Public Open House # 2

Class Environmental Assessment for the Streetsville Pumping Station and Reservoir Capacity Increase January 28, 2008





1 Welcome to Public Open House # 2

- Please sign in on the sheet provided.
- If you have any questions, our representatives will be pleased to discuss the project with you.
- Comment sheets are provided.
- Please place your completed comment sheets in the Comment Box or send them to Anthony Parente and/or Cheda Kopcalic (see below) by February 11, 2008.

Project Information available at http://www.peelregion.ca/streetsvilleEA

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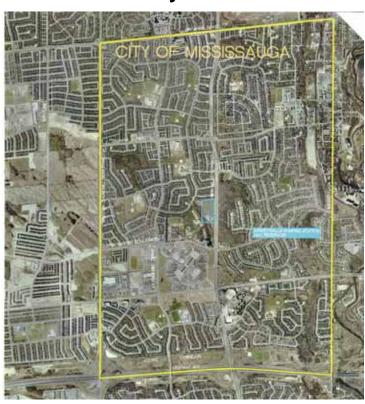




Study Purpose

The purpose of the project is to find a suitable location for increasing the pumping station and reservoir capacity and to design the selected site to minimize impacts. The project will also review future stand by power requirements and address any major construction components.

Study Area



Public Open House # 2

- The purpose of this Public Open House is to introduce the project, describe work completed to date, and obtain comments on:
 - Study Overview;
 - Summary of Public Open House #1;
 - Identification and Evaluation of Alternative
 Design Concepts for the selected site;
 - Preferred Design Concept;
 - Proposed Construction Mitigation
 Measures;
 - Timeline; and
 - Next Steps.







Public Open House # 1 was held on September 18, 2007 and presented:

- Background information on the study & project justification;
- Alternative reservoir and pumping station location options; and
- Preliminary evaluation criteria to determine the preferred design concept.

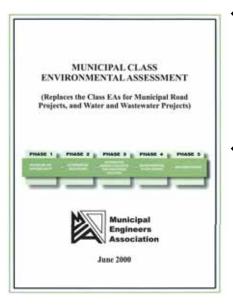
Comments received from attendees included:

- Project is needed to improve Peel Region's water distribution system and to support future growth;
- Many viewed the expansion of the existing site as the preferred alternative (i.e. more cost effective and less disruptive to traffic/the local community compared to the off site options);
- Concern about the potential impact to access to the Mississauga Leash-Free Dog Park during the construction phase; and
- Concern about the potential impacts during the construction phase.

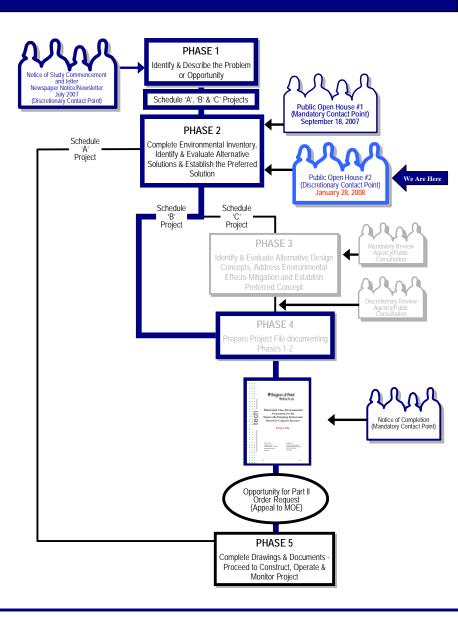




Overview of the Class Environmental Assessment Process



- This project is being undertaken in accordance with the Municipal Class Environmental Assessment (2000) for a Schedule 'B' undertaking.
- The Municipal Class EA is approved under the Environmental Assessment Act and enables the planning of municipal infrastructure projects in accordance with a proven process for protecting the environment.
- There is an opportunity at selected points in the study for public input (see diagram and Region of Peel contact).
- Upon completion of the Class EA process, a Project File will be prepared and made available for public review (minimum 30 days which provides an opportunity to resolve issues).

