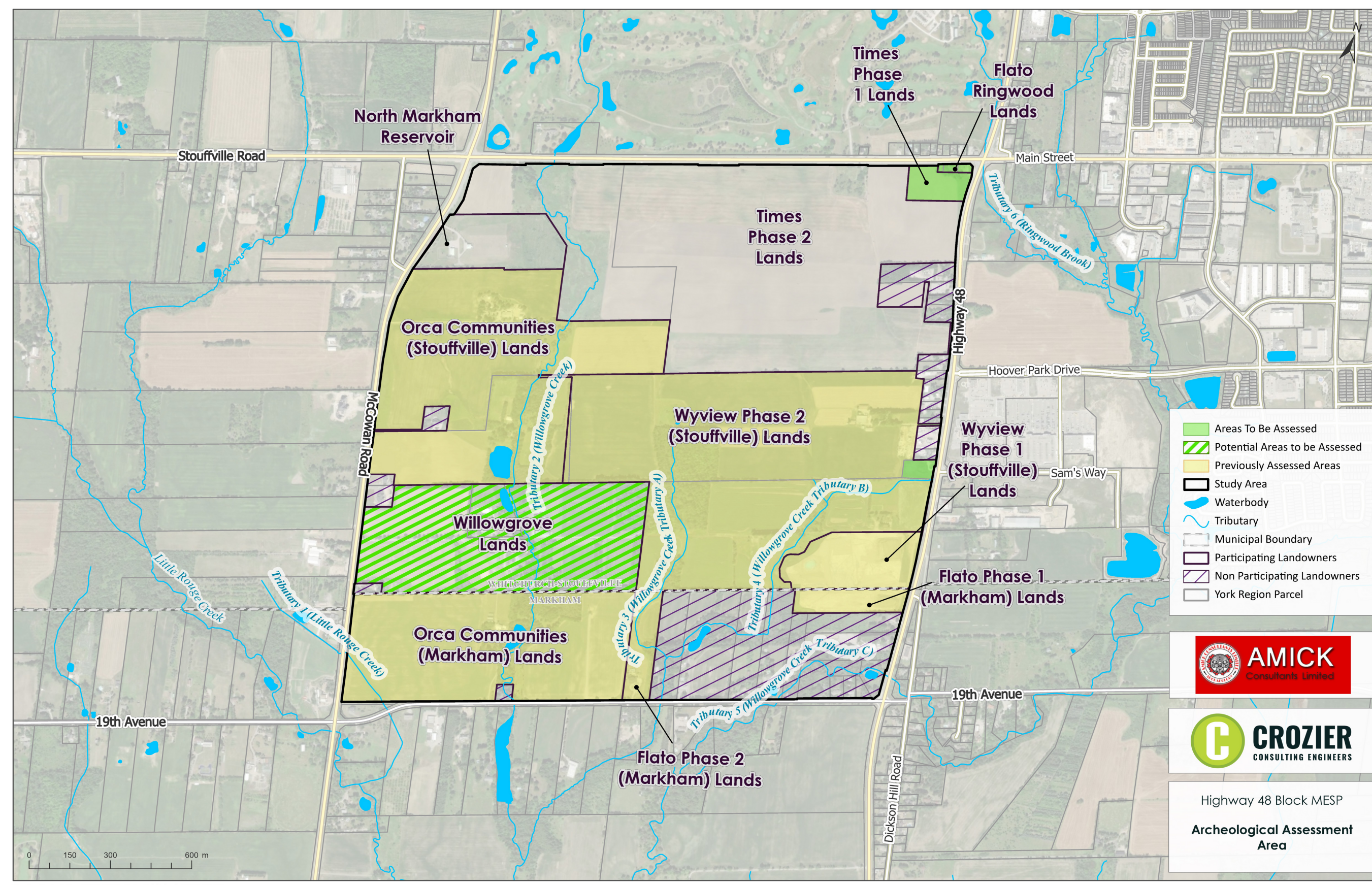
The purpose of the Residential Well Water Monitoring Program is to identify water supply wells in the vicinity of the Study Area to collect baseline groundwater conditions (i.e., groundwater levels and groundwater quality) prior to development. By collecting baseline data, any potential changes in local groundwater resources due to the development (if any) can be assessed, and appropriate mitigation measures applied.

This map illustrates the locations of water supply wells listed in the Ministry Database to be located within 500 m of the Study Area. A voluntary water well survey was distributed to property owners located within the 500 m radius to identify any wells not listed in the Ministry Database.



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EXISTING CONDITIONS: ARCHAEOLOGICAL STUDIES

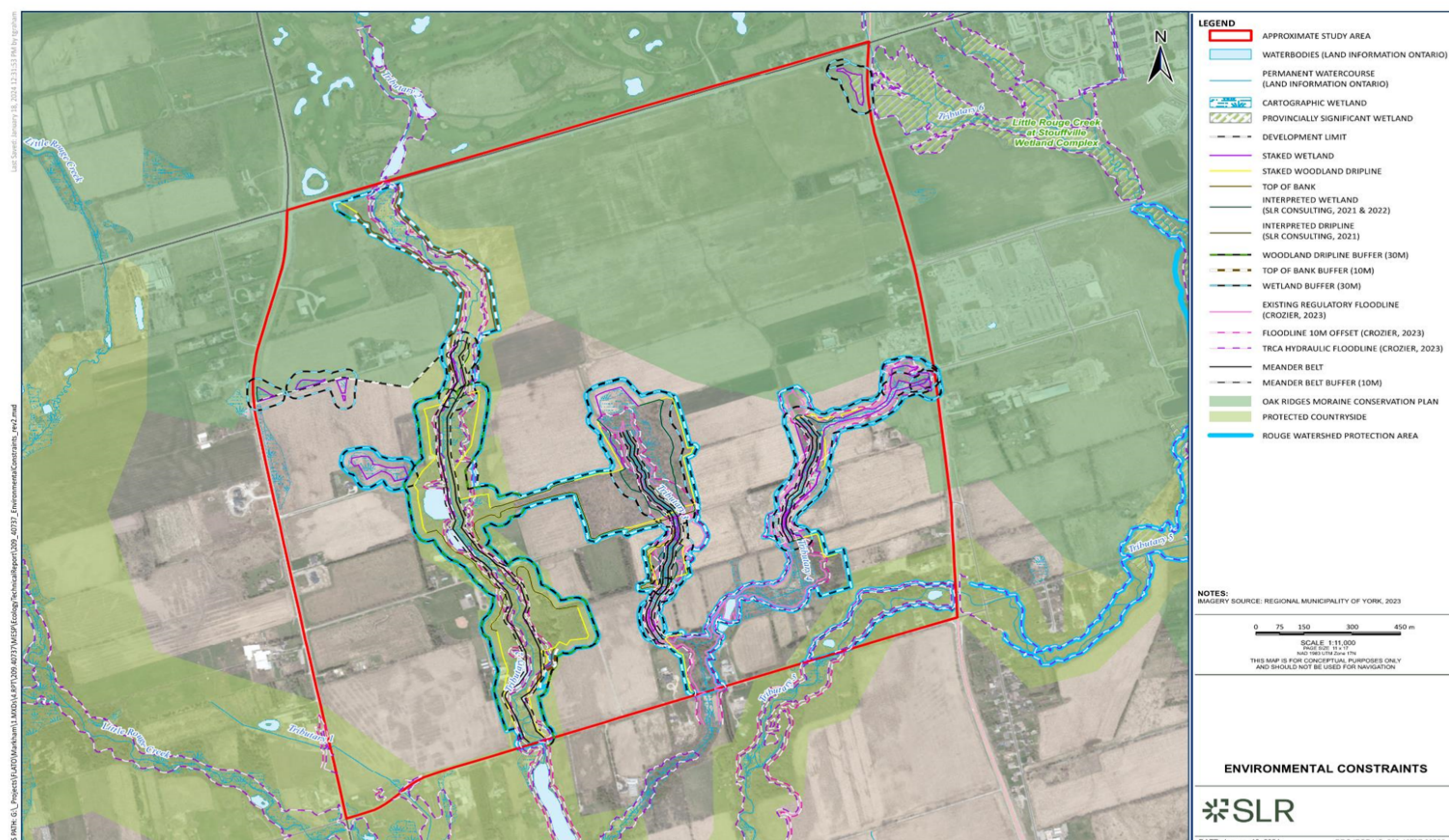


This map illustrates the previous and current archaeological assessments that have been done within the Study Area.

