



## Meeting Outline

1. Introductions
2. Water and Wastewater Service Areas
3. Water and Wastewater Servicing Solutions
- 4a. New Water Infrastructure
- BREAK**
- 4b. New Wastewater Infrastructure
5. Proposed Evaluation Methodology and Criteria for Assessing Alternative Sites/Routes
6. Public Consultation Centre No. 1
7. Project Status and Schedule
8. Next Steps and Future Meetings
9. Homework, Additional Questions and Discussion



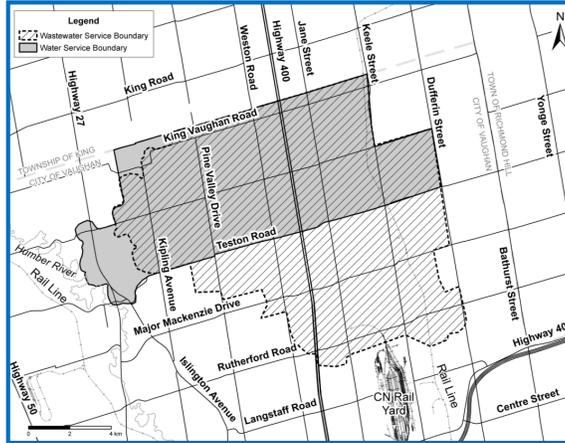
## 1. Introductions



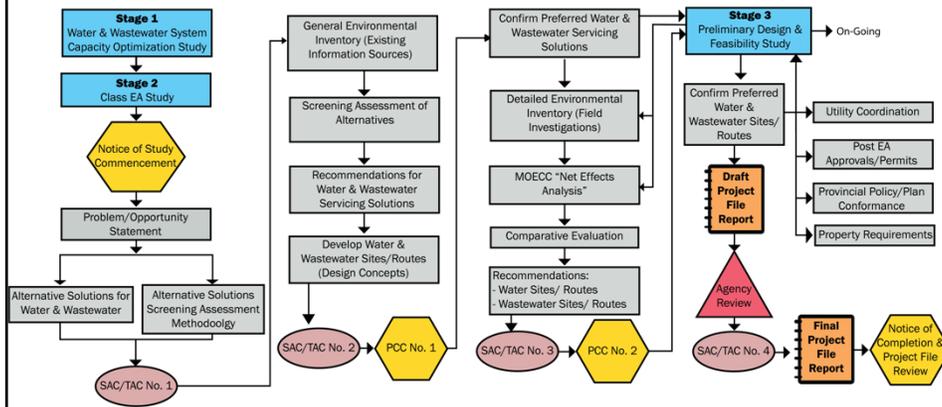
# SAC Meeting No. 1 Recap

## Project Purpose:

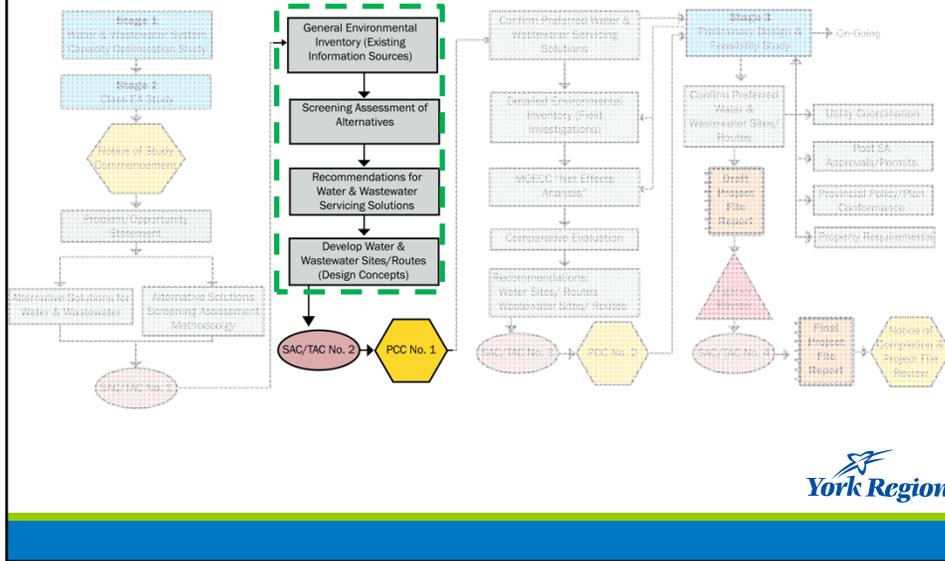
To identify the water and wastewater infrastructure needed to service anticipated growth in northeast Vaughan to 2051