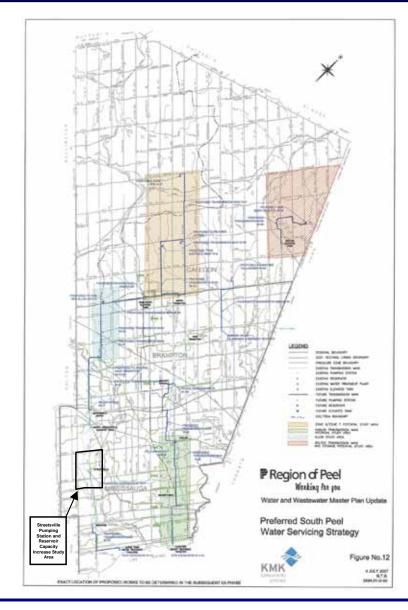






Peel Region Water Servicing Master Plan

- ❖ The need for this study is a result of Region of Peel 1999 Water and Wastewater Servicing Master Plan (Addendum prepared in 2002). This Master Plan outlined water and wastewater servicing projects that will be required to accommodate future growth in Peel Region.
- The Master Plan (including 2002 Addendum) identified and evaluated several options for water servicing:
 - Do Nothing (i.e. do not provide any additional water servicing capacity but allow future growth);
 - Limit Community Growth so that no additional water is needed;
 - Implement Water Conservation and Water Efficiency Program;
 - Expand Existing Water Supply System; and
 - Develop Independent Supply from Adjacent Water Supply System.
- The Region has also prepared an Emergency Stand By Power Contingency Plan document that addresses system wide power needs.







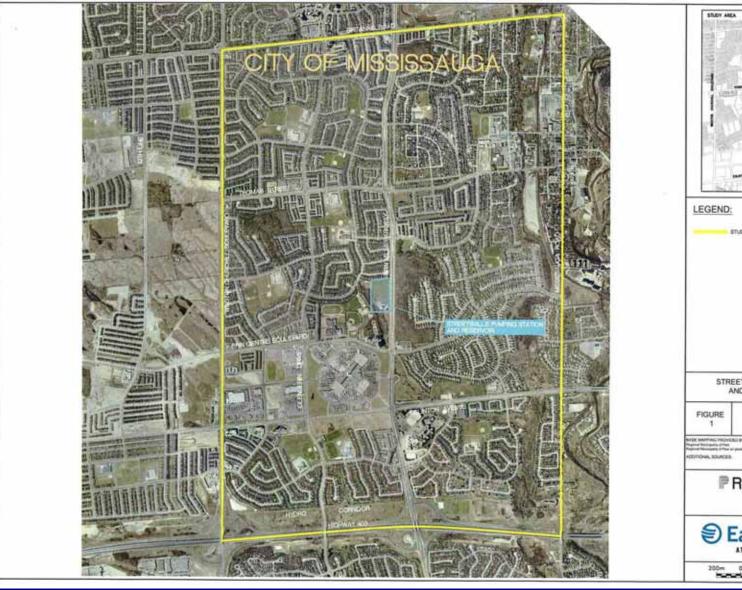


Problem Statement

- There is insufficient pumping station and reservoir capacity for West Central Peel Region in the City of Mississauga (Pressure Zones 3 & 4).
- Stand-by power is also required to address security of supply in case of local or system wide electrical service disruption.
- Failure to have this infrastructure in place by the end of 2010 may result in the inability to service municipal water demands.













Confirmation of Phase 2: Identification and Evaluation of Alternative Solutions for the Water Supply System

Master Plan Recommendation

- "Expand the existing water supply system in combination with a water conservation and efficiency program" and includes:
 - The phased expansion of the water treatment plants;
 - The extension of various western and eastern supply/transmission systems; and
 - The expansion of the existing Streetsville Pumping Station and Reservoir to address demands within Pressure Zones 3 and 4 of the water distribution network.
- The Region has an update of the Master Plan (see Project Website http://www.peelregion.ca/pw/water/environ-assess/master-plan.htm).





Identification of Alternative Siting Options (Presented at Public Open House #1)

Alternative	Description				
Option A:	Double the size of existing reservoir;				
Expand Streetsville Pumping Station and Reservoir Capacity On Site	 Construct additional pumping facilities (expand existing building or new building); Construct associated underground piping and connecting watermains as determined through detailed design; Includes provision of additional stand-by power; Majority all of the above work is fully contained on existing site; and 				
On Site	No additional property is required.				
Option B: Expand Streetsville Pumping Station and Reservoir Capacity Off Site	 Identification and evaluation off site options that can allow for construction of a new reservoir (of equal capacity as existing reservoir) and pumping facilities; Construct associated underground piping and connecting watermains as determined through detailed design; Construct large diameter underground piping (within roads) to connect to existing system; Includes provision of stand-by power; and Purchase of property is required. 				
Option C: Do Nothing	 In which no improvements or changes will be undertaken to the Streetsville Pumping Station and Reservoir. No additional capacity is added; The "Do Nothing" alternative represents what would likely occur if none of the alternative solutions were implemented and provides a baseline for evaluating alternatives; and This could result in: inability to service future development lands, failure to provide required security of supply (one day storage) and in ability to address power disruptions. 				



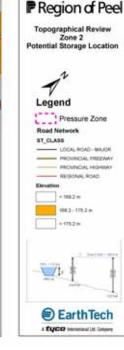




How Off Site Reservoir Options Were Identified (Presented at Public Open House #1)

- Analysis of vacant land within topographic contour band of approximately 168.2 to 175.2 metres above sea level – see map. Any site must be above a specific contour in order to provide sufficient hydraulic pressure in the system.
- Site should be in relative proximity to existing pumping station and reservoir.
- Minimum site size of 3.2 ha is required.
- Focus site identification based on following priority:
 - 1. Regionally owned vacant land;
 - 2. Other publicly owned vacant land; and
 - 3. Privately owned vacant land with potential for redevelopment.
- 4 potential sites were identified.
- Natural areas as identified in municipal plans were not considered.

