PUBLIC CONSULTATION CENTRE NO. 2

MUNICIPAL SERVICING STRATEGY MASTER PLAN CLASS ENVIRONMENTAL ASSESSMENT STUDY
VAUGHAN METROPOLITAN CENTRE, CITY OF VAUGHAN

THURSDAY, DECEMBER 8, 2011
7:00 p.m. to 9:00 p.m.
Presentation at 7:30 p.m.

Please sign in on the sheet provided. Then feel free to walk around and view the displays.

The purpose of this second Public Consultation Centre (PCC) is to inform you of our progress to date, present the preliminary recommended solutions, and obtain your comments on the project.

The major elements presented today are:

- Overview of the Class Environmental Assessment Process
- Study Overview / Problem Statement
- Existing Conditions
- Alternative Solutions Being Considered
- Evaluation of Alternative Solutions Being Considered
- Preliminarily Recommended Solution(s)
- Next Steps

If you have any questions, our representatives will be pleased to discuss the project with you.

The Study Team is interested in receiving any comments that you may have about the Study. All comments received will become part of the public record and may be included in Study Documentation.

Should you have any questions or comments, require further information, or wish to be added to the study mailing list, please contact one of the Study Team members:

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TMIG | The Municipal Infrastructure Group Ltd.
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Vaughan Metropolitan Centre
Secondary Plan Area

Master Plan Study Area

Study Area

The study area is bounded by Highway No. 400 to the west, Creditstone Road to the east, Highway No. 407 to the south, and Pennsylvania Avenue / MacIntosh Boulevard to the north, and is presented on the Key Map (left).

Existing Land Use

The existing land use within the Study area is a combination of low-rise commercial and industrial. The area is provided with existing water, sanitary, and stormwater services.

Proposed Land Use

The Vaughan Metropolitan Centre Secondary Plan has identified proposed land uses, which include a combination of residential, commercial, and institutional uses. The projected population of the VMC area to 2031 is 25,000 residents, 6,500 new jobs (total 11,500). The projected population of the VMC area under ultimate build-out (2051) is 50,609 residents and 12,345 jobs.

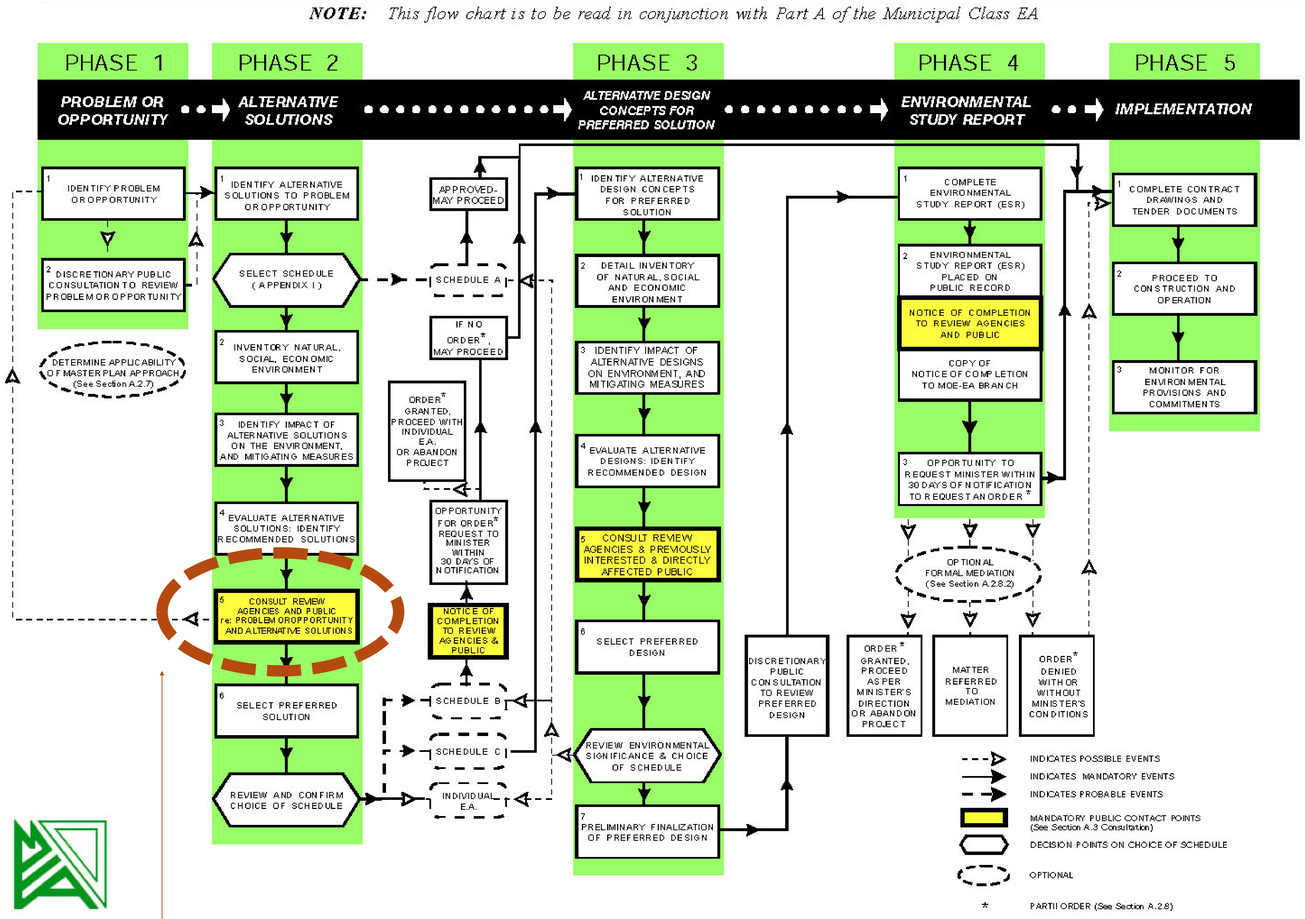
Problem Statement and Class EA Process

Problem Statement

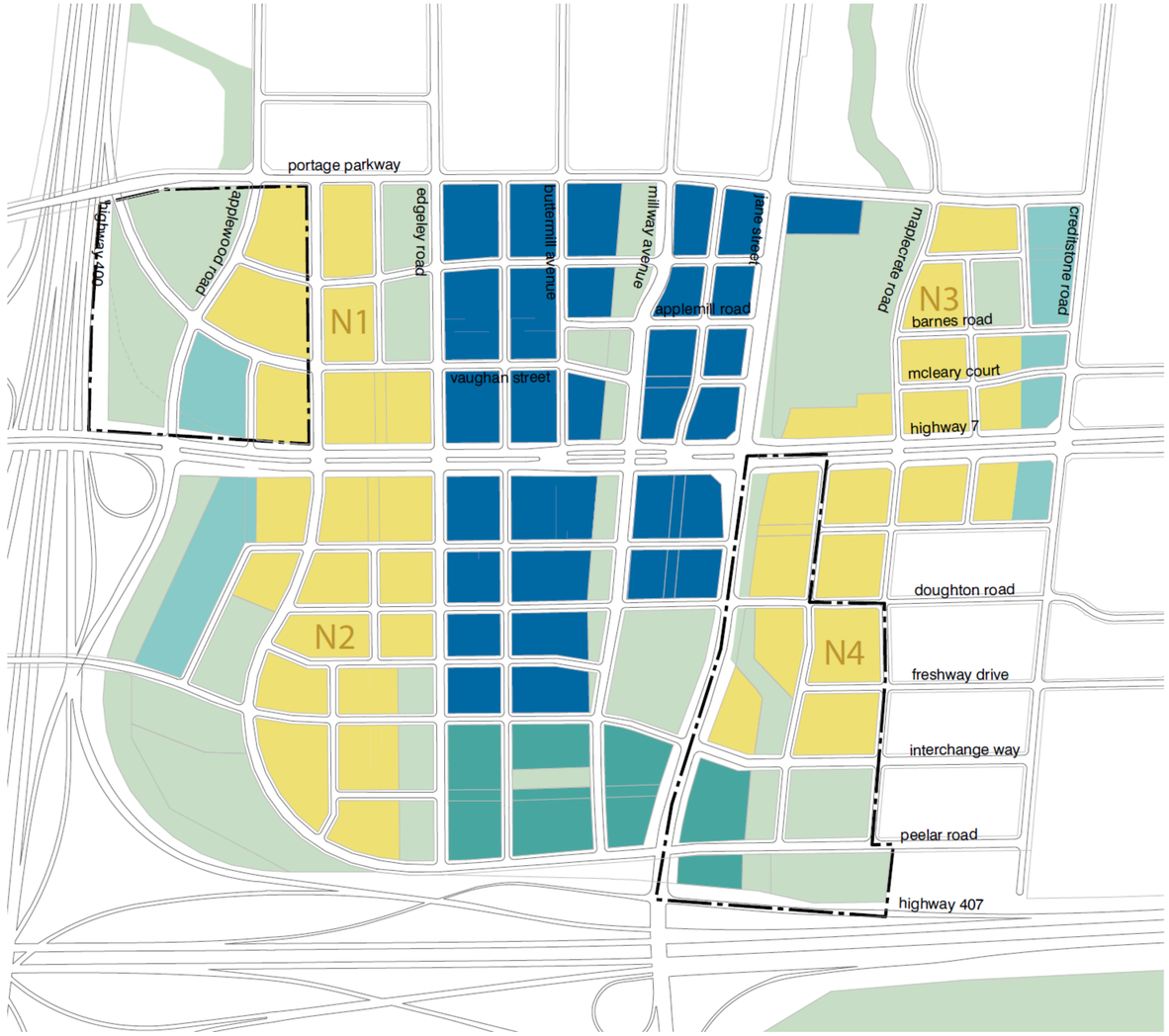
Assess what municipal servicing improvements and/or modifications to the stormwater, water, and wastewater services will be required to implement the development objectives outlined in the proposed Vaughan Metropolitan Centre Secondary Plan.

