Public Information Centre No. 1

City of Timmins

Schedule 'B'

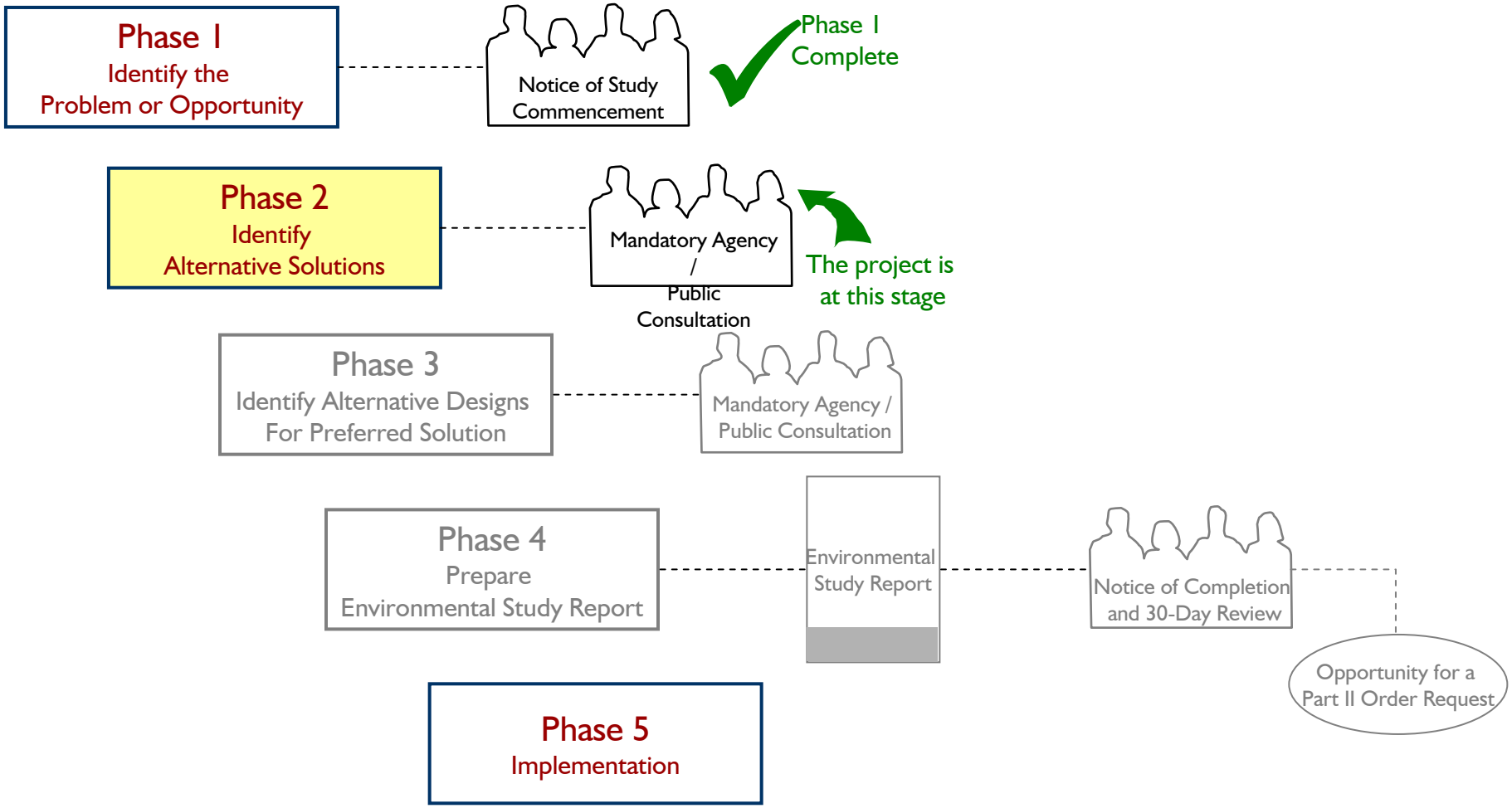
Class Environmental Assessment for the

WHITNEY TISDALE SANITARY SYSTEM UPGRADES

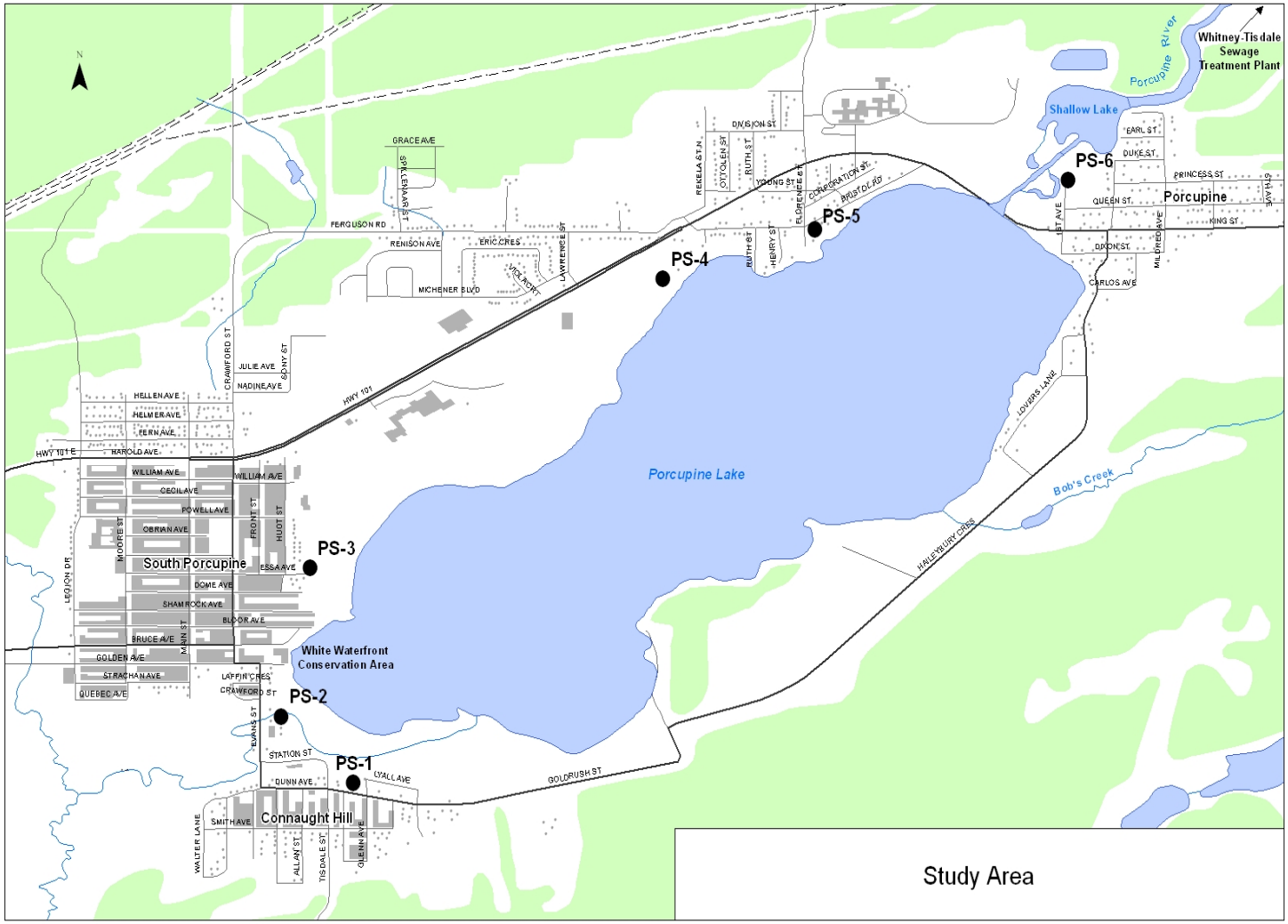
Welcome - Please Sign In

Class EA Process & Public Consultation

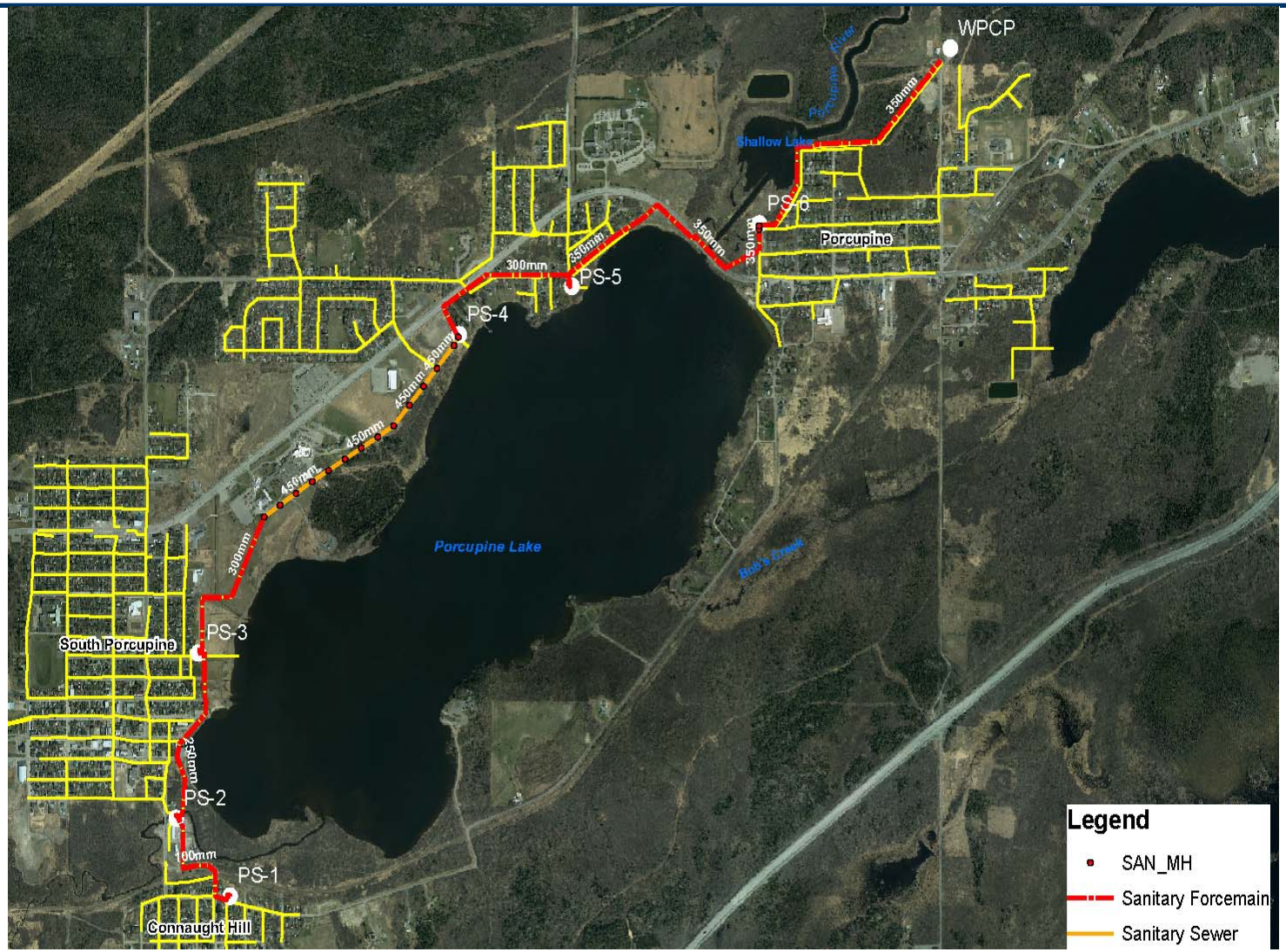
A Schedule 'B' Class EA requires Phases 1 and 2 to be completed prior to proceeding to implementation.



Study Area


Whitney-Tisdale Sewage Treatment Plant
Porcupine River
Shallow Lake
Porcupine
Porcupine Lake
South Porcupine
Connaught Hill
White Waterfront Conservation Area
Bob's Creek
PS-1
PS-2
PS-3
PS-4
PS-5
PS-6
Study Area

Whitney Tisdale Sanitary System



Problems and Opportunities

The Problem/Opportunity Statement developed in Phase 1 is:

The City of Timmins owns and operates a communal sanitary collection, pumping and treatment system within the community of Whitney-Tisdale. Under certain precipitation events and Spring melt conditions, the six (6) main pump stations within the system have received flows significantly in excess of their actual capacities which has caused both bypassing to the environment and basement flooding on occasion.

The City has undertaken various studies over the past several years and more recently completed a detailed evaluation of the pump stations in 2011/2012 to evaluate alternatives to address these problems. In addition, the City has implemented interim measures to mitigate risks associated with bypasses and basement flooding, however, a long term solution is required that will effectively manage the hydraulic loading within the system and significantly reduce these risks. The Ministry of Environment (MOE) issued an Order in December 2012 in response to an Action Plan developed by the City that outlines the works and an implementation schedule intended to address the hydraulic capacity problems associated with the pumping system.