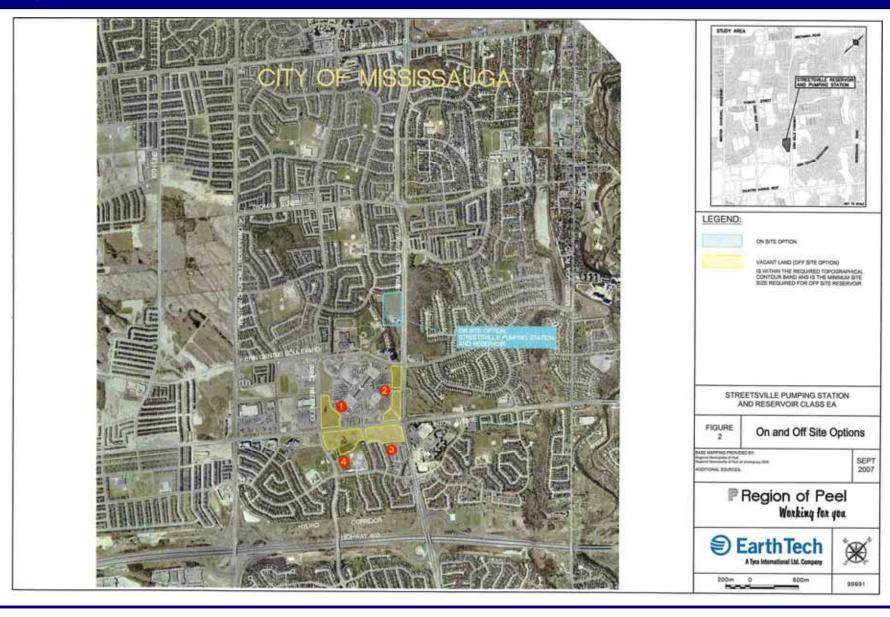








On & Off Site Options (Presented at Public Open House #1)









Evaluation of On Site & Off Site Reservoir Options (Presented at Public Open House #1)