Master Plan Class Environmental Assessment

The City has retained The Municipal Infrastructure Group Ltd. to complete this Master Plan Class EA Study. The Study is being conducted in accordance with the Master Plan process as outlined in the *Municipal Engineers Association Municipal Class Environmental Assessment* document (October 2000, as amended in 2007).



We are here



Vaughan Metropolitan Centre Secondary Plan

The Vaughan Metropolitan Secondary Plan was adopted by Vaughan Council **September 7, 2010**. The objectives of the Vaughan Metropolitan Centre Secondary Plan are to establish a distinct downtown containing a mix of uses, civic attractions and a critical mass of people as well as establish complete neighbourhoods containing a variety of housing types, attract and accommodate a variety of employment uses, attract a major institution of higher learning, optimize existing and planned investments in rapid transit, establish a hierarchical fine-grain grid network of streets and pathways, develop a robust and remarkable open space system, improve natural systems and functions, ensure development incorporates green infrastructure and green building technologies, and ensure all development exhibits a high quality of urbanity, materials and design.

Other Related Studies

Vaughan Official Plan

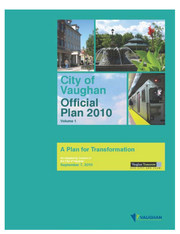
The New Official Plan was completed and adopted by City Council in September 2010, a component of the City's Consolidated Growth Management Strategy to a planning horizon of 2031. The new Official Plan updates the City's community planning policies in a manner consistent with the principles of sustainability.

Black Creek Stormwater Optimization Study

The Black Creek Stormwater Optimization Study Municipal Class EA Study (May 2011) has been completed to determine what measures can be implemented to improve stormwater quality and quantity, and minimize erosion and flood potential. The recommendations of this study include the following:

- **Regional Storm Flooding Improvements** - Provide sufficient capacity within Black Creek to convey the runoff generated by the Regional Storm. The proposed works involve the construction of a new naturalized channel to replace the existing segment of Black Creek between the Edgeley Pond and the 407ETR, and new bridges at road crossings (Highway 7, Doughton Road, and the future Interchange Way extension east of Jane St).
- **SWM Quality Ponds** - These works consist of the retrofit of many existing SWM ponds and the construction of new SWM ponds in the Study Area to provide a water quality control component. Many of these projects have been recommended through previous studies or identified as a requirement for proposed development initiatives.
- **Channel Erosion In-stream Restoration Strategies** -These works involve a combination of in-stream restoration measures to address localized erosion or bank instability issues. In addition, it should be noted that further erosion control will be provided through the construction of new SWM ponds and the SWM pond retrofits that have been identified in previous studies carried out by the City and TRCA, together with proposed development initiatives (i.e., VMC, OPA 620, TYSSE Highway 407 Station, etc.).

These recommendations have been considered during the VMC Strategic Servicing study. The Black Creek Stormwater Optimization Study also provided the concept for the channelization of Black Creek downstream of the Edgeley Pond to be used as a part of the Secondary Plan



Green Directions Vaughan

Green Directions Vaughan is the City's Community Sustainability and Environmental Master Plan (CSEMP). It influences virtually all aspects of the City's operational and regulatory activities, including the growth management strategy. The plan establishes the principles of sustainability to be used in the development of other plans and master plans to achieve a healthy natural environment, vibrant communities and a strong economy.

York Water/Wastewater Master Plan

In November 2009, York Region updated their Water and Wastewater Master Plan. As the Region supplies water to the City and collects and treats the City's wastewater, the recommendations of the Municipal Servicing Strategy Master Plan Class Environmental Assessment Study need to be compared with those of the Region's Master Plan to ensure consistency.

City-Wide Storm Drainage/Storm Water Management and Water/Wastewater Master Plans

The City of Vaughan is conducting studies to direct the ongoing development of the City's urban water infrastructure systems that support our communities. These systems include water distribution, wastewater collection and storm water management. The findings of this Municipal Servicing Strategy will be considered in the City Wide Master Plans.