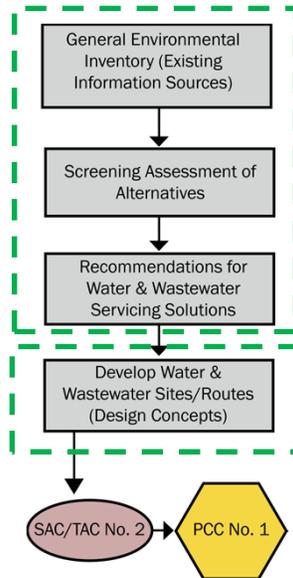
# Project Road Map



# Project Road Map



# Project Road Map



## Homework Review



Study Area  
Considerations

Filling Vacant  
Memberships

Action Items from  
SAC Meeting No. 1

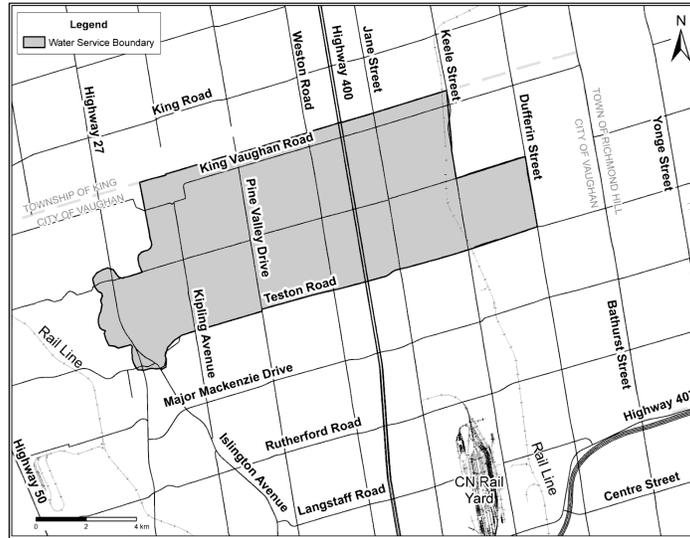
Images from NounProject.com



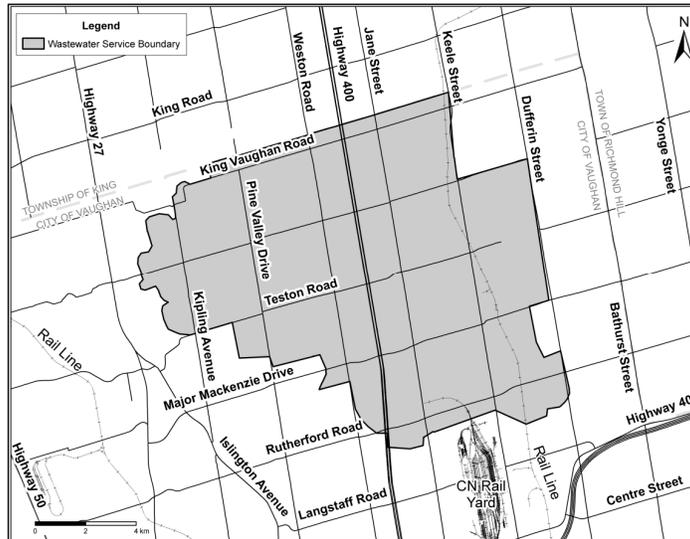
## 2. Water and Wastewater Service Areas



# Water Service Area



# Wastewater Service Area



# 3. Water and Wastewater Servicing Solutions

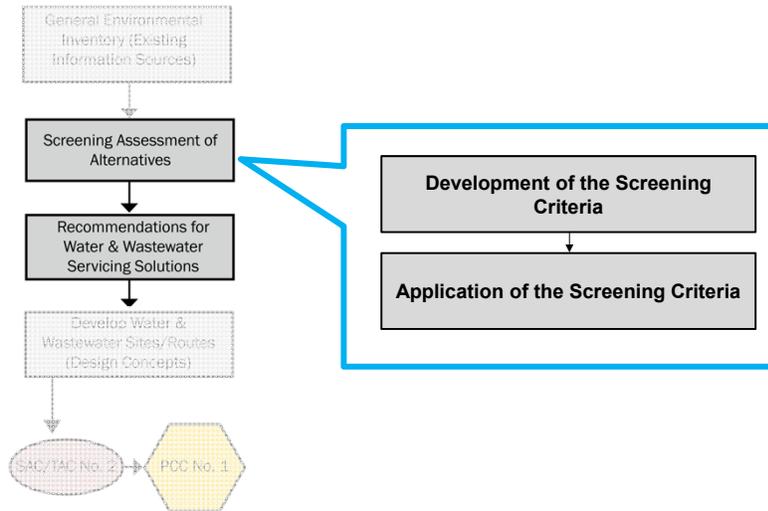


## Alternative Solutions Considered

	Water Alternatives	Wastewater Alternatives
	Do Nothing	Do Nothing
	Optimize Existing Water System Performance	Optimize Existing Wastewater System Performance
	Upgrade and/or Expand Existing Water Infrastructure	Upgrade and/or Expand Existing Wastewater Infrastructure
	Construct New Water Infrastructure	Construct New Wastewater Infrastructure



## Choosing a Preferred Solution



## Screening Criteria for the Alternatives

Problem / Opportunity Statement	1	Can the alternative satisfy the problem/opportunity statement?
<b>Provincial Growth, Environmental Policies and Legislation</b>	2	Is the alternative able to meet the purpose of the Environmental Assessment Act?
	3	Is the alternative consistent with the Provincial Policy Statement?
	4	Is the alternative consistent with the Growth Plan for the Greater Golden Horseshoe?
	5	Is the alternative consistent with the Greenbelt Plan?
	6	Is the alternative consistent with the Oak Ridges Moraine Conservation Plan?
	<b>Regional / Municipal Plans, Strategies and Programs</b>	7
8		Is the alternative consistent with York Region's 2009 Water and Wastewater Master Plan Update?
9		Is the alternative consistent with York Region's Sustainability Strategy for Water and Wastewater Servicing (2008)?
10		Is the alternative consistent with the City of Vaughan's 2014 Water and Wastewater Master Plan?
<b>Proven Technology / Technical Feasibility</b>	11	Does the alternative represent proven technology?
	12	Is the alternative constructible?
<b>Financial Viability / Ability to Implement</b>	13	Is the alternative financially viable?
	14	Is the alternative within the ability of York Region to implement?