	Social/Cultural Economic/ Financial Land Use Impacts Cost of Land and Infrastructure					
On Site & Off Site Reservoir Options			Hydraulic Considerations	Constructability - Ease and Ability to Construct Reservoir and Pumping Station	Operations and Maintenance	Evaluation Summary
On Site Option (Existing Pumping Station and Reservoir Site) *Recommended*	Minor modifications to site storm water management are required. Typical land use impacts which can be mitigated during construction.	No cost for land purchase as the land is already owned by the Region. Maximizes use of existing infrastructure.	Other than upgrades to Zones 2, 3 and 4 watermains, which are required for all options, no other new watermains are required off site at this time.	In the design of the original reservoir there was a provision made for future expansion. New reservoir is simplest to construct. There is enough space between existing pumping station and existing reservoir to construct expansion of existing pumping station.	New pumping station and reservoir will be connected to existing reservoir and pumping station. From operations point of view this option is ideal as there is only one plant to maintain and operate.	Lowest land use impact and construction cost. Maximizes use of existing infrastructure. Least amount of off site work. Easiest to construct and operate. Lowest energy cost.
Off Site: Option 1 Located in the City of Mississauga at the intersection of Eglinton Avenue and Glen Erin Drive (the southwest corner of the Erin Mills Town Centre).	Displacement of land zoned for commercial use. Typical land use impacts which can be mitigated during construction.	Almost 1 km of watermain along Glen Erin Drive is required to connect Zone 3. Approximately 700 m of watermain is required along Eglinton Avenue to connect new reservoir and pumping station to Zones 2 and 4. Cost associated with purchase of commercially zoned land.	Additional watermains are required to connect proposed location to existing watermains.	Proximity of a shopping mall and EMS (Credit Valley Hospital) will make traffic control/management challenging during construction. Connections to Zones 2 and 4 will probably take place under the intersection of Eglinton Avenue and Erin Mills Parkway. Connection to Zone 3 will take place approximately 1 km North of proposed site.	Operation and maintenance of pumping station and reservoir from two locations, about 1 km apart, is not preferred. Additional energy costs related to pumping operations.	Significant land use impacts. Relatively high construction and energy costs. Potential impact on traffic around shopping mall and EMS. Operation from two different locations – not preferred.
Off Site: Option 2 Located in the City of Mississauga at the intersection of Eglinton Avenue and Erin Mills Parkway (along east side of the Erin Mills Town Centre).	Displacement of land zoned for commercial use. Typical land use impacts which can be mitigated during construction. Potential impact to businesses.	Proposed site is relatively small. Site constraints may negatively effect construction cost. Proximity of shopping mall may have an impact on construction cost. Cost associated with purchase of commercially zoned land.	Zones 2, 3 and 4 watermains are relatively short. However, connection will have to take place under the busy intersection of Eglinton Avenue and Erin Mills Parkway.	Proximity of a shopping mall and EMS (Credit Valley Hospital) will make traffic control/management challenging during construction. Construction of reservoir and pumping station might be a challenge - additional space needed for staging areas. Connections to existing Zones 2, 3 and 4 watermains will be challenging under busy intersection.	Operation and maintenance of pumping station and reservoir from two locations, about 600 metres apart, is not preferred. Additional energy costs related to pumping operations.	Significant land use impacts. Relatively high construction and energy costs. Potential impact on traffic around shopping mall and EMS. Operation from two different locations – not preferred.
Off Site: Option 3 Located in the City of Mississauga on the southwest corner of Eglinton Avenue and Erin Mills Parkway.	Displacement of land zoned for commercial use. Typical land use impacts which can be mitigated during construction.	Proximity of shopping mall may have an impact on construction cost. Cost associated with purchase of commercially zoned land.	Zones 2, 3 and 4 watermains are relatively short. However, connection will have to take place under the busy intersection of Eglinton Avenue and Erin Mills Parkway.	Connections to existing Zones 2, 3 and 4 watermains will be challenging under busy intersection.	Operation and maintenance of pumping station and reservoir from two locations, about 800 metres apart, is not preferred. Additional energy costs related to pumping operations.	Significant land use impacts. Relatively high construction and energy costs. Potential impact on traffic around shopping mall and EMS. Operation from two different locations – not preferred.
Off Site: Option 4 Located in the City of Mississauga on the southeast corner of Eglinton Avenue and Glen Erin Drive (along west side of the Erin Mills Town Centre).	Displacement of land zoned for commercial use. Typical land use impacts which can be mitigated during construction. Potential impact to businesses.	Almost 1 km of watermain along Glen Erin Drive is required to connect Zone 3. Approximately 700 m of watermain is required along Eglinton Avenue to connect new reservoir and pumping station to Zones 2 and 4. Cost associated with purchase of commercially zoned land.	Additional watermains are required to connect proposed location to existing watermains.	Proximity of a shopping mall will make traffic control/management challenging during construction. Connections to Zones 2 and 4 will probably take place under the intersection of Eglinton Avenue and Erin Mills Parkway. Connection to Zone 3 will take place approximately 1 km North of proposed site.	Operation and maintenance of pumping station and reservoir from two locations, about 1 km apart, is not preferred. Additional energy costs related to pumping operations.	Significant land use impacts. Relatively high construction and energy costs. Potential impact on traffic around shopping mall. Operation from two different locations – not preferred.





Rationale for Selecting On Site Option (Presented at Public Open House #1)

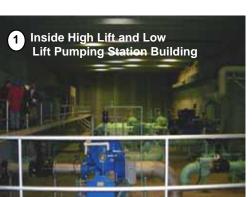
- Least land use impacts and opportunity to improve aesthetics (e.g. permanent lighting currently being installed in leash free park);
- Lowest construction and energy cost;
- Does not require the purchase of land;
- Maximizes the use of existing infrastructure;
- Significantly avoids impact to traffic; and
- Easiest to construct and operate.





Existing Streetsville Pumping Station and Reservoir Facility Site Layout (Presented at Public Open House #1)



















Municipal Class Environmental Assessment for the Streetsville Pumping Station and Reservoir Capacity Increase

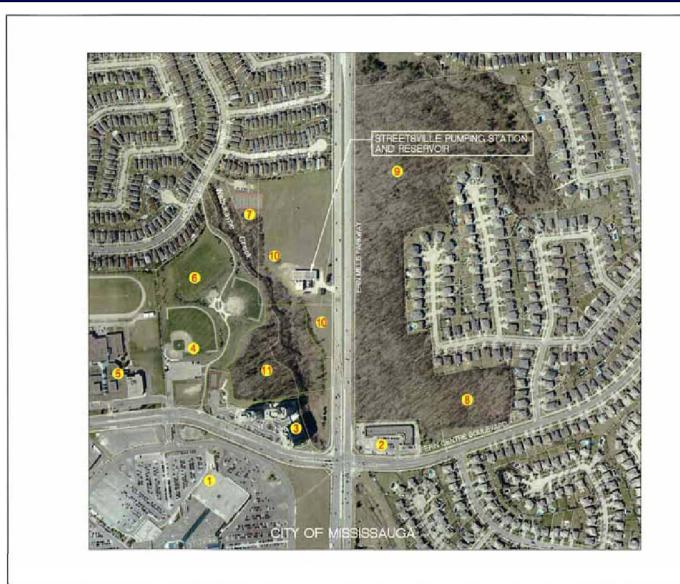


6 Leash-Free Mississauga

7 City of Mississauga

Dog Walk Park

Study Area Surrounding Land Use (Presented at Public Open House #1)