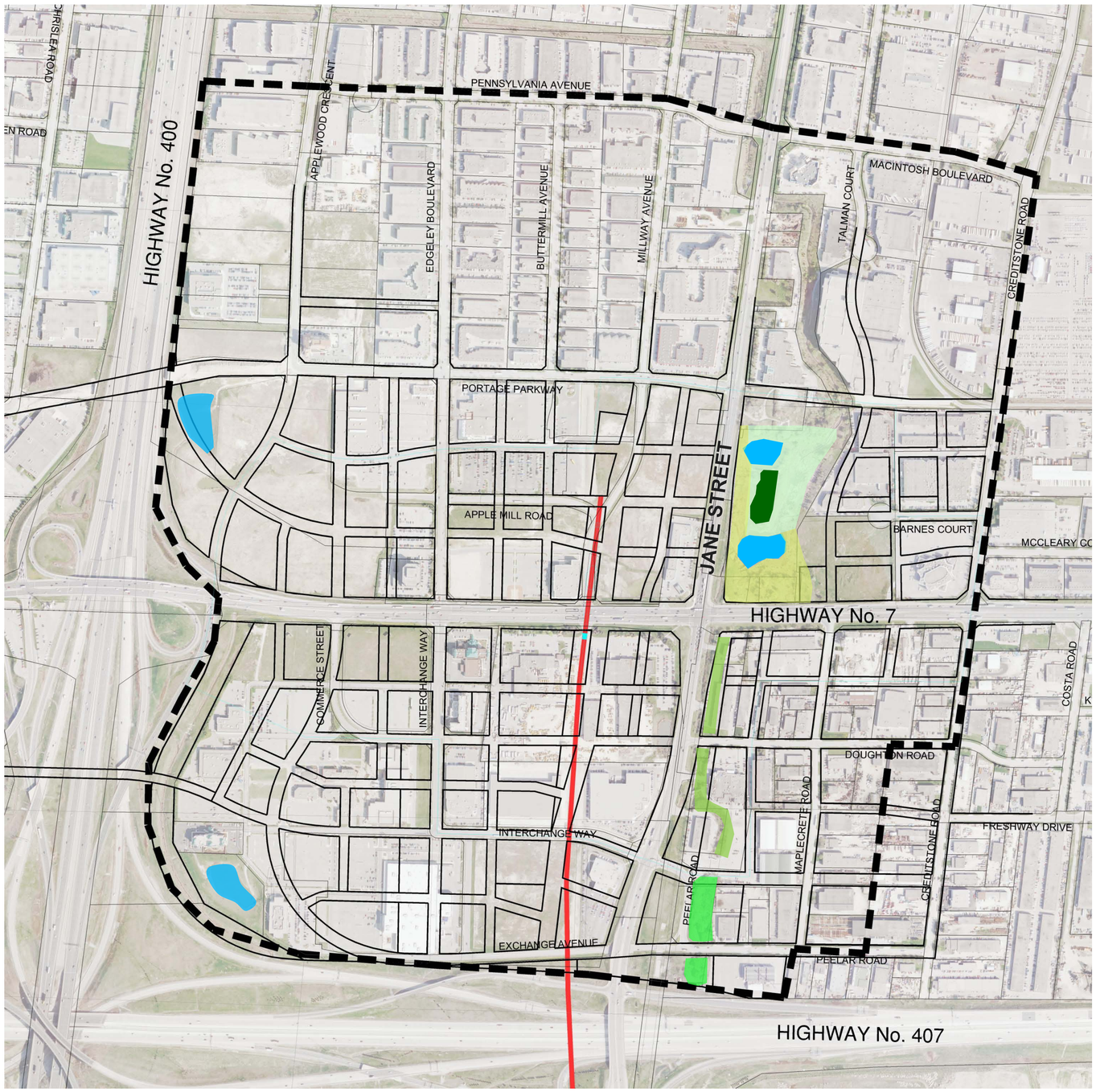
Toronto-York Spadina Subway Extension

Construction is currently underway. Millway Avenue is currently closed. The anticipated completion date for the Spadina subway extension is 2015. Our project team has been reviewing the TTC plans to identify potential constraints and opportunities to the Master Plan EA. The location of the Vaughan Metropolitan Subway Station has been considered during the VMC Strategic Servicing study.

York Region - Highway 7 Bus Rapid Transit

In accordance with the completed Environmental Assessment Study the Highway 7 Bus Rapidway extending from Highway 50 in Vaughan to Reesor Road in Markham will be implemented. It will connect three designated urban centres, including Vaughan Metropolitan Centre in Vaughan. The portion from Highway 400 to Creditstone is anticipated to be completed by 2015. The Highway 7 Bus Rapidway has been considered during the VMC Strategic Servicing study

Existing Natural Environmental Conditions



Virtually all of the Metropolitan Centre lands are fully urbanized. The areas highlighted on this display board represent existing storm water management facilities and channelized watercourses that are being considered for potential redevelopment, restoration or enhancement through the Environmental Assessment process.

The two "blue" SWM ponds near the 400 Highway provide no vegetation or aquatic habitat currently and enhancement of these areas would be beneficial. The large pond at the corner of Hwy 7 and Jane Street has become naturalized over the past two decades and consideration would be given to potentially maintaining portions of this facility.

The channelized portions of Black Creek downstream of Highway 7 could be enhanced through the provision of wider buffers and improved vegetation along the stream corridor.'

LEGEND

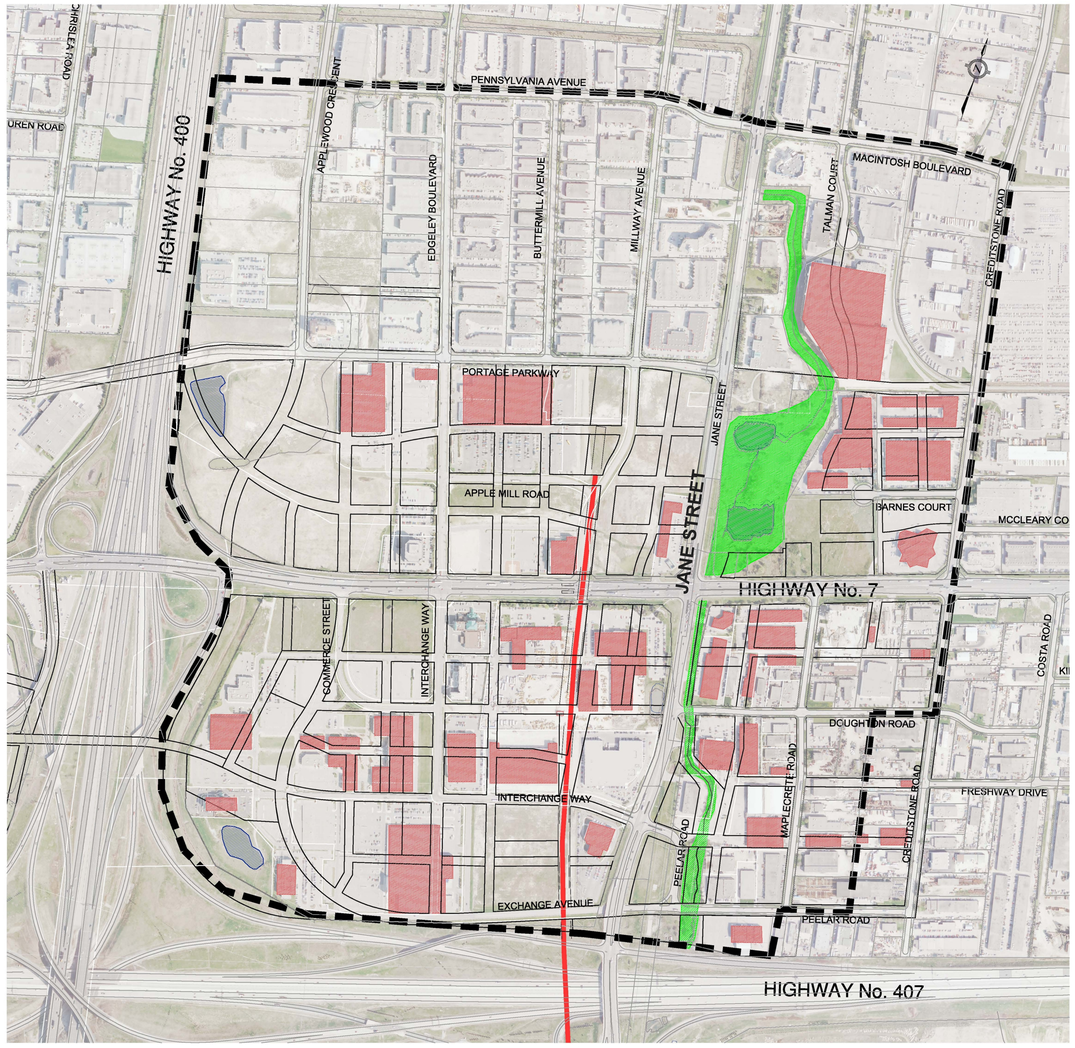
- SWM pond
- Oak Deciduous forest
- Open Cattail Marsh
- Cultural Meadows and Woodlands
- Shrubs along channelized creek
- Treed Floodplain
- TTC Alignment

Opportunities

LEGEND:

- EXISTING STORMWATER MANAGEMENT PONDS
- EXISTING PARKING AREAS
- UNDEVELOPED LANDS
- EXISTING ROADS THAT ARE ALIGNED WITH PROPOSED VMC SECONDARY PLAN ROADS
- LIMITS OF STUDY AREA
- EXISTING SANITARY SEWER COLLECTOR
- VAUGHAN METROPOLITAN CENTRE PROPOSED FUTURE ROADS

Constraints

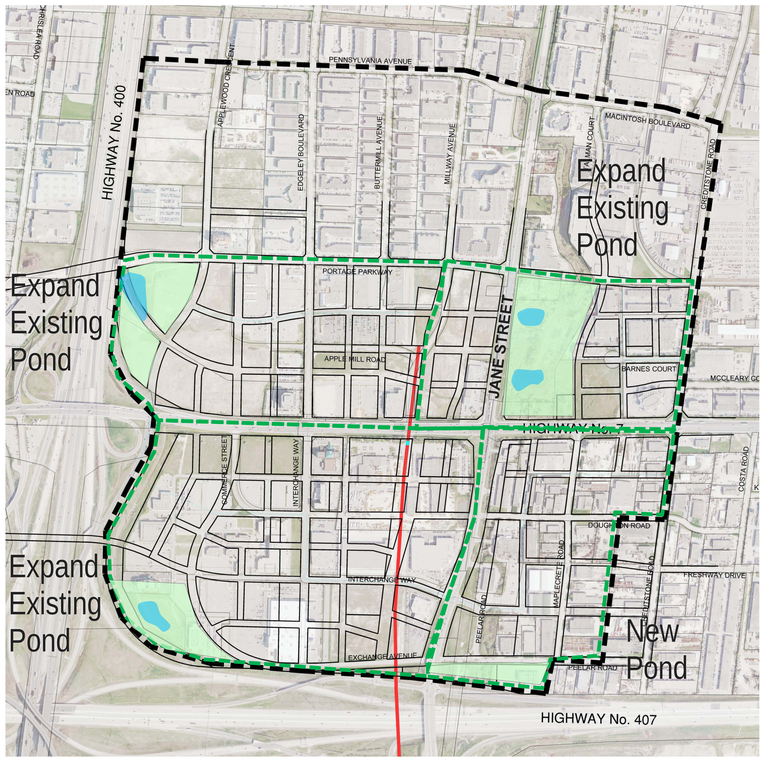


LEGEND:

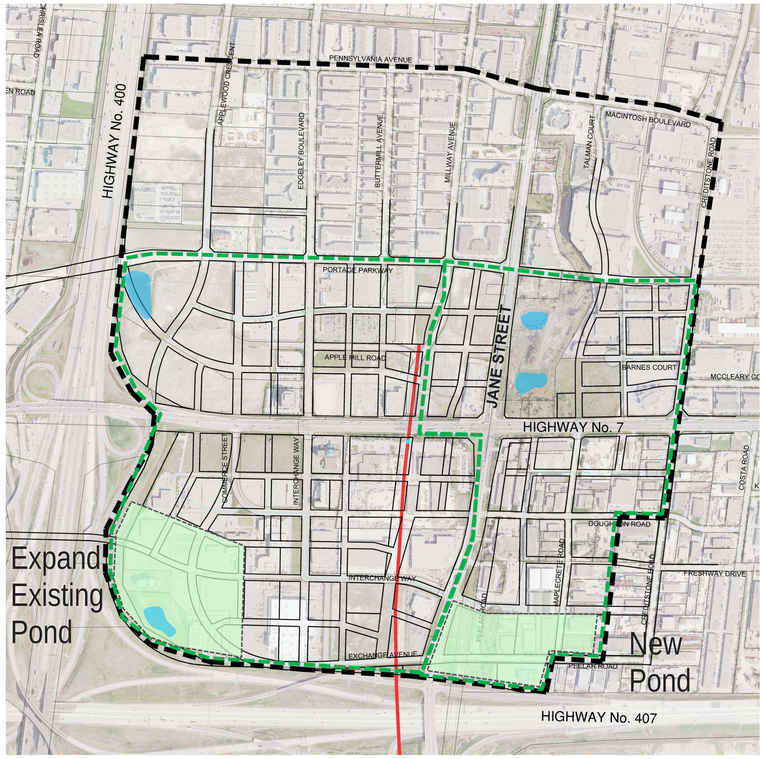
- EXISTING BUILDINGS IN FUTURE VMC ROAD ROWS
- EXISTING AND FUTURE WATER COURSES
- EXISTING STORMWATER MANAGEMENT PONDS
- LIMITS OF STUDY AREA
- FUTURE TTC ALIGNMENT
- VAUGHAN METROPOLITAN CENTRE PROPOSED FUTURE ROADS

Alternative Stormwater Drainage Solutions

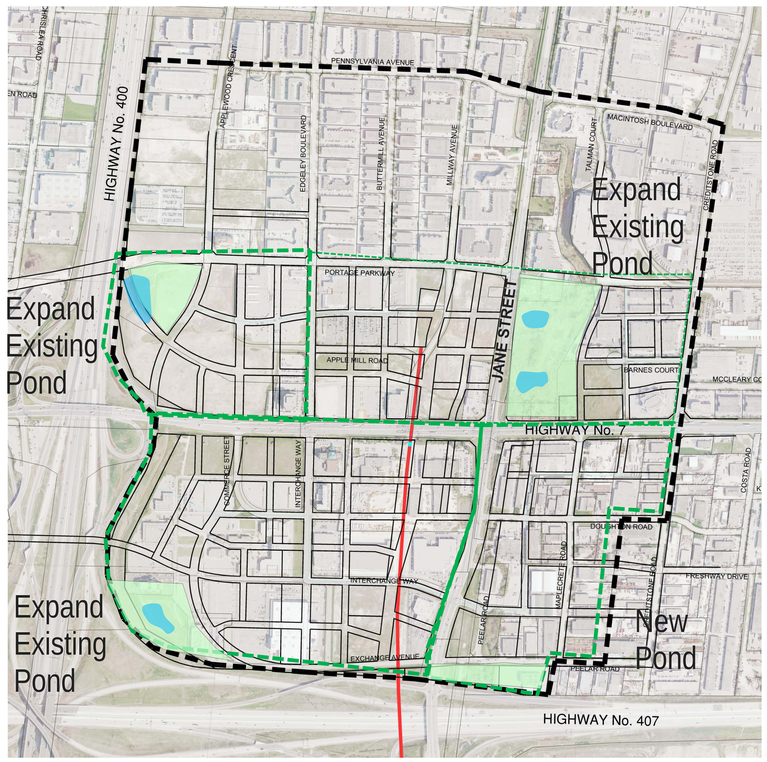
Storm Drainage Option 1



Storm Drainage Option 2



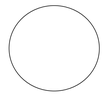
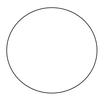
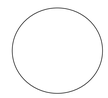
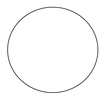
Storm Drainage Option 3



Legend

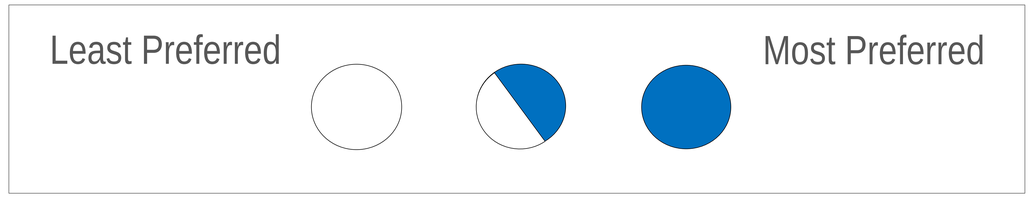
- Study Area Boundaries
- Potential Storm Drainage Area Boundary
- Future TTC Alignment
- Location of existing Stormwater Management Pond
- Study area for potential pond improvements and/or expansion.