## Screening Assessment Results - Water

	Alternative No. 1: Do Nothing	Alternative No. 2: Optimize Existing Water System Performance	Alternative No. 3: Upgrade and/or Expand Existing Water Infrastructure	Alternative No. 4: Construct New Water Infrastructure
Problem / Opportunity Statement	✘	✔/✘	✔/✘	✔
Provincial Growth, Environmental Policies and Legislation	✘	✔/✘	✔/✘	✔
Regional / Municipal Plans, Strategies and Programs	✘	✔/✘	✔/✘	✔
Proven Technology / Technical Feasibility	N/A	✔	✔	✔
Financial Viability / Ability to Implement	✔	✔	✔	✔



## Screening Assessment Results - Wastewater

	Alternative No. 1: Do Nothing	Alternative No. 2: Optimize Existing Wastewater System Performance	Alternative No. 3: Upgrade and/or Expand Existing Wastewater Infrastructure	Alternative No. 4: Construct New Wastewater Infrastructure
Problem / Opportunity Statement	✘	✔/✘	✔/✘	✔
Provincial Growth, Environmental Policies and Legislation	✘	✔/✘	✔/✘	✔
Regional / Municipal Plans, Strategies and Programs	✘	✔/✘	✔/✘	✔
Proven Technology / Technical Feasibility	N/A	✔	✔	✔
Financial Viability / Ability to Implement	✔	✔	✔	✔



# Recommended Water and Wastewater Solutions

Alternative 2:  
Optimization

+

Alternative 3: Upgrades/  
Enhancements

+

Alternative 4: Construct  
New Infrastructure



# Recommended Water and Wastewater Solutions

Alternative 2:  
Optimization

+

Alternative 3: Upgrades/  
Enhancements

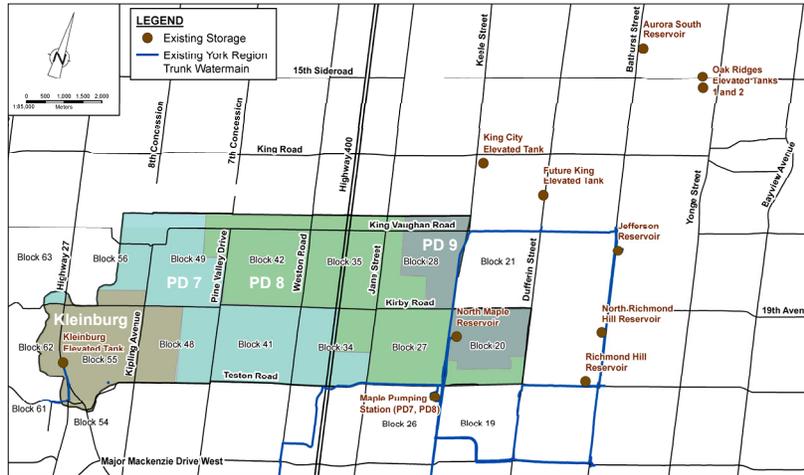
+

Alternative 4: Construct  
New Infrastructure





## Alternative 2 - Water Optimization

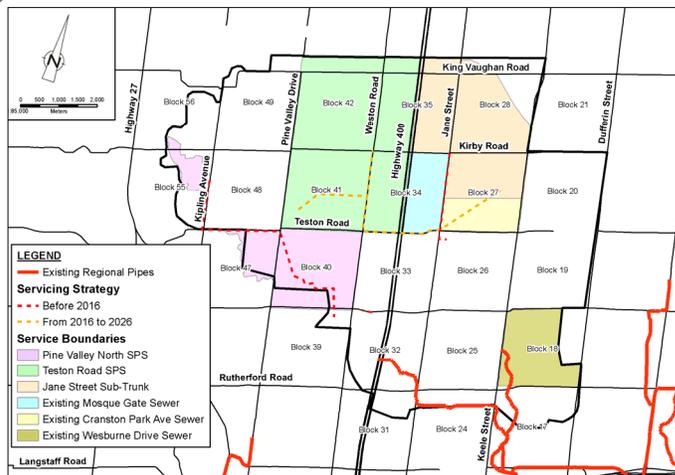


PD = Pressure District

Adjust operational controls in the system to allow for interim pumping of additional storage.



## Alternative 2 - Wastewater Optimization



**LEGEND**

- Existing Regional Pipes
- Servicing Strategy**
  - Before 2016
  - From 2016 to 2026
- Service Boundaries**
  - Pine Valley North SPS
  - Teston Road SPS
  - Jane Street Sub-Trunk
  - Existing Mosque Gate Sewer
  - Existing Cranston Park Ave Sewer
  - Existing Wesburne Drive Sewer

There are no optimization opportunities in the Regional sewage system. However, there may be opportunities for optimization in the local infrastructure.