More than 50% of the Highway 48 Block has been subject to an archaeological assessment. The majority of the remaining Study Area will remain undisturbed by the proposed development as it resides within protected Natural Heritage, Greenbelt, Oak Ridges Moraine, or holdout properties.

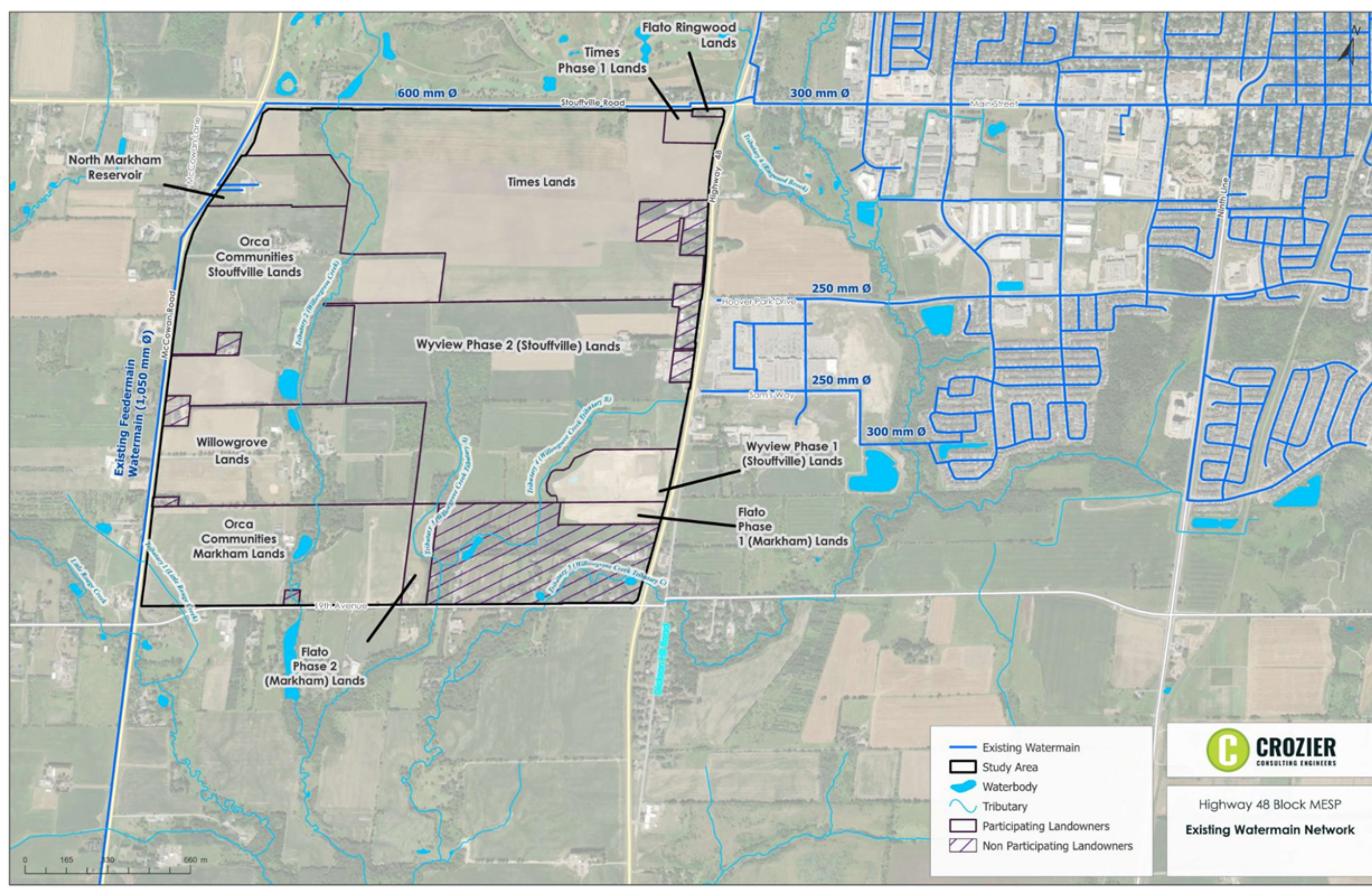
McCowan Road, 19th Avenue, Highway 48 corridors do not require archaeological assessment as these corridors are previously disturbed.