Evaluation of Alternative Stormwater Drainage Solutions

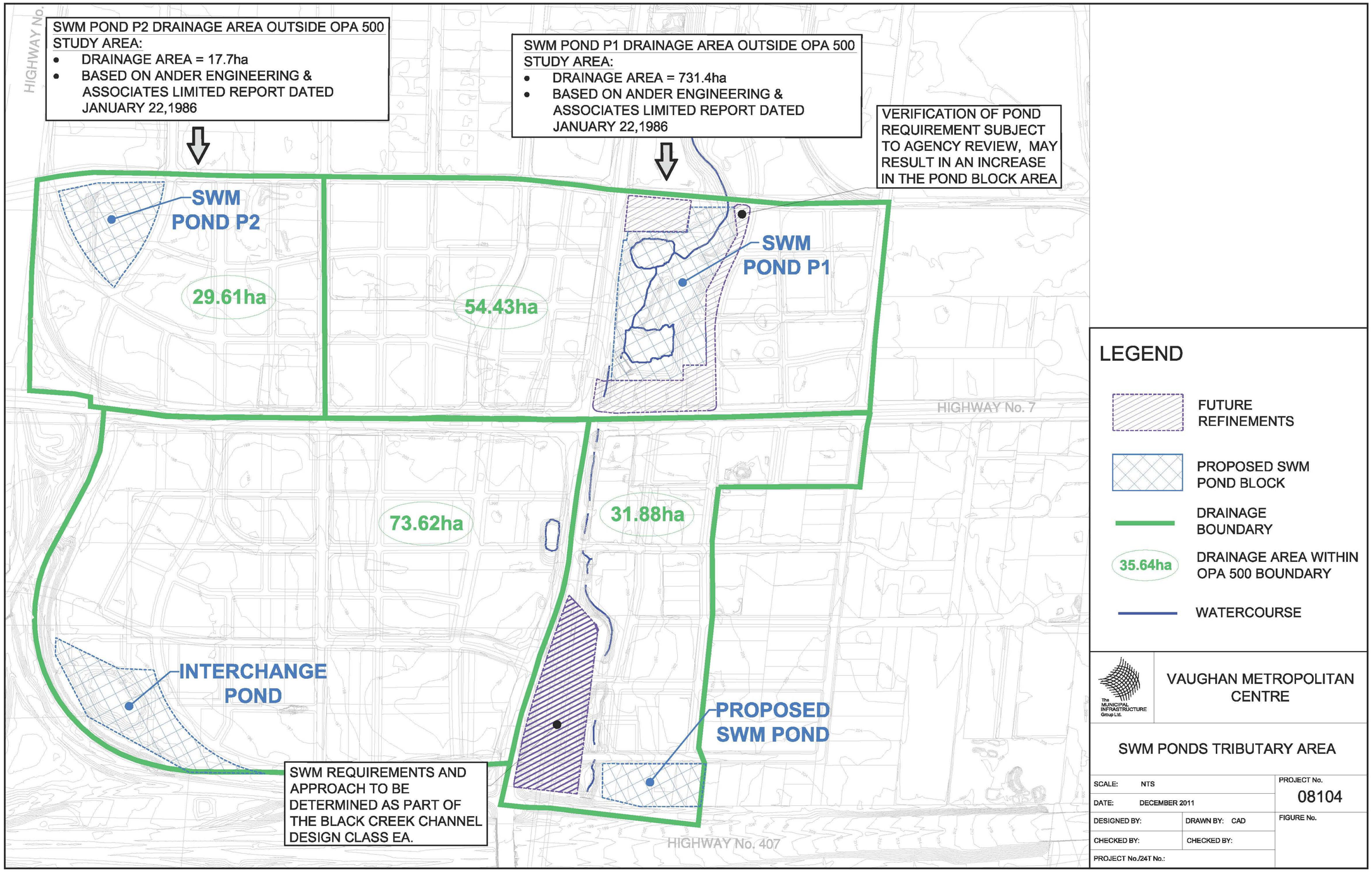
Analysis Criteria	Do Nothing	Storm Drainage Option 1	Storm Drainage Option 2	Storm Drainage Option 3
Natural				
Social				
Cost				
Technical				
Overall				

Each alternative has been evaluated based on four separate categories.

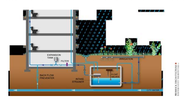
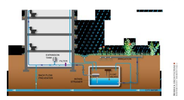
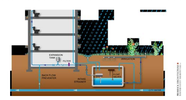
Natural – impact on the natural environment
Social – impact to existing residents (both during construction and post-construction)
Cost – cost of implementation
Technical – ability to solve the problem



Recommended Stormwater Drainage Solution



Alternative Stormwater Management Solutions

Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6	Alternative 7
Do Nothing	Reduce Level of Service	No On-site Control + Traditional Dual Drainage System + Enlargement of Existing SWM Facilities/Construction of New SWM Facility	100yr Controlled to 2yr Target Flow at 80% Imperviousness + Traditional Dual Drainage System for ROW + Enlargement of Existing SWM Facilities/Construction of New SWM Facility	100yr Controlled to 2yr Target Flow at 80% Imperviousness and retention of 5mm rainfall over the building footprint + Traditional Dual Drainage System for ROW + Enlargement of Existing SWM Facilities/Construction of New SWM Facility	100yr Controlled to 2yr Target Flow at 80% Imperviousness and retention of 5mm rainfall over the entire site + Traditional Dual Drainage System for ROW + Enlargement of Existing SWM Facilities/Construction of New SWM Facility	100yr Controlled to 2yr Target Flow at 80% Imperviousness and retention of 15mm rainfall over the building footprint + Traditional Dual Drainage System for ROW + Enlargement of Existing SWM Facilities/Construction of New SWM Facility/Public Realm LIDs
Existing SWM facilities with limited water quality and erosion control	Existing SWM facilities with limited water quality and erosion control	Expansion of exisiting SWM facilities / construct new SWM facilities for water quality, erosion and water quantity control	Expansion of exisiting SWM facilities / construct new SWM facilities for water quality, erosion and water quantity control	Expansion of exisiting SWM facilities / construct new SWM facilities for water quality, erosion and water quantity control	Expansion of exisiting SWM facilities / construct new SWM facilities for water quality, erosion and water quantity control	Expansion of exisiting SWM facilities / construct new SWM facilities for water quality, erosion and water quantity control
						
Existing storm sewers for conveyance	Existing storm sewers for conveyance	Storm Sewers for conveyance	Storm Sewers for conveyance	Storm Sewers for conveyance	Storm Sewers for conveyance	Storm Sewers for conveyance
						
Overland flow route for conveyance	Overland flow route for conveyance	Overland flow route for conveyance	Overland flow route for conveyance	Overland flow route for conveyance	Overland flow route for conveyance	Overland flow route for conveyance
						
Overland ponding for water quantity control	Overland ponding for water quantity control	Overland ponding for water quantity control	Overland ponding for water quantity control	Green roof for on-site storage	Green roof for on-site storage	Green roof for on-site storage
						
			Underground on-site storage for water quantity control	Rainwater reuse cistern for ons-ite runoff reduction	Rainwater reuse cistern for ons-ite runoff reduction	Rainwater reuse cistern for ons-ite runoff reduction
						
			OGS for water quality control	Underground on-site storage for water quantity control	Underground on-site storage for water quantity control	Permeable pavement for runoff reduction and infiltration
						
				OGS for water quality control	OGS for water quality control	LIDs within ROW for quality and quantity control
						
						OGS for water quality control
						

VAUGHAN
Development/Transportation Engineering

The MUNICIPAL INFRASTRUCTURE Group

Evaluation of Alternative Stormwater Management Solutions

Analysis Criteria	Alternative No. 1	Alternative No. 2	Alternative No. 3	Alternative No. 4	Alternative No. 5	Alternative No. 6	Alternative No. 7
	Do Nothing	Reduce Level of Service	No On-site Control + Traditional Dual Drainage System + Enlargement of Existing SWM Facilities/Construction of New SWM Facility	100yr Controlled to 2yr Target Flow at 80% Imperviousness + Traditional Dual Drainage System for ROW + Enlargement of Existing SWM Facilities/Construction of New SWM Facility	100yr Controlled to 2yr Target Flow at 80% Imperviousness and retention of 5mm rainfall over the building footprint + Traditional Dual Drainage System for ROW + Enlargement of Existing SWM Facilities/Construction of New SWM Facility	100yr Controlled to 2yr target flow at 80% Imperviousness and retention of 5mm rainfall over the entire site + Traditional Dual Drainage System for ROW + Enlargement of Existing SWM Facilities/Construction of New SWM Facility	100yr Controlled to 2yr Target Flow at 80% Imperviousness and retention of 15mm rainfall over the building footprint + Traditional Dual Drainage System for ROW + Enlargement of Existing SWM Facilities/Construction of New SWM Facility/Public Realm LID's
Natural							
Social							
Cost							
Technical							
Overall							