# Recommended Water and Wastewater Solutions

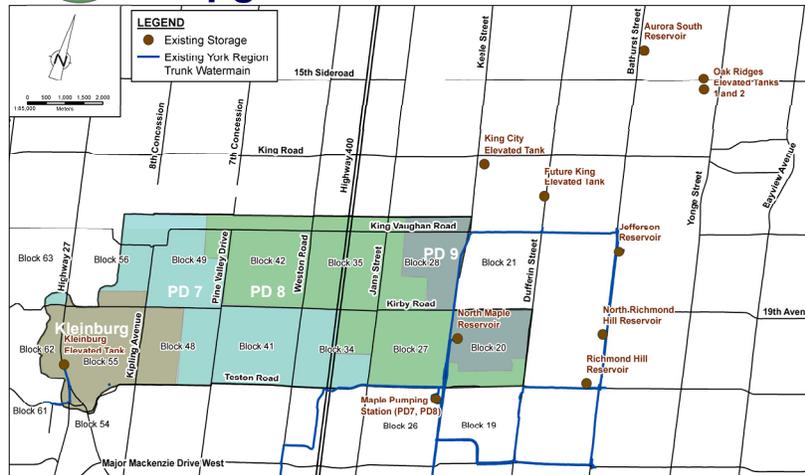
Alternative 2:  
Optimization

Alternative 3: Upgrades/  
Enhancements

Alternative 4: Construct  
New Infrastructure



## Alternative 3 - Water Upgrades/ Enhancements

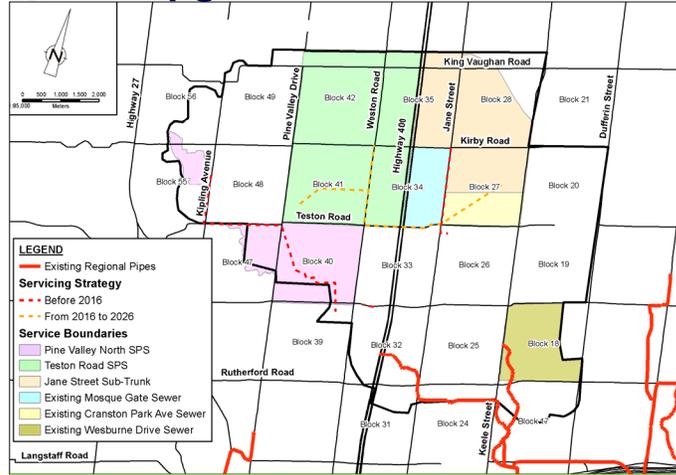


Minor facility upgrades and advancement of new pump at Maple PS may be possible.





## Alternative 3 - Wastewater Upgrades/ Enhancements



There are no upgrade/enhancement opportunities in the Regional sewage system. However, there may be opportunities for upgrades/enhancements to the local infrastructure.



## 4a. New Water Infrastructure



## Recommended Water and Wastewater Solutions

Alternative 2:  
Optimization



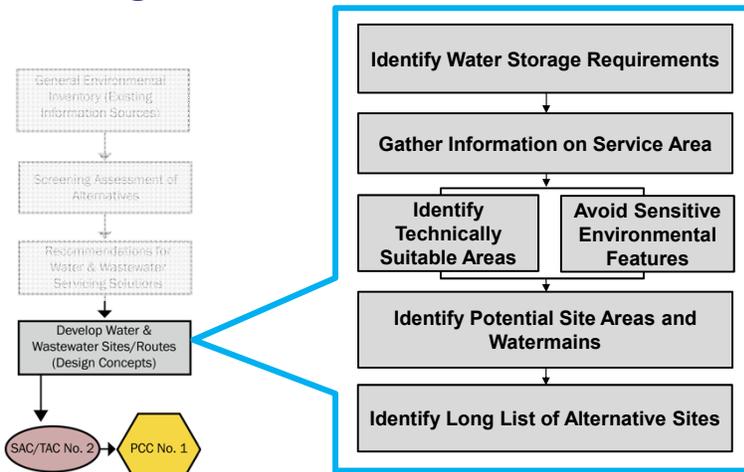
+ Alternative 3: Upgrades/  
Enhancements