EXISTING CONDITIONS: CONSTRAINTS



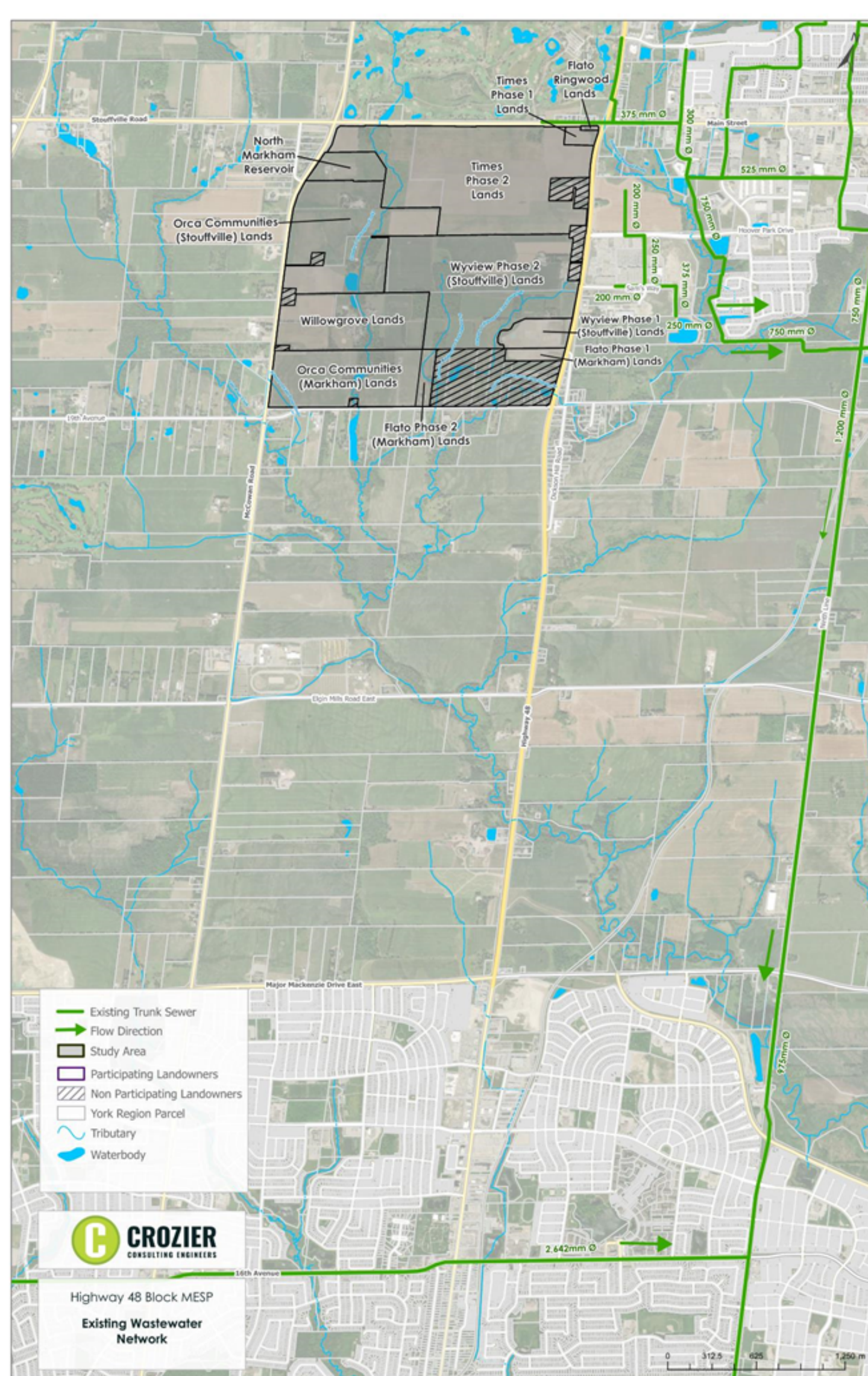
MASTER ENVIRONMENTAL SERVICING PLAN HIGHWAY 48 BLOCK

EXISTING WATER INFRASTRUCTURE



The Town of Whitchurch-Stouffville currently receives chlorine treated water supply from an existing regional 600 mm diameter pipe on Stouffville Road. The Town water supply is not sufficient to service the MESP Study Area. A regional 1,050 mm diameter feedermain along McCowan Road provides chloramine treated water to areas south and west of the Study Area.

EXISTING WASTEWATER INFRASTRUCTURE

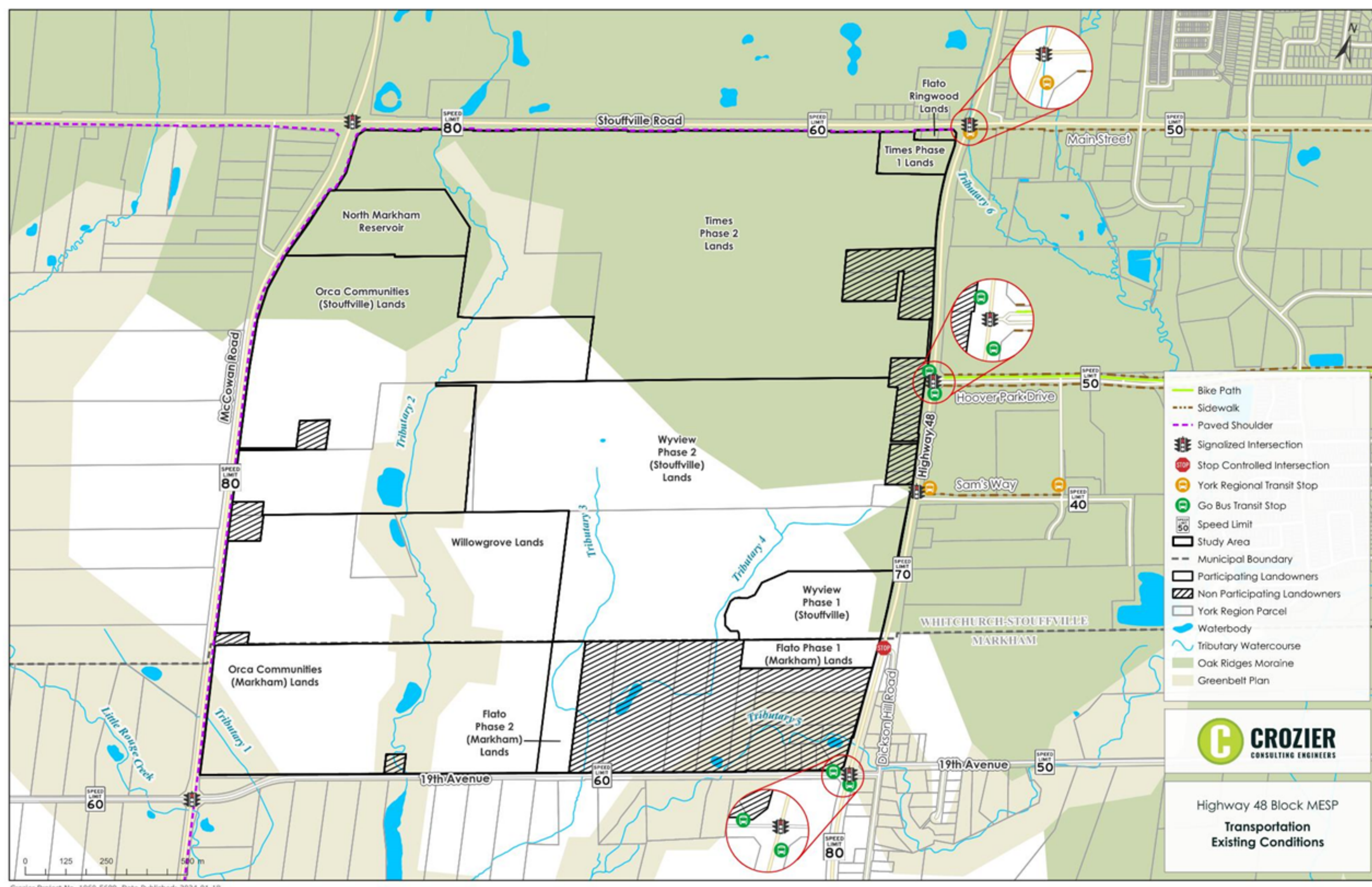


The Town of Whitchurch-Stouffville is primarily serviced through a 1,200 mm diameter regional wastewater sewer along Ninth Line, part of the York Durham Sewage System (YDSS).

The Regional sewer along 16th Avenue conveys wastewater to the Dufferin Creek Water Pollution Control Plant.

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EXISTING TRANSPORTATION ROAD NETWORK