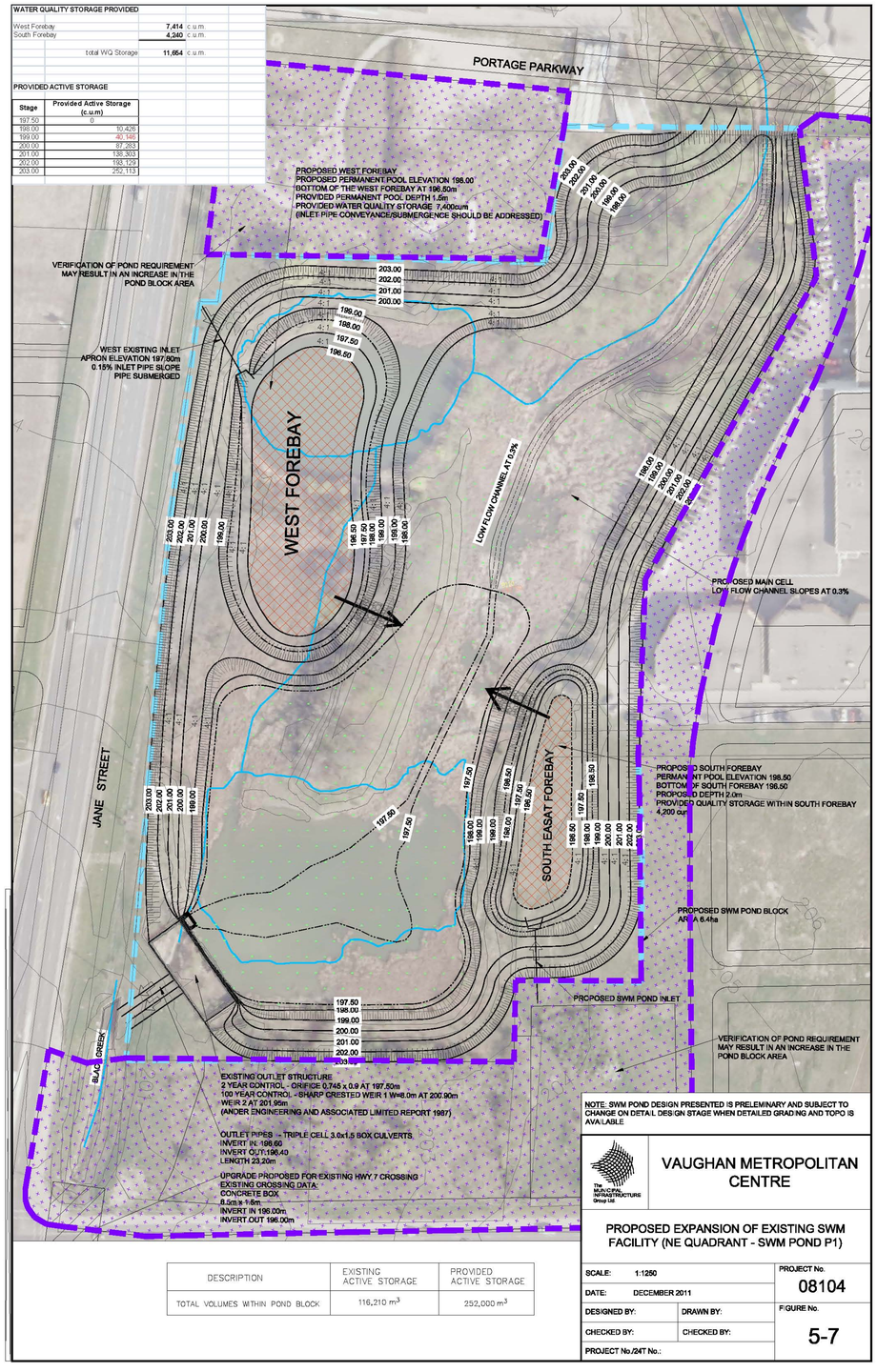
Each alternative has been evaluated based on four separate categories.

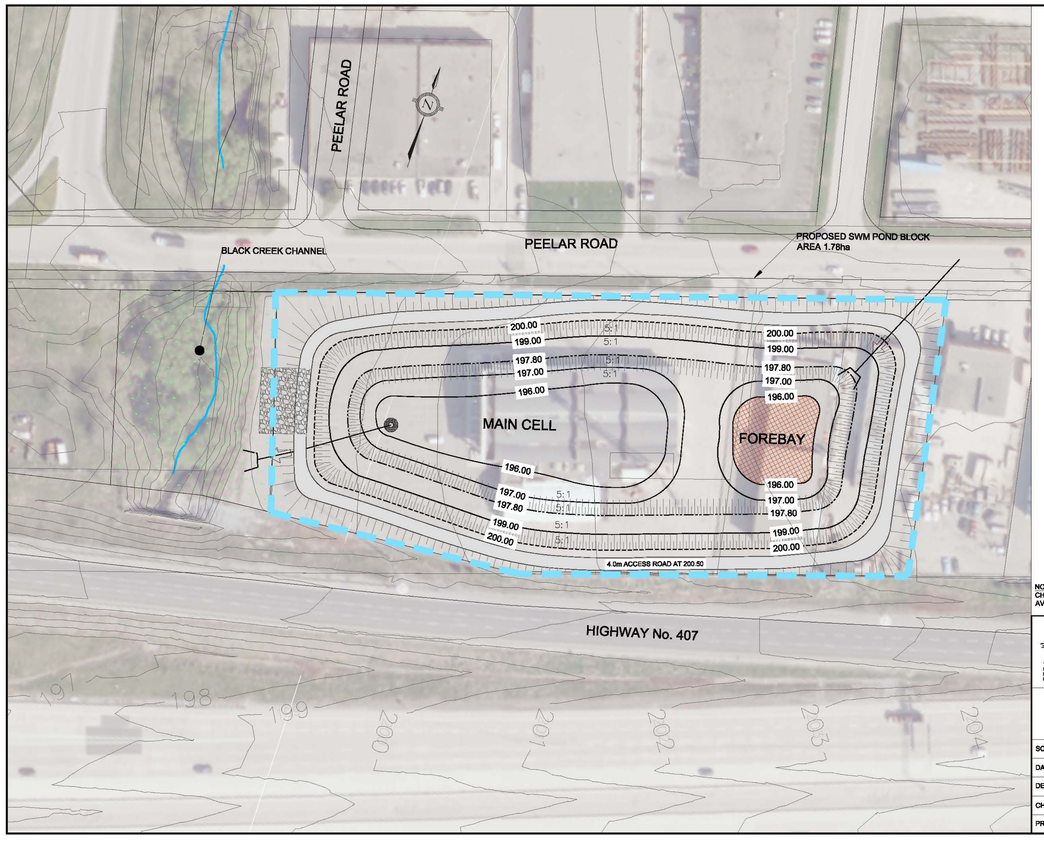
Natural – impact on the natural environment
Social – impact to existing residents (both during construction and post-construction)
Cost – cost of implementation
Technical – ability to solve the problem

Least Preferred  Most Preferred

SWM Facility Concepts (East Side)

North East (Edgeley) Pond

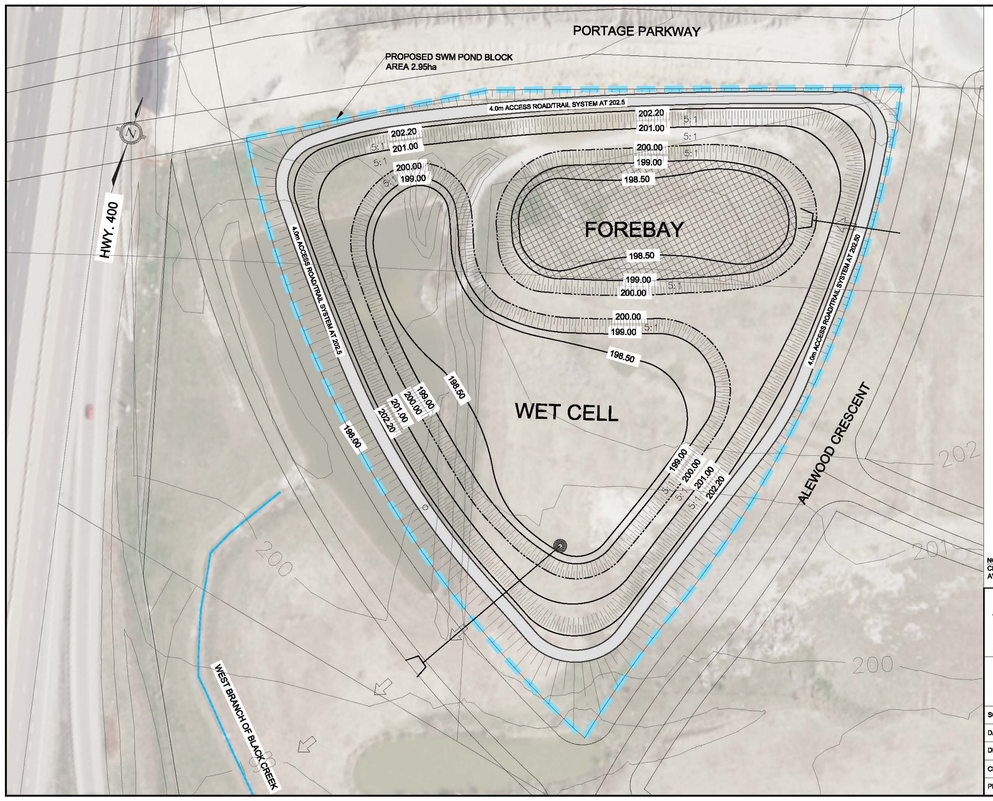




South East Pond

SWM Facility Concepts (West Side)

North West Pond



DESCRIPTION	REQUIRED STORAGE	PROVIDED STORAGE
PERMANENT POOL (1.5m) EL.198.50 – EL.200.00	8,384 m^3	16,000 m^3
ACTIVE STORAGE (2.2m) EL.200.00 – EL.202.20	24,206m^3	40,000 m^3

Note: SWM Pond is oversized to account for External Drainage Area north of Portage Parkway which previously drained into this pond. Approximate External Area 17.7ha.