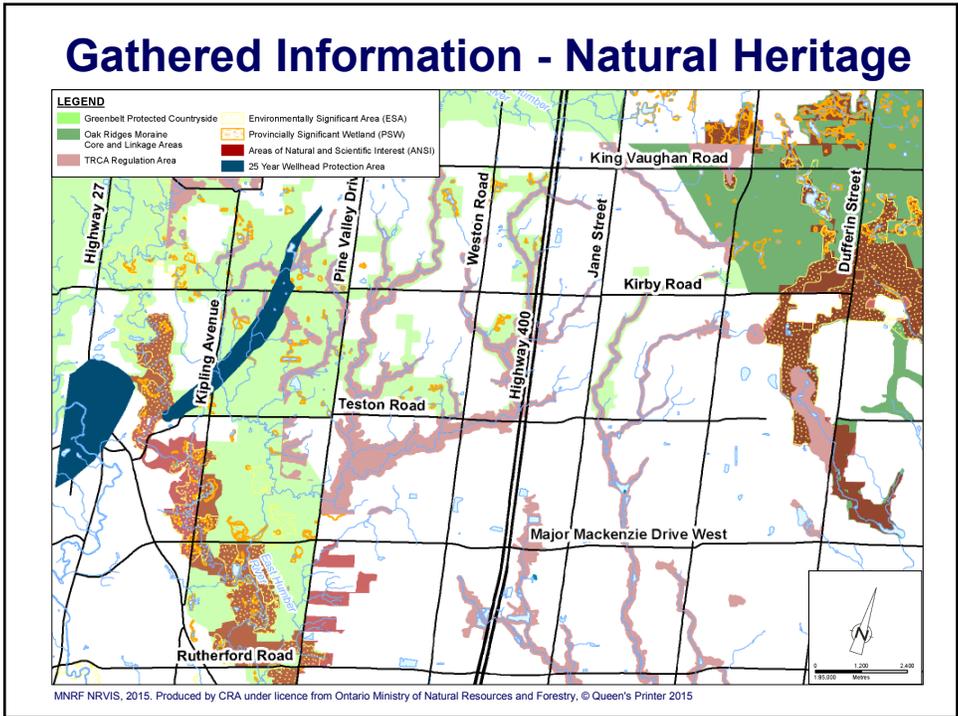
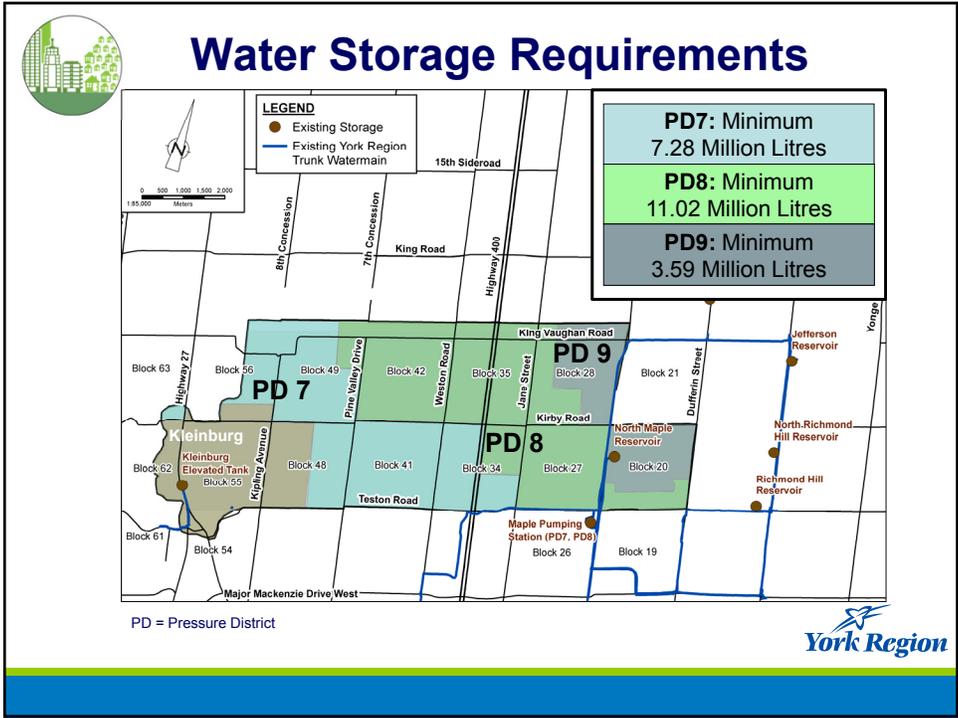