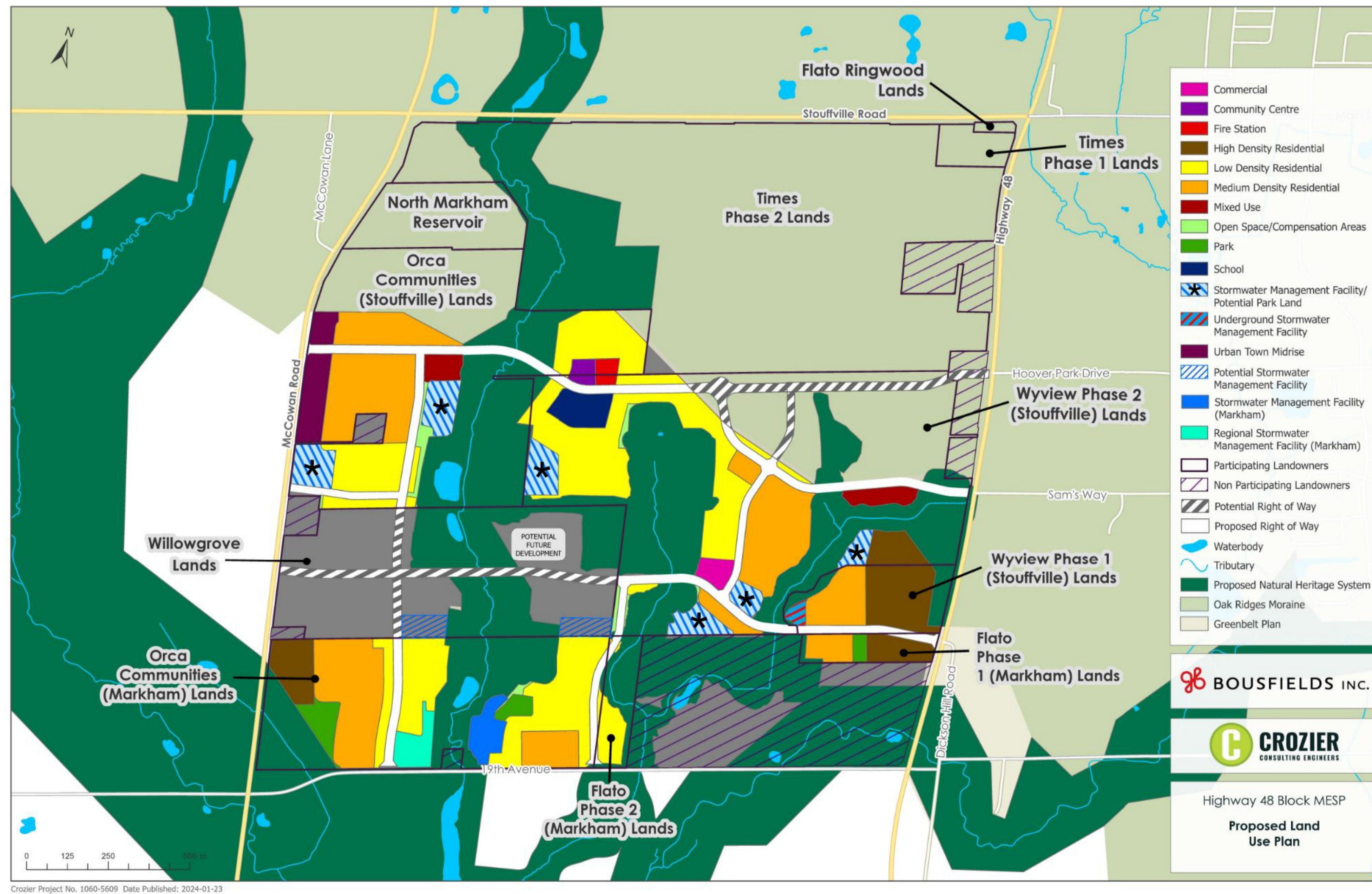
PROBLEM STATEMENT

The Problem/Opportunity Statement for this project is as follows:

To accommodate planned growth within the Highway 48 Block, extension of road networks, water supply system, wastewater collection system, and stormwater management facilities are required while minimizing environmental, natural, cultural, and socio-economic impacts. The servicing needs for the Highway 48 Block also provides an opportunity to improve existing residents well water quality supply challenges, local flooding in the area, and erosion hazards, as well as provide an adequate wastewater collection system to address the growing needs of existing community.

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PROPOSED LAND USE PLANNING



















Various land uses are anticipated in the MESP Study Area, including lands identified for future development through the Region's Official Plan.

Existing development permissions are also provided through various MZOs that apply to portions of the Study Area.

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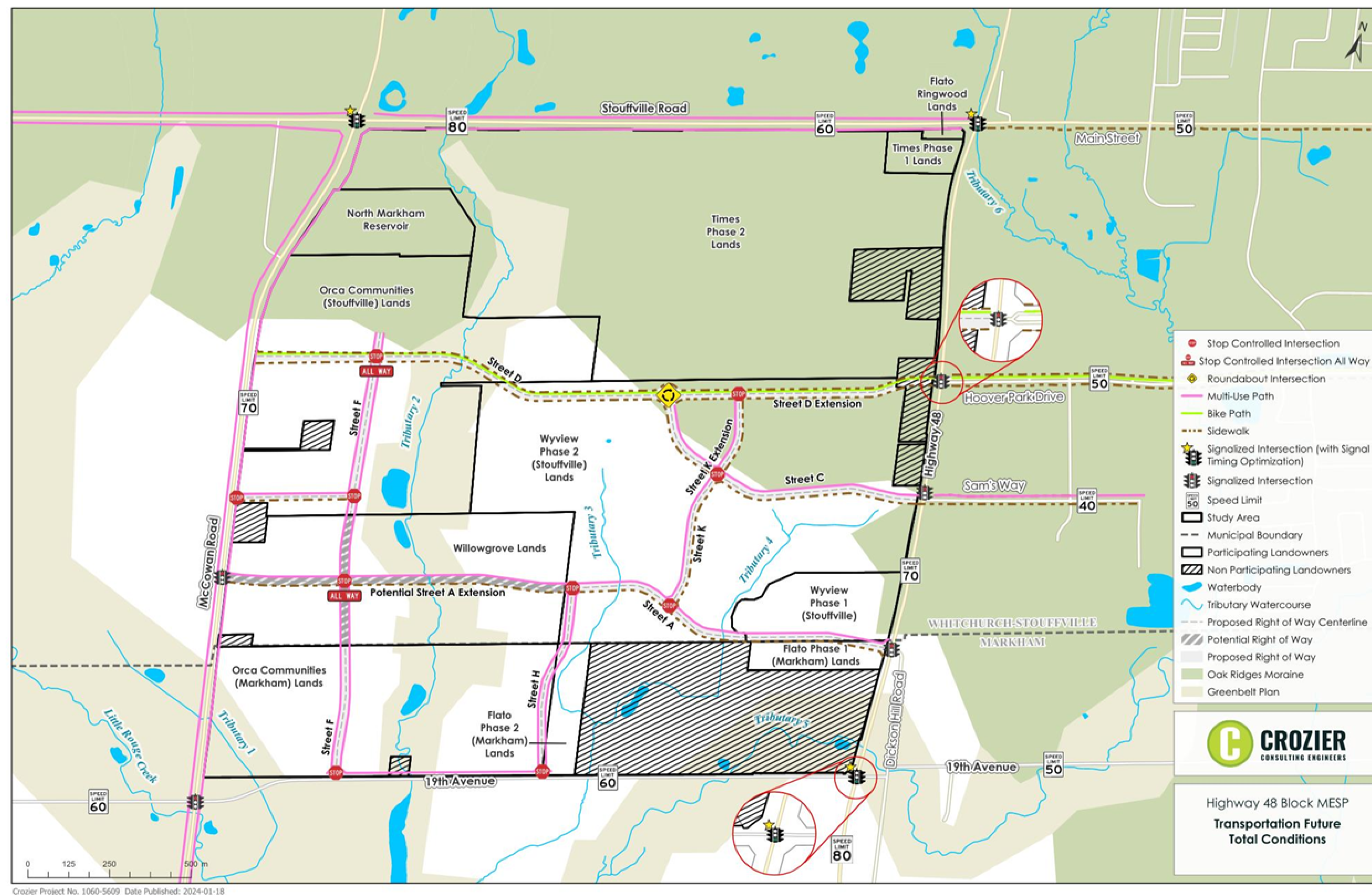
COMPARATIVE ANALYSIS OF TRANSPORTATION ROAD NETWORK ALTERNATIVES/OPTIONS