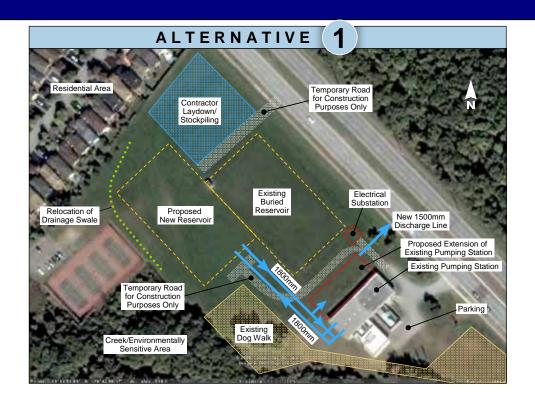








Identification of Alternative Design Concepts – On Site



PROS

- Concentrate all pumps in one area
- Minimizes construction area
- · Minimizes the site works
- Leaves the north area free for future development
- Consolidate all stand-by power generation in one part of the site
- Allowance made for future pumps installation
- Minimize capital cost by taking advantage of existing infrastructure

CONS

- Would require another access from Erin Mills Parkway
- · Relocate the drainage swale
- Construction laydown area close to residential area

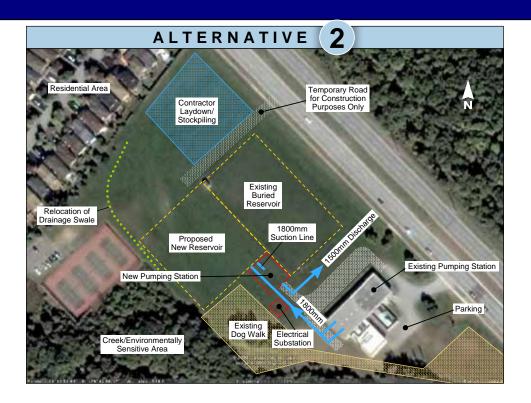
CONSTRUCTION SEQUENCE

- Construct temporary roads
- · Install construction barriers
- Construct extension of pumping station
- Relocate existing drainage swale
- · Construct new reservoir
- · Construct electrical Substation
- Install temporary transformers and upgrade existing substation





Identification of Alternative Design Concepts – On Site



PROS

- New facilities are far away from residential neighbourhood
- Wider reservoir allows for future development north of reservoirs
- Concentrates the pumping facilities on one part of the site
- Minimizes the yard piping
- Minimizes the length of cables from substations to the pumping facilities
- New pumping station located away from Erin Mills Parkway

CONS

- Relocation of drainage swale
- Contractor laydown close to the residential area (noise during construction)
- Would require another access from Erin Mills Road
- Restricted access to dog walk from tennis courts
- Hydraulically not matching existing
- More rock excavation
- Pumps located in two different buildings (operation constraint)

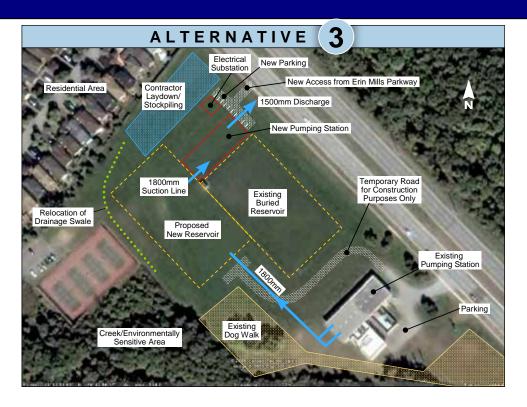
CONSTRUCTION SEQUENCE

- Construct temporary access roads
- · Install construction barriers
- Relocate existing drainage swale
- Construct new facilities
- Install temporary transformers and upgrade existing substation





Identification of Alternative Design Concepts – On Site



PROS CONS · Improved access during · Does not allow for future construction reservoir's expansion · All new facilities including new · Minimizes the piping work traffic located close to Allows for future pumps residential area installation · Relocation of the drainage · Long cables between new substation and old pumping station · Limited staging area for construction · Would require another access from Erin Mills Rd.