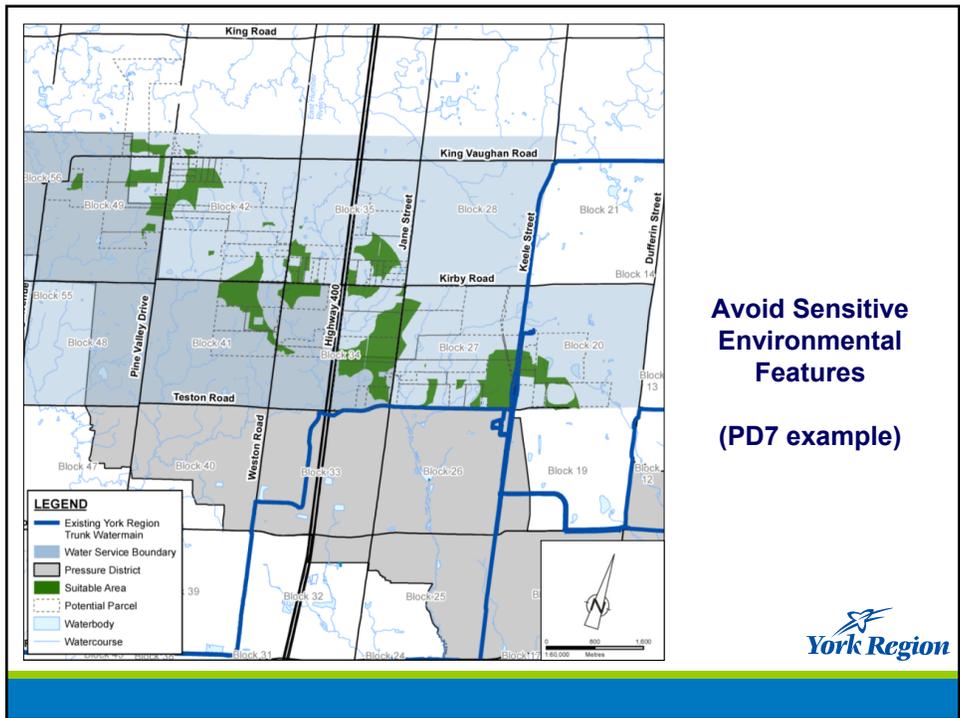
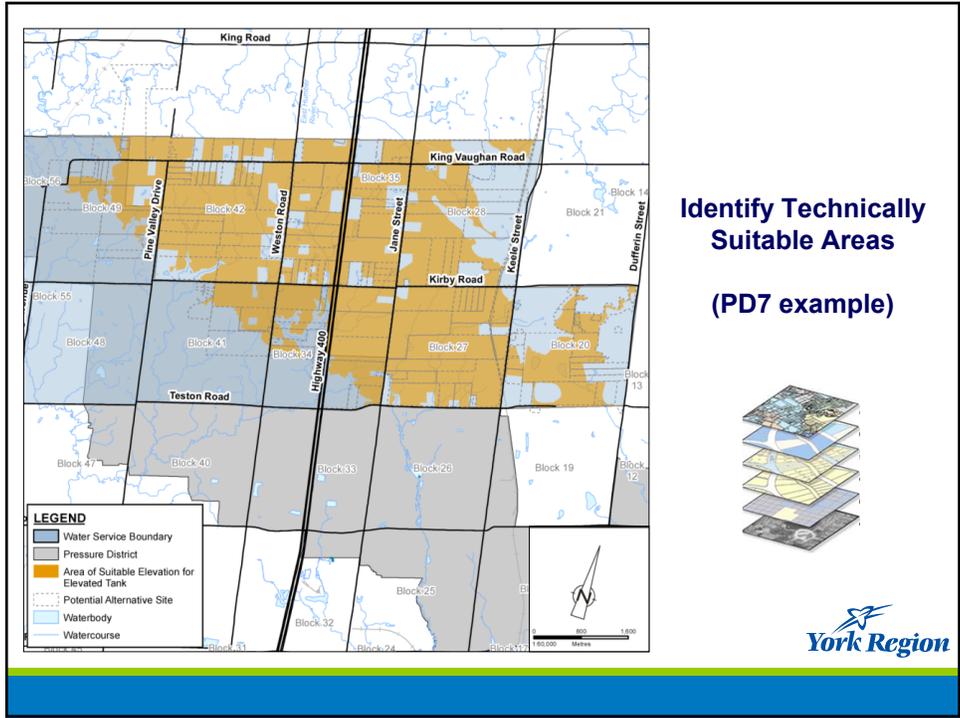
+ Alternative 4: Construct  
New Infrastructure



## Approach for Developing Water Storage Sites and Watermain Routes







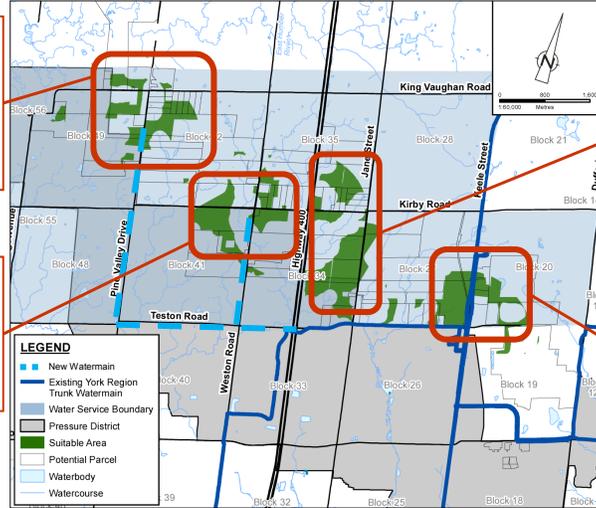
## Pressure District 7 – Potential Site Areas

### Area 1

Requires 4 kilometres (km) of new watermain to connect to existing 600mm watermain on Teston Road

### Area 2

Requires 2km of new watermain to connect to existing 600mm watermain on Teston Road



### Area 3

Requires 0.5km of new watermain to connect to existing 900mm watermain on Teston Road

### Area 4

Requires less than 0.1km of new watermain to connect to existing 900mm on Keele, (connect to North Maple Reservoir)



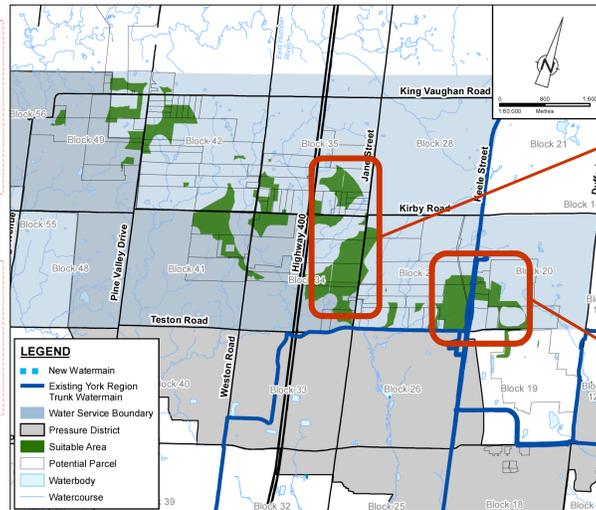
## Pressure District 7 – Long List of Alternative Sites