Considerations	Option A: Do Nothing		Option B: Improve Existing Network		Option C: Construct New Network		Option D: Combination of New & Improved Networks	
	Environmental Impact		No new environmental impact expected.		Mitigations required to limit the impact of road widening & new turn lanes.		Mitigations required to limit the impact of new roadways.	
Socio-Economic Impact		No support for future growth or community development.		Support for growth on existing infrastructure. No support for development.		Support for development. No support for growth on existing infrastructure.		Support for growth and for development.
Transportation Impact		Does not address capacity needs.		Only addresses capacity needs on existing infrastructure.		Only assesses capacity needs on new infrastructure.		Fully addresses capacity needs.
Addresses Problem Statement		No		No		Partially		Yes
Recommendation	×	Do not carry forward as an alternative solution to satisfy the needs of the MESP Study Area	→	Carry forward to form part of the selected alternative solution to satisfy the needs of the MESP Study Area	→	Carry forward to form part of the selected alternative solution to satisfy the needs of the MESP Study Area	✓	Carry forward as the alternative solution selected to satisfy the needs of the MESP Study Area

Preferred:  Less Preferred:  Least Preferred: 

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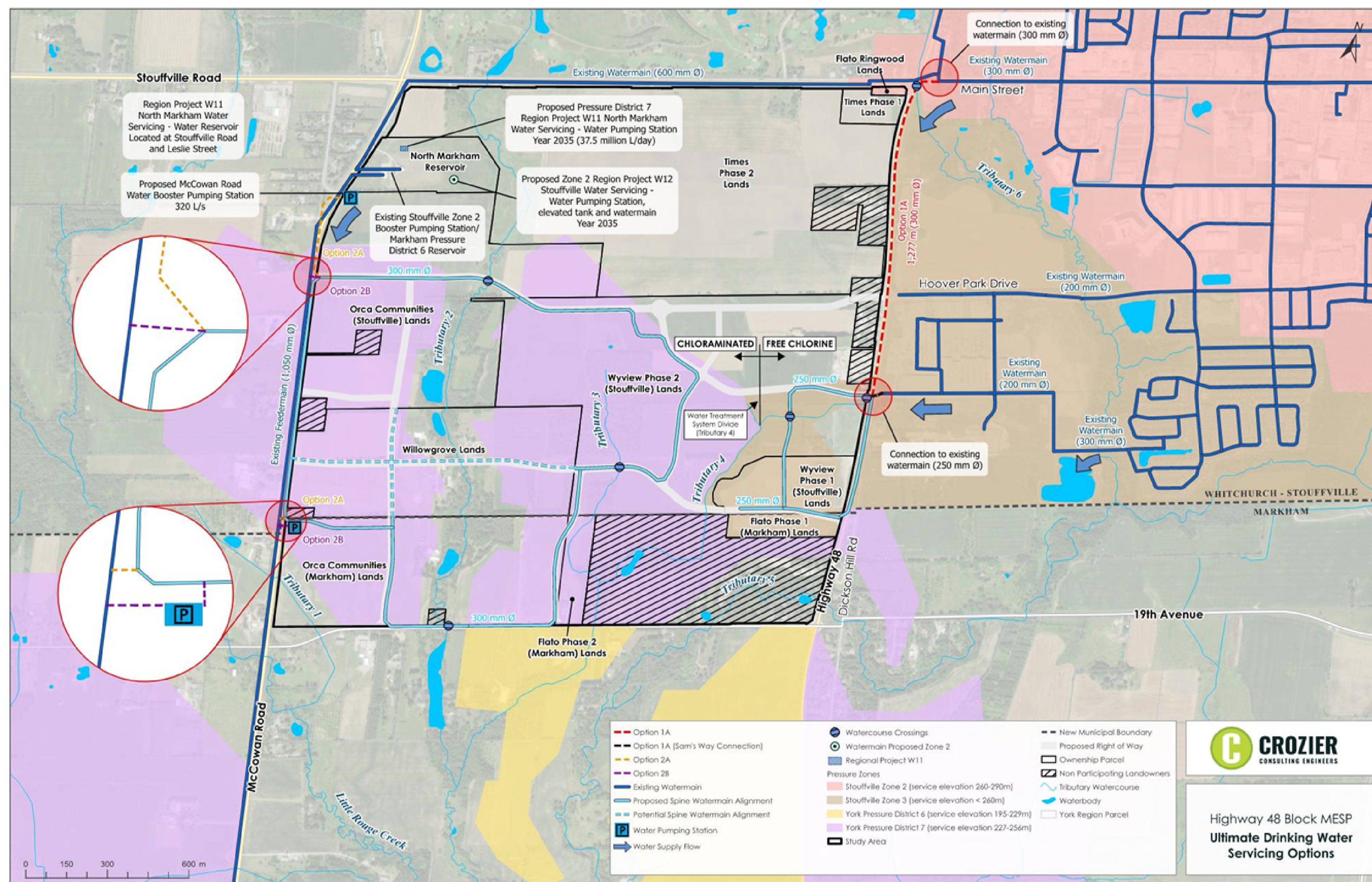
RECOMMENDED TRANSPORTATION ROAD NETWORK



The illustrated alternative/option is recommended to satisfy the Municipal Class EA Schedule B requirements regarding transportation road network for the MESP Study Area.

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WATER SERVICING ALTERNATIVES/OPTIONS



The illustrated alternatives/options were selected and evaluated to satisfy the Municipal Class EA Schedule B requirements regarding water servicing for the MESP Study Area.