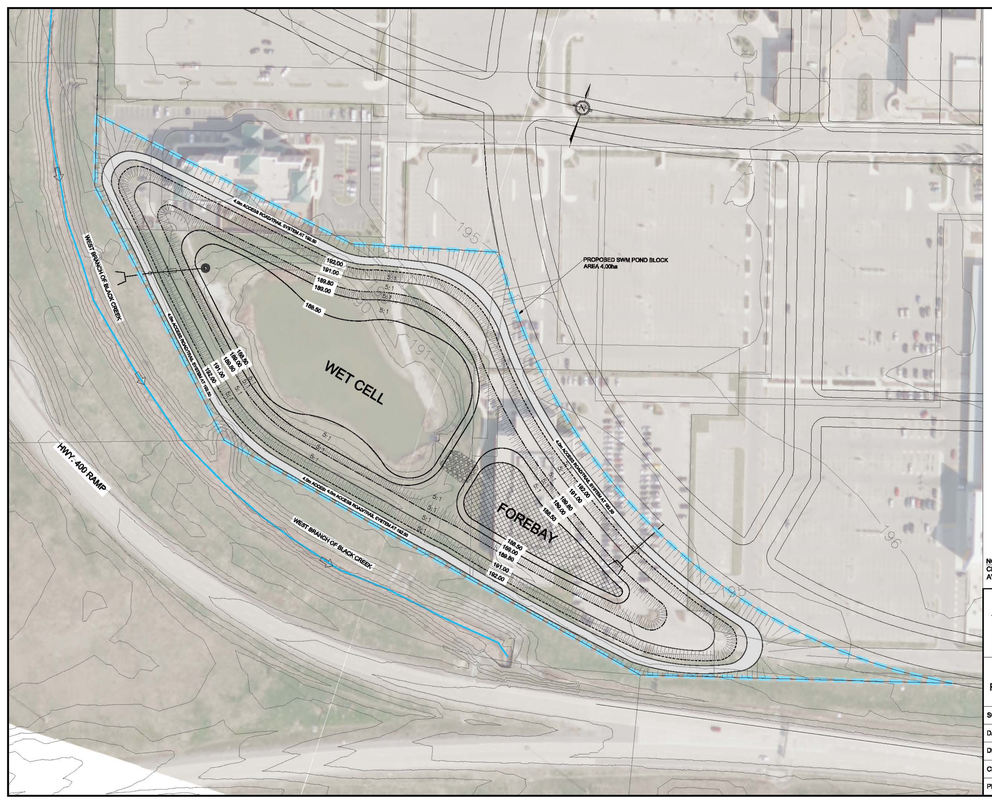
NOTE: SWM POND DESIGN PRESENTED IS PRELEMINARY AND SUBJECT TO CHANGE ON DETAIL DESIGN STAGE WHEN DETAILED GRADING AND TOPO IS AVAILABLE

VAUGHAN METROPOLITAN CENTRE

PROPOSED EXPANSION OF EXISTING SWM FACILITY (NW QUADRANT - SWM POND P2)

SCALE: 1:1000		PROJECT No. 08104
DATE: DECEMBER 2011		
DESIGNED BY:	DRAWN BY:	FIGURE No. 5-9
CHECKED BY:	CHECKED BY:	
PROJECT No./24T No.:		

South West Pond



DESCRIPTION	REQUIRED STORAGE	PROVIDED STORAGE
PERMANENT POOL (1.3m) EL.188.50 – EL.189.80	12,420m^3	17,000 m^3
ACTIVE STORAGE (2.2m) EL.189.80 – EL.192.00	39,482m^3	47,000m^3

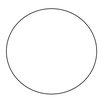
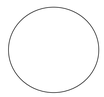
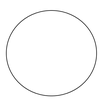
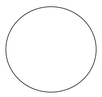
NOTE: SWM POND DESIGN PRESENTED IS PRELEMINARY AND SUBJECT TO CHANGE ON DETAIL DESIGN STAGE WHEN DETAILED GRADING AND TOPO IS AVAILABLE

VAUGHAN METROPOLITAN CENTRE

PROPOSED EXPANSION OF EXISTING SWM FACILITY (SW QUADRANT - INTERCHANGE POND)

SCALE: 1:1250		PROJECT No. 08104
DATE: DECEMBER 2011		
DESIGNED BY:	DRAWN BY:	FIGURE No. 5-8
CHECKED BY:	CHECKED BY:	
PROJECT No./24T No.:		

Evaluation of Alternative Water Servicing Solutions

Analysis Criteria	Do Nothing	Limit Growth	Water Conservation	Local Water System Improvements
Natural				
Social				
Cost				
Technical				
Overall				

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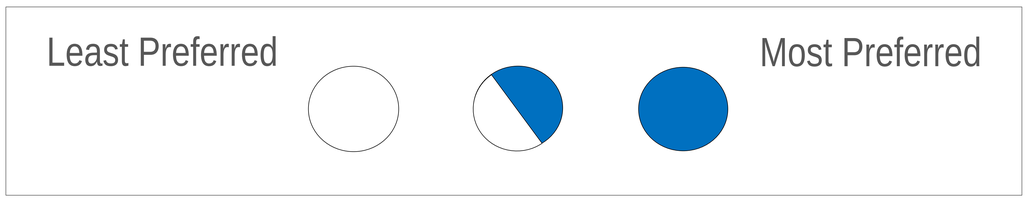
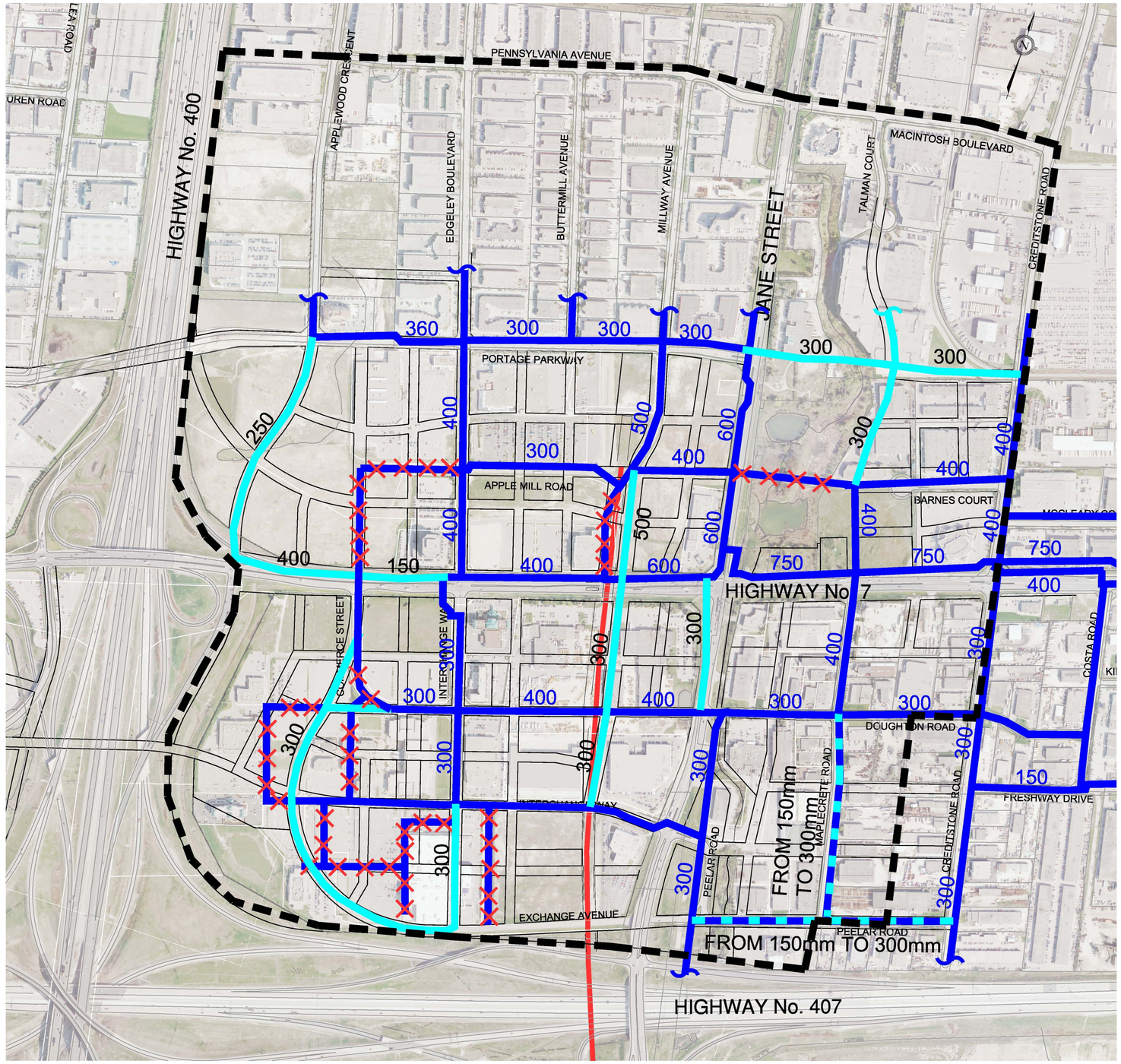
Cost – cost of implementation
Technical – ability to solve the problem