Originally installed in the early 1970s, some of the components of the system are nearing the end of their intended service life and there is an opportunity through this project to provide renewal of some of this infrastructure while addressing the hydraulic capacity issues.

Potential Equalization Storage Locations

	Alternative	Viability	Comments
	1 – Do Nothing	No	The Whitney Tisdale Wastewater Treatment Plant (WWTP) does not have adequate capacity for projected flows without some equalization (bypasses would continue without a significant upgrade to the plant which would only be beneficial during periodic wet weather events).
	2 – Equalization Storage at the WWTP	Potentially	Space is limited at the WWTP site. Additional costs are required for upgrades to upstream stations and forcemains.
*	**3 – Equalization Storage at Pump Station 4**	**Yes**	**Various process configurations are available. Construction of a screening process and a new pump station may mitigate constructability issues.**
	4 – Equalization Storage at Pump Station 3	Potentially	Space constraints and geotechnical challenges could result in increased costs associated with a buried tank option. Impacts to adjacent park land is likely.
	5 – Equalization Storage at Other Pump Stations	No	Space is limited at the other sites. Equalization storage becomes less effective further upstream.

*** Preferred Alternative**

Preferred Alternative

The preferred alternative includes the following upgrades:

- Reduce inflow and infiltration into the collection system.
- Eliminate gravity overflow from the Pump Station 1 sewershed to the Pump Station 2 sewershed.
- Replace and extend the forcemain from Pump Station 3 to Pump Station 4.
- Refurbish existing pump station building envelopes as required.
- Construct a 6000 m^3 to 8000 m^3 capacity equalization storage facility at the Pump Station 4 site.
- Replace sewage pumps, some piping and electrical systems at all pump stations. Proposed capacities are as follows:
  - Pump Station 1: 12 L/s
  - Pump Station 2: 87 L/s
  - Pump Station 3: 165 L/s
  - Pump Station 4: 100 L/s
  - Pump Station 5: 170 L/s
  - Pump Station 6: 230 L/s

Equalization Storage at Pump Station 4
Conceptual Layout

PUBLIC INFORMATION CENTRE No. 1
Schedule 'B' Class Environmental Assessment
Whitney Tisdale Sanitary System Upgrades

J.L.Richards
ENGINEERS · ARCHITECTS · PLANNERS

Opinion of Probable Costs

Proposed Upgrades	PS No. 1	PS No. 2	PS No. 3	PS No. 4	PS No. 5	PS No. 6
Wet Well and Building Enclosure	-	$50,000	$50,000	$700,000	-	-
Site Work and Yard Piping	-	-	-	$200,000	-	-
Mech. Bar Screen	-	-	-	$300,000	-	-
Forcemain[1]	-	-	$700,000	-	-	-
Equalization Storage[2]	-	-	-	$2,500,000	-	-
Remove Sewer Connection	$50,000	-	-	-	-	-
Pumps	$20,000	$80,000	$125,000	$150,000	$125,000	$250,000
Process Piping and Valves	-	$150,000	$200,000	$200,000	$200,000	$300,000
Standby Power	-	$60,000	$100,000	$100,000	$100,000	$125,000
Electrical, Instrumentation and Controls	$110,000	$450,000	$500,000	$475,000	$500,000	$650,000
Subtotal	$180,000	$790,000	$1,675,000	$4,625,000	$925,000	$1,325,000
10% Contractor O&P	$20,000	$80,000	$170,000	$460,000	$90,000	$130,000
20% Contingency and Market Factors	$40,000	$160,000	$340,000	$930,000	$190,000	$270,000
TOTAL	$240,000	$1,030,000	$2,185,000	$6,015,000	$1,205,000	$1,725,000
Engineering	$1,600,000					
GRAND TOTAL	**$14,000,000**					