MASTER ENVIRONMENTAL SERVICING PLAN

HIGHWAY 48 BLOCK

COMPARATIVE EVALUATION OF WATER SERVICING ALTERNATIVES/OPTIONS

Considerations	Connect to Sam's Way with a Secondary Connection Point	Connect to 1050 mm dia. Feedermain	
	Alternative/Option No. 1A: Connect to existing watermains on Main Street and Sam's Way	Alternative/Option No. 2A: Connect to existing 1050 mm dia. feedermain on McCowan Road and Proposed McCowan Road Water Booster Pumping Station within Town Boundary	Alternative/Option No. 2B: Connect to existing 1050 mm dia. feedermain on McCowan Road and Proposed McCowan Road Water Booster Pumping Station within City Boundary
Technical Impacts			
Meets MESP Study Area Development Needs	● Does not meet MESP Study Area water storage and supply development needs, but meets development east of Tributary 4 needs	● Meets MESP Study Area water distribution development needs	● Meets MESP Study Area water distribution development needs
Alignment with the Region's Long Term Servicing Plan	● Not consistent with the Region's long-term water servicing plan	● Not consistent with the Region's long-term water servicing plan	● Not consistent with the Region's long-term water servicing plan
Ease of Approvals	● Moderate number of approvals and permits to obtain for the watermains	● Significant number of approvals and permits to obtain for the watermain and water pumping station	● Significant number of approvals and permits to obtain for the watermain and water pumping station
Reliable Water Supply	● Supplies water to only lands east of Tributary 4	● Supplies water to only the MESP Study Area	● Supplies water to only the MESP Study Area
Ability for Phased Expansion of the Water System	● Does not support phased expansion of the Region's water system, but does support phased expansion of the Town's water distribution system	● Can support growth in the interim until Regional infrastructure is expanded	● Can support growth in the interim until Regional infrastructure is expanded
Ease of Construction	● Moderate anticipated construction challenges because the watermain requires construction in an area that has some constraints, such as existing infrastructure, utilities, and environmental systems	● Minimal anticipated construction challenges because the water pumping station and associated watermain mainly requires construction in an area that has minimal constraints, such as existing infrastructure, utilities, and environmental systems	● Minimal anticipated construction challenges because the water pumping station and associated watermain mainly requires construction in an area that has minimal constraints, such as existing infrastructure, utilities, and environmental systems
Operational Complexity	● Less complex because minimal equipment is required to operate watermains	● More complex because more equipment is required to operate the water pumping station and watermain, including pumps, valves, motors, electrical components, and a generator	● More complex because more equipment is required to operate the water pumping station and watermain, including pumps, valves, motors, electrical components, and a generator. Based on elevation, pump station equipment would need to be oversized relative to Alternative/Option 2A.
Fire Flows	● Meets fire flow requirements for lands east of Tributary 4 but not MESP Study Area	● Meets fire flow requirements if the pumps are designed so that they can accommodate low flow demands and high fire flow demands	● Meets fire flow requirements if the pumps are designed so that they can accommodate low flow demands and high fire flow demands
Technical Impacts Summary	✓ Preferred for lands east of Tributary 4	✓ Preferred for the rest of the MESP Study Area	✗ Less preferred for the rest of the MESP Study Area
Environmental Impacts			
Environmental System (Oak Ridges Moraine, Greenbelt, and Natural Heritage System) Impacts	● Some impacts to the environmental system because the watermains cross three watercourses	● Some impacts to the environmental system because the MESP water pumping station will likely be located within the Oak Ridges Moraine Countryside Area, however, servicing infrastructure is permitted within Oak Ridges Moraine Countryside Area	● Limited impacts to the environmental system because the MESP water pumping station will be located in an area that has no known environmental constraints
Wildlife and Species at Risk Impacts	● Limited impacts to wildlife and species at risk because the watermains will be located within existing right-of-ways	● Limited impacts to wildlife and species at risk because the MESP water pumping station will likely be located in a previously undeveloped area, however, is not likely to be situated within or result in removal of natural features	● Limited impacts to wildlife and species at risk because the MESP water pumping station will likely be located in a previously undeveloped area, however, is not likely to be situated within or result in removal of natural features
Resiliency to Climate Change	● Minimal energy consumption and power supply to operate only watermains	● Higher energy consumption and power supply to operate a water pumping station and watermain	● Higher energy consumption and power supply to operate a water pumping station and watermain
Environmental Impacts Summary	✓ Preferred	✗ Less Preferred	✓ Preferred
Social And Cultural Impacts			
Resident Quality of Life	● Improves Highway 48 resident's quality of life that are currently experiencing water supply and methane issues with domestic wells by connecting them to the Town's water distribution system	● Supports future residents water distribution needs in the Study Area	● Supports future residents water distribution needs in the Study Area
Construction Impacts	● Moderate construction impact because of moderate amount of watermain construction on Highway 48 Significant coordination required with other stakeholders, including the Ministry of Transportation	● Minor construction impact because of small amount of watermain construction in a previously undeveloped area and on McCowan Road Minimal coordination required with other stakeholders	● Minor construction impact because of small amount of watermain construction in a previously undeveloped area and on McCowan Road Minimal coordination required with other stakeholders
Cultural Heritage and Archeological Features Impacts	● No known impact to cultural heritage and archeological features but low potential in already disturbed Highway 48 right-of-way	● Water pumping station location to be finalized; however, the location will be selected so that it avoids impacts to cultural heritage and archeological features	● Water pumping station location to be finalized; however, the location will be selected so that it avoids impacts to cultural heritage and archeological features
Social And Cultural Impacts Summary	✓ Preferred for lands east of Tributary 4	✓ Preferred for the rest of the MESP Study Area	✓ Preferred for the rest of the MESP Study Area
Financial Impacts			
Capital Costs	● Low capital cost Approximate capital cost: \$4 million	● High capital costs Approximate minimum capital cost: \$5 million	● High capital costs Approximate minimum capital cost: \$5 million
Life Cycle Costs	● Low planned life cycle costs	● High planned life cycle costs	● High planned life cycle costs
Operation and Maintenance Costs	● Low annual operation and maintenance costs for watermains	● High annual operation and maintenance for a water pumping station and watermain	● High annual operation and maintenance for a water pumping station and watermain
Financial Impacts Summary	✓ Preferred	✗ Less Preferred	✗ Less Preferred
Overall Impacts			
Recommendation	✓ Carry forward as ultimate solution to service the lands east of Tributary 4	✓ Carry forward MESP Study Area water pumping station to service the remainder of the Study Area.	✗ Do not carry forward as solution