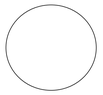
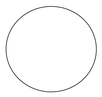
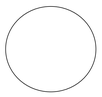
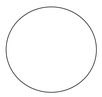
Recommended Water Servicing Solution

Legend

- Existing Watermains
- New Watermains
- Recommended Upgrades
- Recommended Removals
- TTC Alignment
- Study Area Boundary

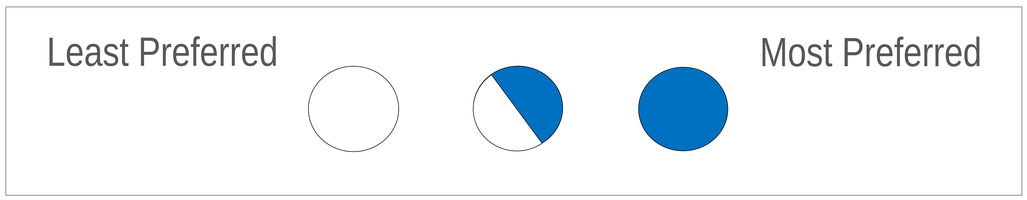


Evaluation of Alternative Sanitary Servicing Solutions

Analysis Criteria	Do Nothing	Limit Growth	Water Conservation	Local Sanitary System Improvements
Natural				
Social				
Cost				
Technical				
Overall				

Each alternative has been evaluated based on four separate categories.

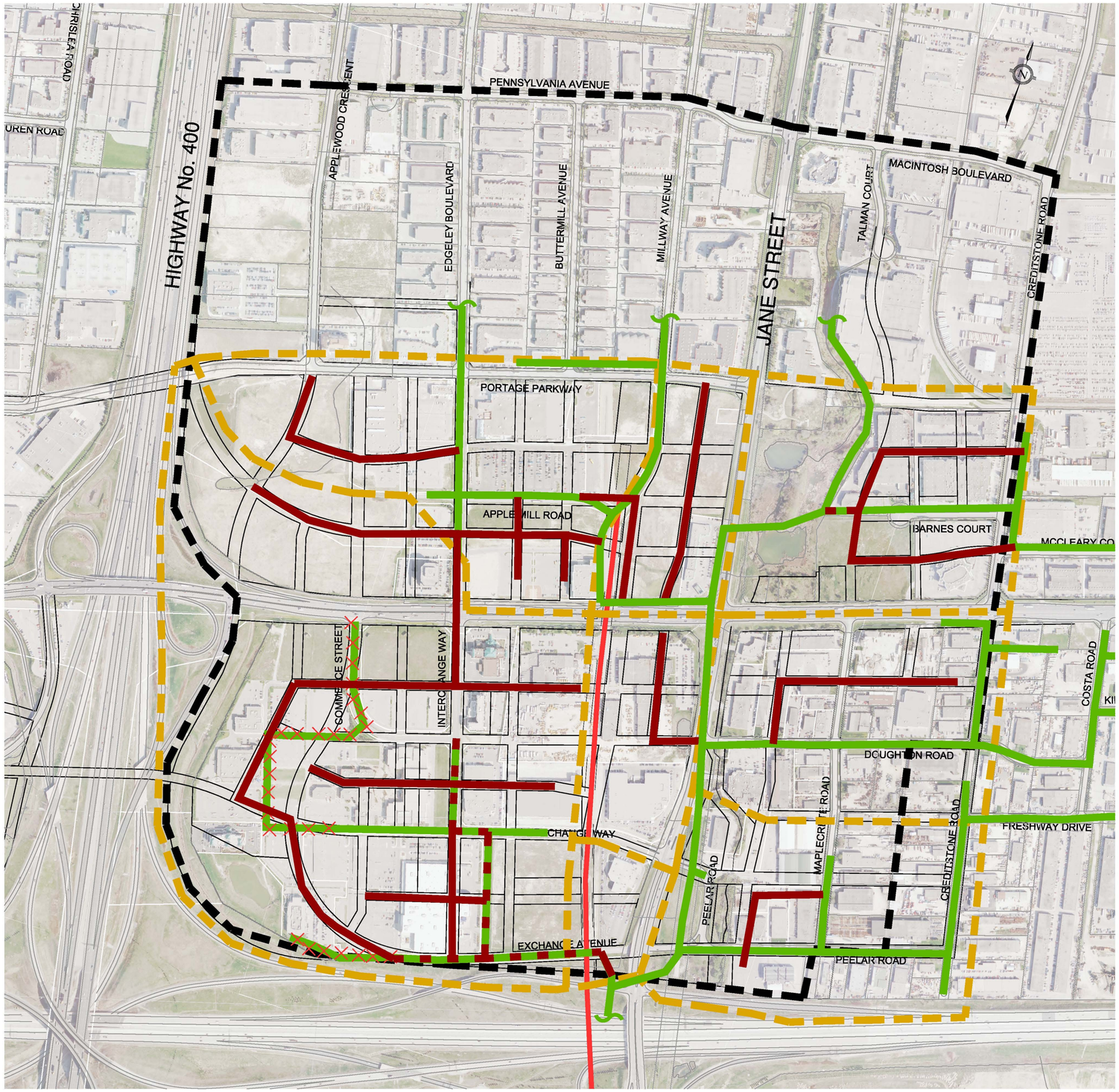
Natural – impact on the natural environment
Social – impact to existing residents (both during construction and post-construction)
Cost – cost of implementation
Technical – ability to solve the problem



Recommended Sanitary Servicing Solution

Legend

- Sanitary Drainage Boundaries
- Existing Sanitary Sewers
- New Sanitary Sewers
- Recommended Upgrades
- Recommended Removals
- TTC Alignment
- Study Area Boundary



Next Steps

Comments from this Public Consultation Centre No. 2 will be considered along with those received from review agencies. **Please provide your comments on a comment sheet and place it in the Comment Box, or send it to us by fax, e-mail or mail by January 16, 2012.**

The Project Team will review the feedback and, where appropriate, incorporate into the Master Plan.

The Master Plan will be prepared and filed for 30 calendar days for agency and public review. Review agencies and the public will be notified of completion of the study and locations where the Master Plan can be reviewed.

Schedule ‘A’, Schedule A+, and Schedule ‘B’ projects not requiring further study would move forward to implementation based on the identified schedule.

Remaining project elements to be undertaken prior to finalization of the Master Plan include:

- Refinement, verification, and agency review of hydrologic models defining stormwater management drainage boundaries and facility size requirements
- Sensitivity and cost-benefit analysis of low impact development opportunities within public rights-of-way
- Refinement, verification, and agency review of water and wastewater models to confirm pipe-size requirements
- Review of BRT and TTC design information for coordination with preferred VMC Servicing Strategy