Construct temporary roads Install construction barriers Construct new reservoir Construct extension of pumping station Relocate existing drainage swale Construct electrical Substation Install temporary transformers and upgrade existing substation





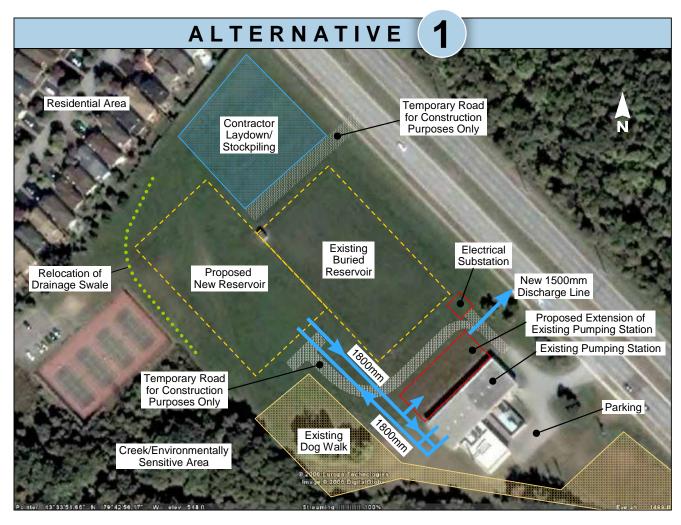
Evaluation of Alternative Design Concepts

	EVALUATION CRITERIA									
	Natural Environment	Social	/Cultural	Economic/ Financial	Legal/ Jurisdictional		т	echnical		Evaluation Summary
Alternative Design Concepts	Potential effect to the environment including: 1) Aquatic 2) Terrestrial	Potential land use impacts including compatibility with surrounding land uses (i.e. residential and recreational).	Temporary disruption during construction (i.e. noise, dust, vibration, traffic management).	Construction and Operating Costs	Approval Requirements	Planned Infrastructure Improvements (impact on future pumps and feedermains)	Reservoir and Pumping Station Functionality and Operations	Constructability – depth of excavation, soil conditions, construction equipment access.	Ability to utilize existing infrastructure, utilities and facilities.	Least Preferred Most preferred
Alternative 1 RECOMMENDED	Relocate the drainage swale and outlet to Wabukyne Creek. Avoids tree removal — maintains buffer. Impacts can be mitigated by following standard construction practices (e.g. erosion control, silt fencing).	Moderate visual impacts due to reservoir and pumping station construction. Implement construction barrier fence during construction and landscaping plan (berm/tress) following construction. Improved architectural features related to reservoir access house/structure (building expansion to include common pitched roof). Visual impact improved from existing conditions.	Reservoir construction is close to residences and tennis courts. New pumping station and electrical substation facilities are located away from residences but close to least-free dog park. Contractor Laydown/Stockpilling is close to the residences. Mitigate by installing construction barrier fencing and following construction protocols (e.g. noise by law).	Concentrates all pumps and standby power into one area - reduces piping. Minimize capital cost by taking advantage of existing infrastructure.	MOE C of A – standard approval. CVC Cut/Fill Regulation and Stormwater Management Plan. Standby power furthest from existing development – fewer approval issues from MOE.	Allowance made for future pump installation. Leaves the north area free for future development of facility.	Concentrates all pumps and standby power into one area – reduces piping. Allows one power transformer to be used.	Need to construct a temporary road for construction purposes. Minimizes construction area. Minimizes site works including depth of excavation and potential for rock removal. Better access to construct new reservoir.	Concentrates all pumps and standby power into one area. New pumping station and reservoir will be connected to existing reservoir and pumping station. Maximizes use of existing infrastructure.	Concentrates all pumps and standby power in one area. Minimizes construction area and site works. Allowance made for future pumps installation. Minimizes capital cost by taking advantage of existing infrastructure. Minimizes site works including depth of excavation and potential for rock removal.
Alternative 2	Relocate the drainage swale and outlet to Wabukyne Creek. Construction works very close to trees. Impacts can be mitigated by following standard construction practices (e.g. erosion control, silt fencing).	Restricted but maintained access to dog walk from tennis courts. Moderate visual impacts due to reservoir and pumping station construction. Implement construction barrier fence during construction and landscaping plan (berm\(\text{tres}\)) following construction. Improved architectural features related to reservoir access house/ structure (building expansion to include common pitched roof). Visual impact improved from existing conditions.	Reservoir construction is further away from residences and close to tennis courts. New pumping station and electrical substation facilities are located away from residences but close to leash-free dog park. Contractor Laydown/Stockpiling is close to the residences. Greater potential for rock removal – deep excavation. Mitigate by installing construction barrier fencing and following construction protocols (e.g., noise by law, preconstruction survey).	Wider and deeper reservoir may add to construction costs. Concentrates the pumping facilities into one area of the site reduces piping. More cost related to deep excavation (rock removal).	MOE C of A – standard approval. CVC Cut/Fill Regulation and Stormwater Management Plan.	Allowance made for future pump installation. Wider reservoir allows for future development of facility north of the reservoirs.	Doesn't match existing hydraulics – deeper reservoir more difficult functionality. Concentrates the pumping facilities into one area of the site. Reduction to length of power cables to substation. Pumps located in two different buildings	Need to construct a temporary road for construction purposes. Minimizes construction area. Deeper excavation.	Concentrates the pumping facilities in one area of the site. Minimizes yard piping. Minimizes the length of cables from substation to the pumping facilities. New pumping station and reservoir will be connected to existing reservoir and pumping station. Does not maximize use of existing infrastructure.	More cost related to deep excavation. Does not maximize existing infrastructure. Doesn't match existing hydraulises – poor function ability. Restricted but maintained access to dog walk from tennis courts. Pumps located in two different buildings (operation constraint). Deeper excavation and greater rock removal.
Alternative 3	Relocate the drainage swale and outlet to Wabukyne Creek. Avoids tree removal — maintains buffer. Impacts can be mitigated by following standard construction practices (e.g. erosion control, silt fencing).	Moderate impacts due to reservoir and pumping station construction. Implement construction barrier fence during construction and landscaping plan (berm/tress) following construction. Improved architectural features related to reservoir access house! structure (building expansion to include common pitched roof). Visual impact improved from existing conditions.	Reservoir construction is close to residences and tennis courts. New pumping station and electrical substation facilities are located close to residences but away from leash-free dog park. Mitigate by installing construction barrier fencing and following construction protocols (e.g. noise by law).	Separation of pumping facilities adds to the operational costs. Construction of new facilities remote from existing improves constructability. Less available working area complicates construction and adds to cost. Construction sequencing requires more planning because new facilities block access to new reservoir.	MOE C of A – standard approval. CVC Cut/Fill Regulation and Stormwater Management Plan. Standby power is closer to residences – more MOE approval issues.	Allowance made for future pump installation. Does not allow for future development of facility. Requires separate access to Erin Mills Parkway. Less available area for stormwater management. Duplication of connections to system from two pumping facilities.	Separation of facilities complicates operation. Duplication of connections to system from two pumping facilities may have some benefit (built in security of supply).	Need to construct a temporary road for construction purposes. Requires new permanent access from Erin Mills Parkway. Improved access during construction. Long cables between new substation and old pumping station. Limited staging area for construction (i.e. contractor laydown/ stockpiling).	Minimizes yard piping. New pumping station and reservoir will be connected to existing reservoir and pumping station. Maximizes use of existing infrastructure.	Does not allow for future reservoir expansion. All new facilities including traffic (parking) located close to residences. Pumps located in two different buildings (operation constraint) Limited staging area for construction. Long cables between new substation and old pumping station.