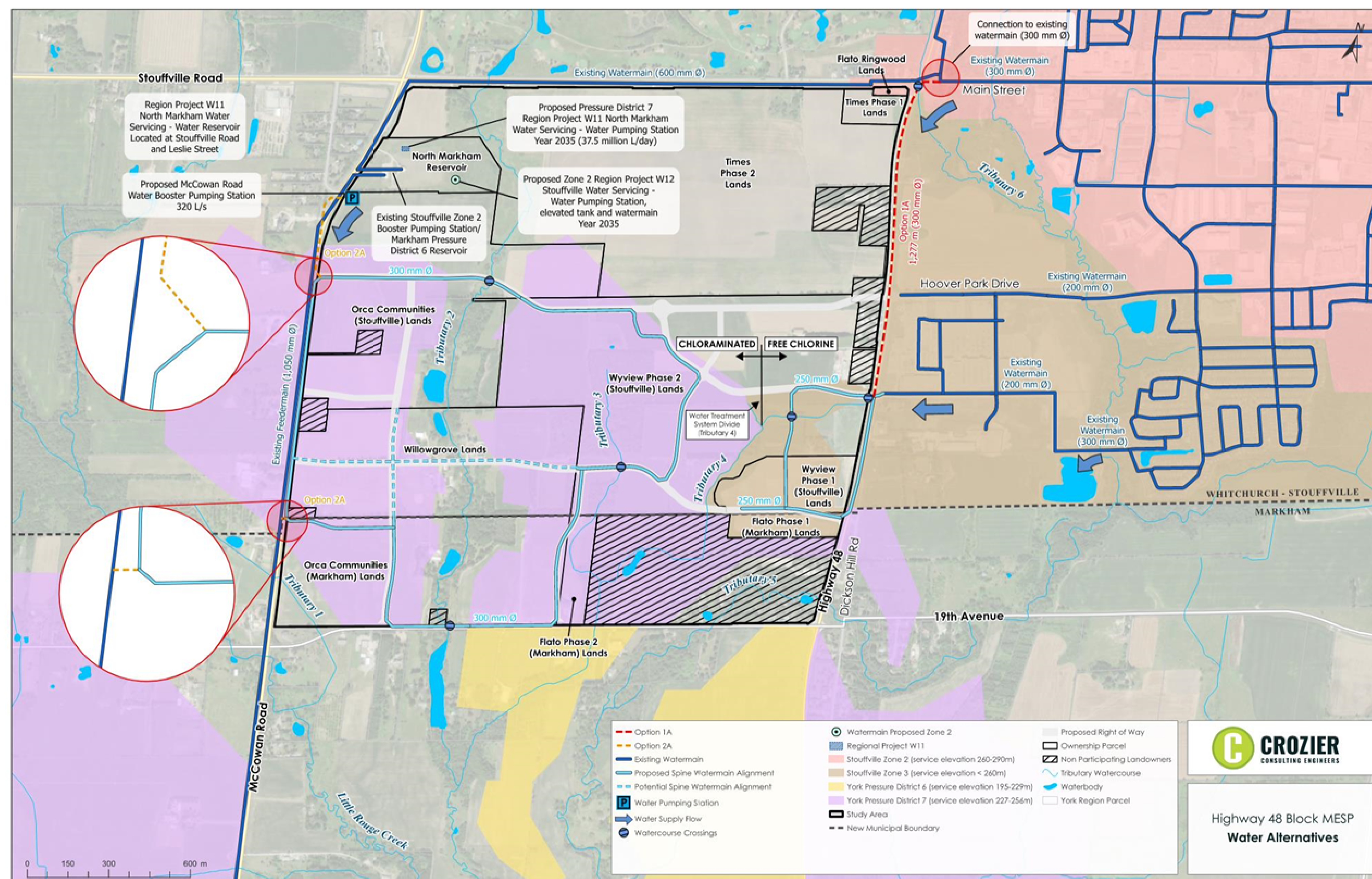
Preferred: ●

Less Preferred: ●

Least Preferred: ●

MASTER ENVIRONMENTAL SERVICING PLAN HIGHWAY 48 BLOCK

RECOMMENDED WATER SERVICING ALTERNATIVE/OPTION

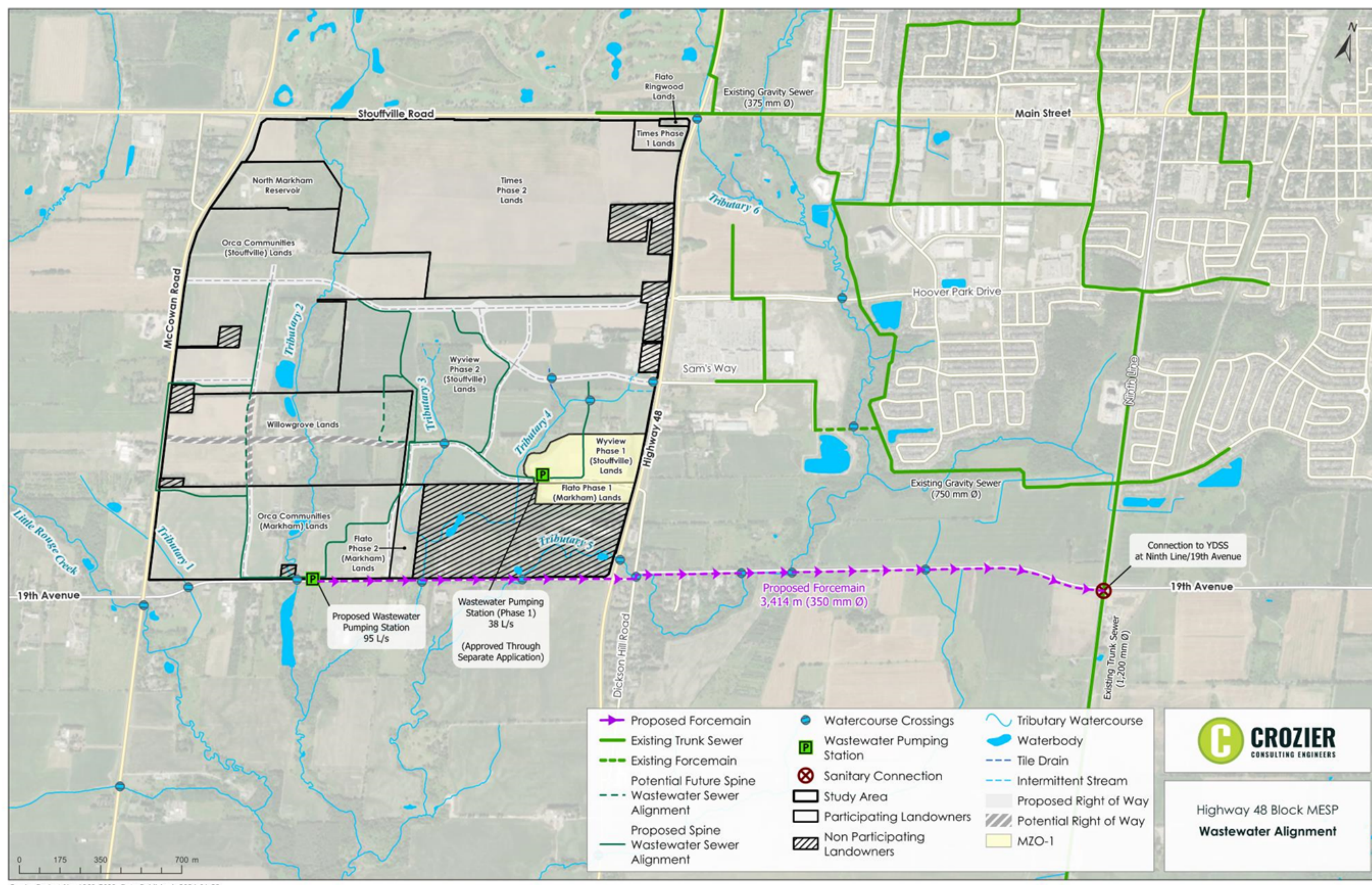


Alternative/Option 1A is preferred to service the lands within the Study Area east of Tributary 4.

Alternative/Option 2A is preferred to service the remainder of the lands within the Study Area.

MASTER ENVIRONMENTAL SERVICING PLAN HIGHWAY 48 BLOCK

INTERIM WASTEWATER SERVICING SOLUTION



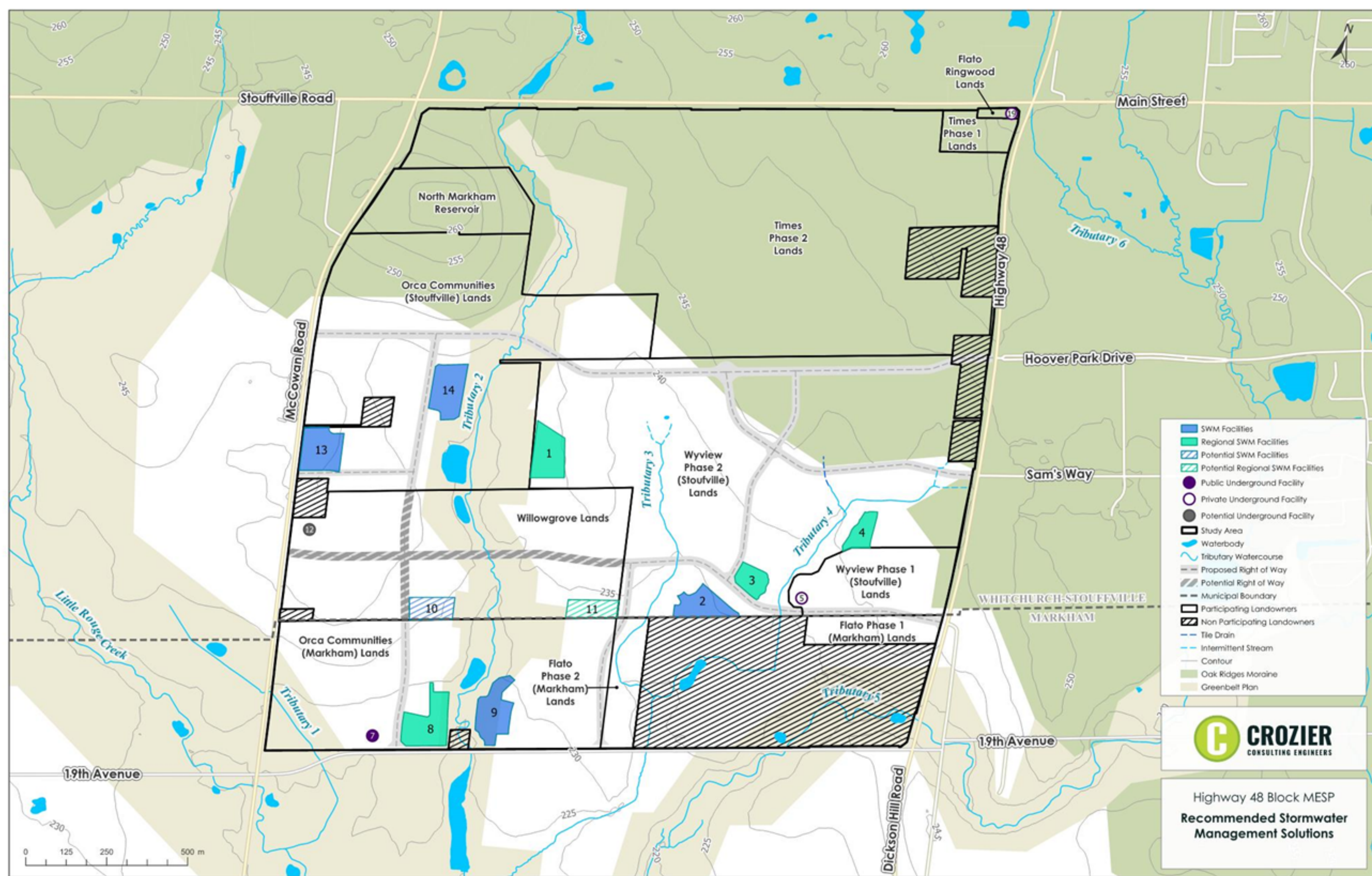
York Region is undergoing a separate EA to evaluate the ultimate wastewater servicing solution for the MESP Study Area, within the McCowan Road right-of-way (from 19th Avenue to 16th Avenue).