### Area 1

Requires 4 kilometres (km) of new watermain to connect to existing 600mm watermain on Teston Road

### Area 2

Requires 2km of new watermain to connect to existing 600mm watermain on Teston Road



### Area 3

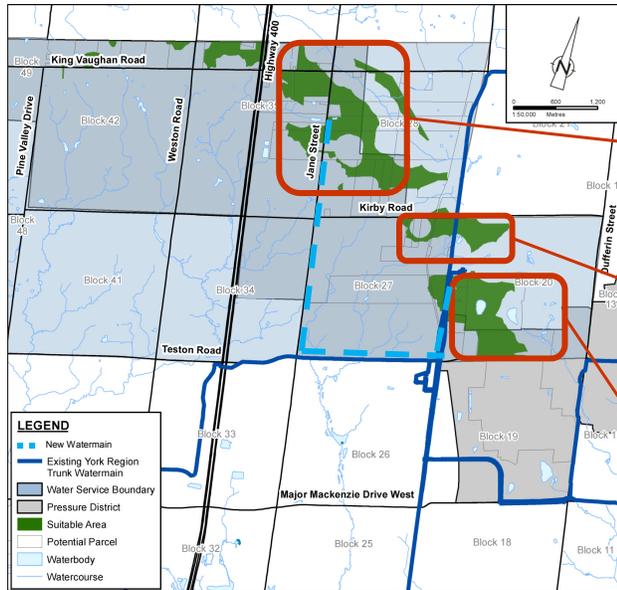
Requires 0.5km of new watermain to connect to existing 900mm watermain on Teston Road

### Area 4

Requires less than 0.1km of new watermain to connect to existing 900mm on Keele, (connect to North Maple Reservoir)



## Pressure District 8 – Potential Site Areas



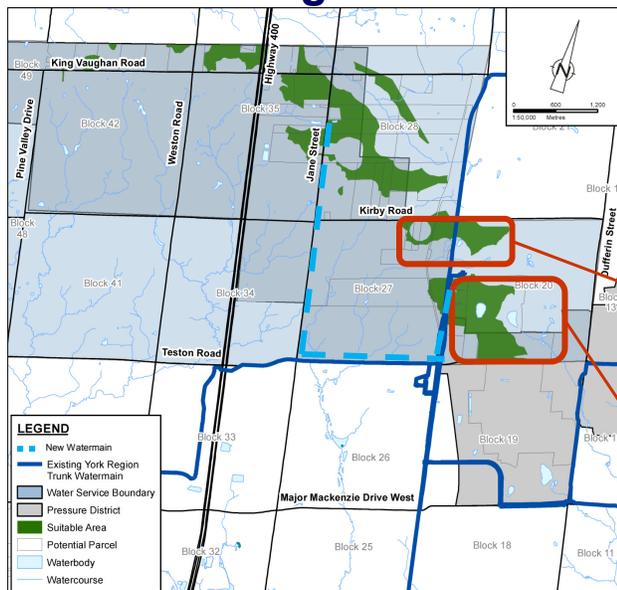
**Area 1**  
Requires 6 kilometres (km) of new watermain to connect to Existing Maple Pumping Station

**Area 2**  
Requires 2km of new watermain to connect to existing Maple Pumping Station

**Area 3**  
Requires 1.3km of new watermain to connect to existing Maple Pumping Station



## PD8 – Long List of Alternative Sites



**Area 1**  
Requires 6 kilometres (km) of new watermain to connect to Existing Maple Pumping Station

**Area 2**  
Requires 2km of new watermain to connect to existing Maple Pumping Station

**Area 3**  
Requires 1.3km of new watermain to connect to existing Maple Pumping Station



## Pressure District 9 – Potential Site Areas

### Area 1

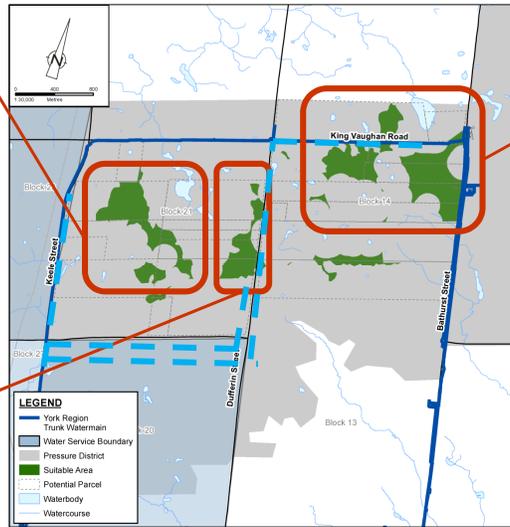
Requires 2km of new watermain to connect to existing North Maple Reservoir (New Pumping Station Required)

### Area 2

Requires 4km of new watermain to connect to existing North Maple Reservoir (New Pumping Station Required)

### Area 3

Requires 7.5km of new watermain to connect to existing North Maple Reservoir (New Pumping Station Required)