Preferred Design Concept



- Maximizes existing infrastructure minimizes cost;
- Maintains good access to recreational facilities;
- Minimizes rock removal;
- Minimizes site works and construction area;
- Concentrates all pumps and stand-by power generation in one location; and
- Improved visual aesthetics

 landscaping will buffer future operations.





Overview of Mitigation

Construction:

- Noise / Vibration / Dust / Visual Impact
 - Restrict construction operations to day shift;
 - Adhere to noise by-laws;
 - Dust control by spraying water / street sweeping; and
 - Implement 10' high construction barrier fencing around construction site.
- Stormwater management
 - Ensure proper run off silt control, include daily inspections.
- Contaminated Soils
 - Ensure proper soil disposal;
 - Ensuring proper handling / maintenance of construction equipment; and
 - Prepare and follow contingency plans for control and cleanup should a spill occur.

- Rock Removal
 - Limited to hoe ram no blasting; and
 - Preconstruction survey of adjacent buildings.
- Traffic Management / Access
 - Construction Traffic Management Plan Advanced Notification Signage; and
 - Maintain access to recreational facilities (e.g. tennis courts, Leash-Free Dog Park) maintained at all times.

Operations:

- Generator Set Noise Levels to Comply with Provincial Regulations; and
- Following construction, implement berming and landscaping plan.

Construction Contacts:

 Monthly community project updates including construction project manager contact information.





Possible Visual / Noise / Vibration Construction Barrier (Temporary)









Possible Visual / Noise / Vibration Construction Barrier (Temporary)