The recommended interim wastewater servicing solution to facilitate near-term development of the MESP Study Area is classified as an Exempt project per the Municipal Class EA. For information purposes only, the proposed solution is illustrated here and described below.

A sewage pumping station that is privately-owned and operated on developer land and a forcemain located within the 19th Avenue right-of-way discharging to the Ninth Line York Durham Sewage System will service approximately 1,650 of the 3,500 units proposed in the MESP Study Area. A capacity analysis of the Ninth Line Trunk Sewer confirmed it can accommodate the proposed development.

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STORMWATER MANAGEMENT SOLUTIONS



The stormwater management for the Study Area is Exempt from the Municipal Class EA process and hence the information provided herein is for information purposes only.

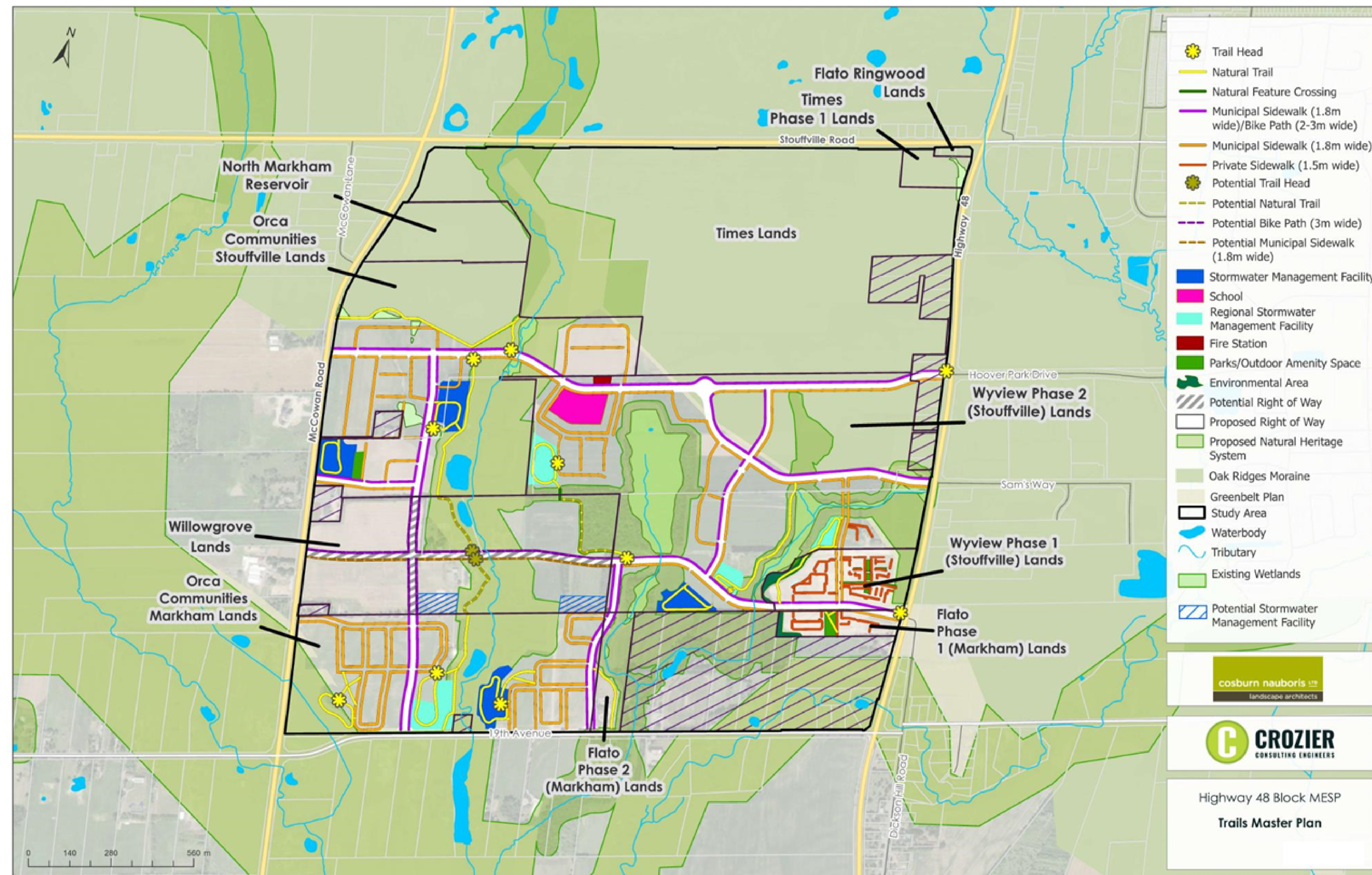
Low impact developments located along watercourses and near wetlands to maintain the hydrologic cycle.

Facilities or wetlands designed to provide water quality treatment, quantity control and erosion mitigation. Facility locations chosen to maintain the areas going to each outlet.

Regional facilities within the Study Area reduce the risk of downstream flooding.

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PROPOSED TRAIL NETWORK



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MITIGATION MEASURES

Construction Impacts: Employ erosion, sediment, dust/noise controls, construction traffic control including designated haul routes and strict adherence to Town mandated construction hours.

Archaeological Impacts: If archaeological materials are encountered during construction, work will cease immediately for the affected area, and a provincially licensed consultant archaeologist will assess the material's cultural heritage value or interest in accordance with Section 48 (1) of the Ontario Heritage Act. Block studies completed to date do not identify presence of significant artifacts.

Stormwater Impacts: Watercourse erosion control through extended detention controls, Regional ponds to ensure no on-site or downstream impacts to any existing or proposed development, Enhanced level of water quality treatment and thermal mitigation of ponds, Low-Impact Development (LID) techniques and on-site retention to maintain pre-development Block water balance.

Groundwater Impacts: Ongoing pre and post development well monitoring program to negate any potential changes to local groundwater resources including existing resident potable water wells.

Environmental Impacts: Strict adherence to established development limit through extensive consultation with TRCA including staking of all Block significant environmental features. Employ trenchless construction methods at watercourse crossings and use of open bottom culvert structures, implementation of open space and identified land compensation areas.

Traffic Impacts: Optimization of signal timing and new signalized intersections, through/turning lanes, improvement of road geometry and enhancement of collector road network.

Natural Heritage Impacts: Monitoring of biodiversity, natural cover, aquatic habitats and communities.

NEXT STEPS

Complete a comment card

Review feedback received

Refine the recommended solutions

File the MESP report for 30-day public review

Implement the preferred solutions

Additional information will be posted on City and Town websites

www.markham.ca/wps/portal/home

www.townofws.ca