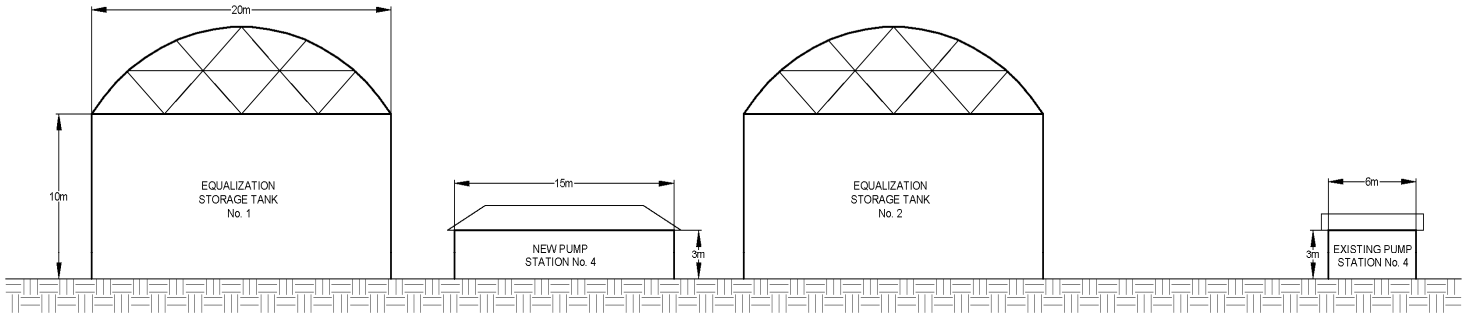
1 – Based on 1,782 m long, 300 mm dia. HDPE forcemain.
2 – Based on two (2) 4,000 m3 capacity, on-grade cylindrical storage tanks.

Proposed Phasing

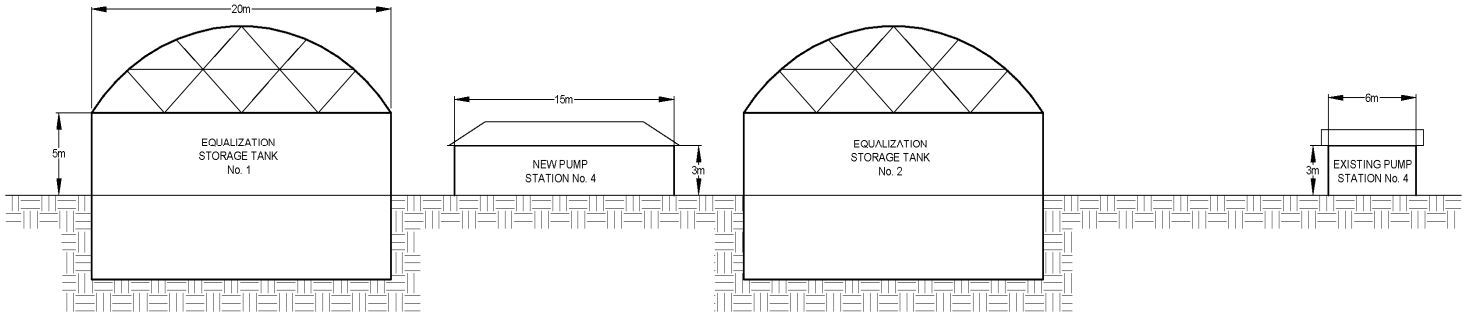
Phase		Opinion of Probable Cost	Estimated Construction Duration (months)	Details
1	PS No. 4 Upgrades and New Equalization Storage Tanks	$6.0M	12 to 18	• Provide sufficient equalization storage to capture excess wet weather sewage flows in order to minimize sewage bypassing. • Remove the existing sanitary sewer connection between PS No. 1 and No. 2 sewersheds.
2	PS No. 3 Upgrades and New Forcemain / Sewer Upgrades	$2.2M	6 to 12	• Construct a new forcemain to address the hydraulic limitation associated with the existing PS No. 3 gravity sewer discharge.
3	PS No. 1 and No. 2 Upgrades	$1.3M	6 to 12	• Upgrade pumping stations where the majority of excess sewage flows is generated. • Provide additional pumping capacity to accommodate future growth in the community.
4	PS No. 5 and No. 6 Upgrades	$2.9M	12 to 18	• Upgrade remaining pumping stations so as to provide additional pumping capacity to accommodate future growth in the community.

Equalization Storage at Pump Station 4
Conceptual Elevations

AT GRADE EQUALIZATION STORAGE CONCEPT



PARTIALLY BELOW GRADE EQUALIZATION STORAGE CONCEPT



THANK YOU

Your Comments are Important to Us

Please complete a comment sheet and place it in the box provided
or mail it to us at the noted address by
September 26, 2013

Your comments will be considered in the Assessment and Evaluation of the Preferred Solution