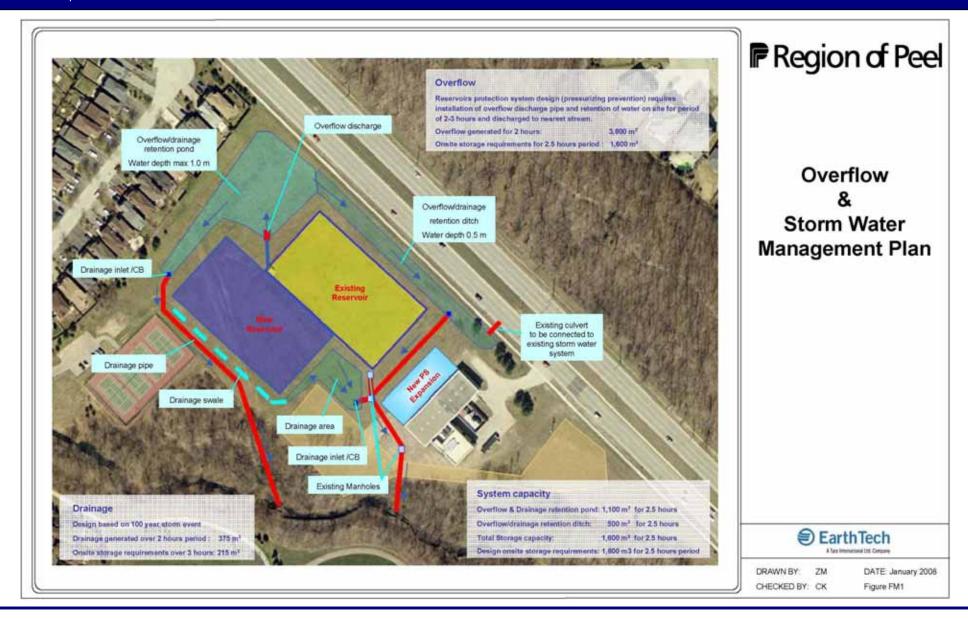








Proposed Stormwater Management: Post Construction









Proposed Landscape Plan: Post Construction









How Can You Provide Input

- All comments collected during the course of this EA will be considered as part of the project's next stages.
- Fill out a comment sheet tonight or send it to either:

Anthony Parente, P. Eng.

Manager, Capital Works, Water Division Environment, Transportation & Planning Services

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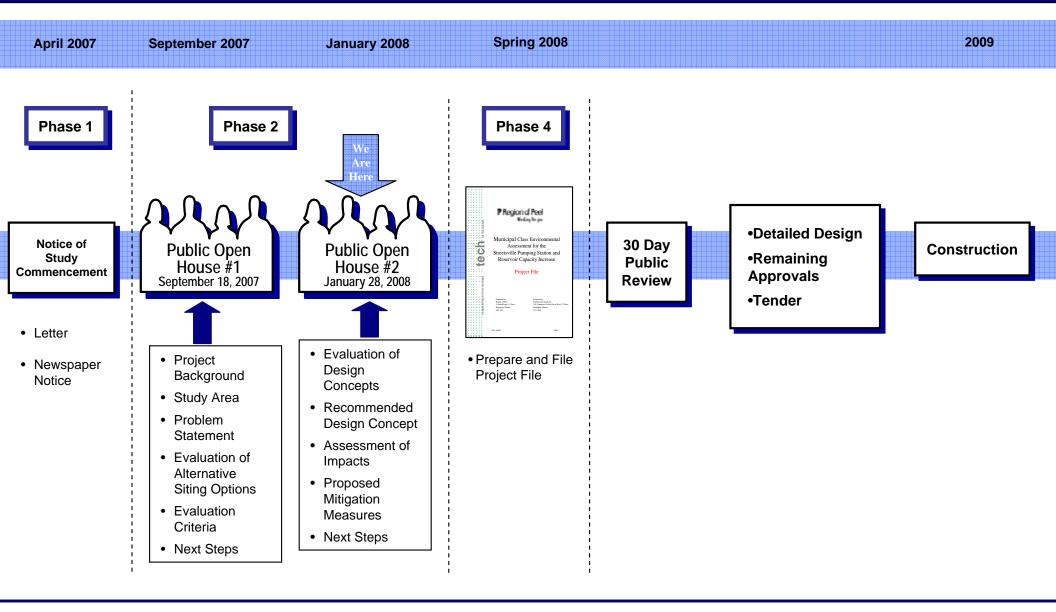
Email: cheda.kopcalic@earthtech.ca

- Visit the project website at: http://www.peelregion.ca/streetsvilleEA
- Ask to be added on the mailing list.





Class EA Planning Project Timeframe

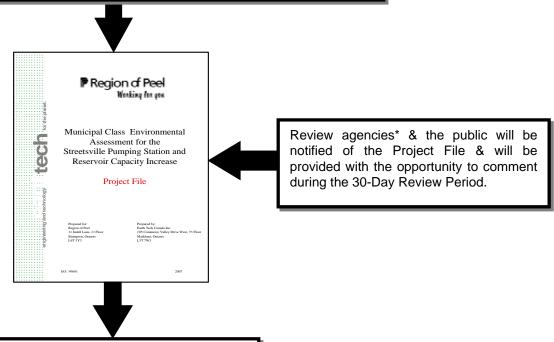






Next Steps

Following this Open House, comments from review agencies* & the public will be considered in the selection of the design concept and mitigative measures. Any outstanding issues will be addressed through the design of the project and prior to completion of this study.



Upon completion of the mandatory public review period (30 day duration) the Project File will be finalized & subject to comments, the project may proceed to detailed design & construction.

* Review agencies include Provincial Ministries (e.g. Environment, Natural Resources, Culture), Credit Valley Conservation, local Municipal and Regional departments, utilities (e.g. hydro, gas, Bell etc.).