## PD9 – Long List of Alternative Sites

### Area 1

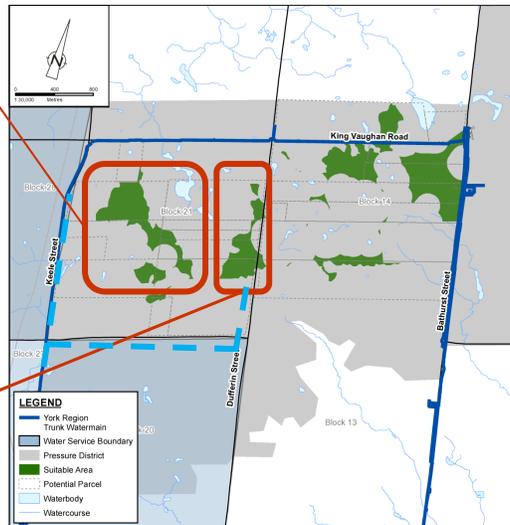
Requires 2km of new watermain to connect to existing North Maple Reservoir (New Pumping Station Required)

### Area 2

Requires 4km of new watermain to connect to existing North Maple Reservoir (New Pumping Station Required)

### Area 3

Requires 7.5km of new watermain to connect to existing North Maple Reservoir (New Pumping Station Required)



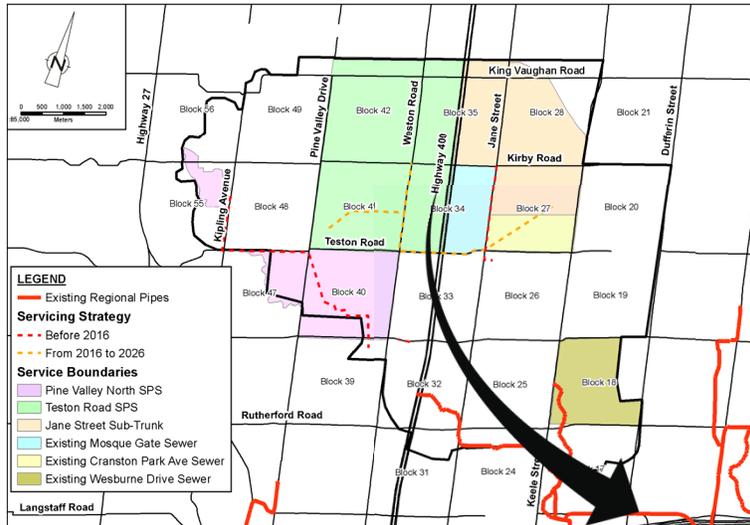
***BREAK***



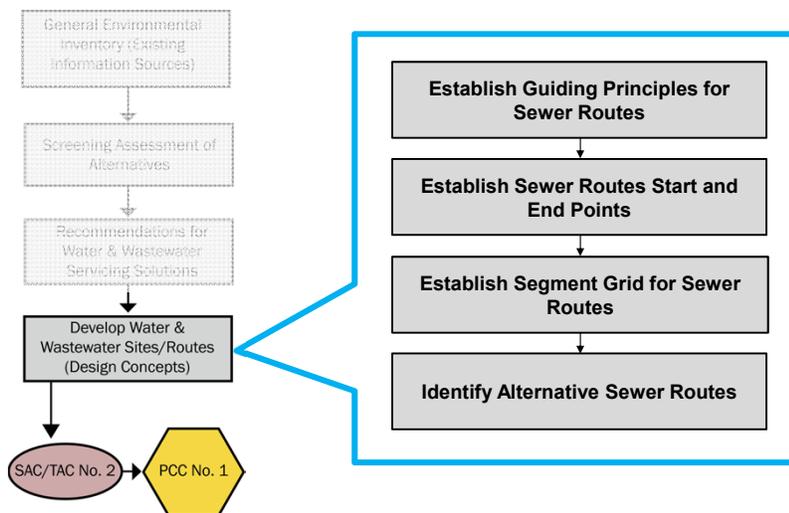
**4b. New Wastewater Infrastructure**



## New Wastewater Infrastructure



## Approach for Developing Sewer Routes

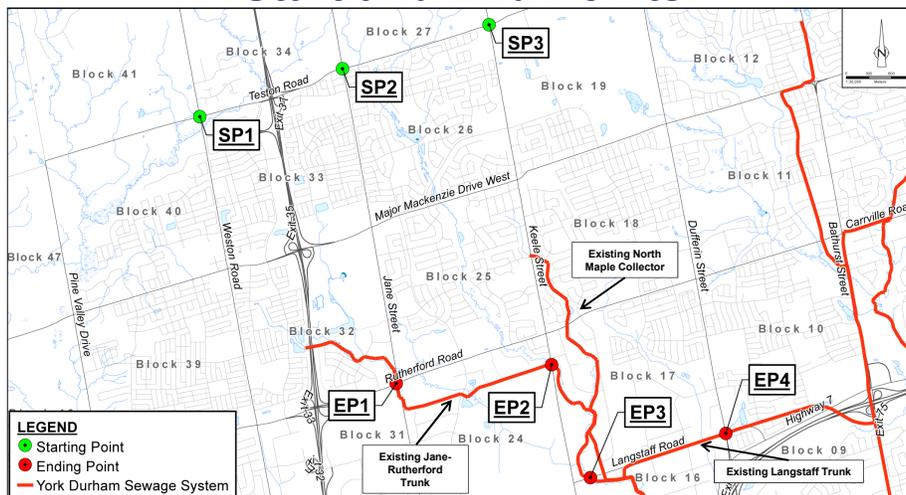


## Guiding Principles for Developing Sewer Routes

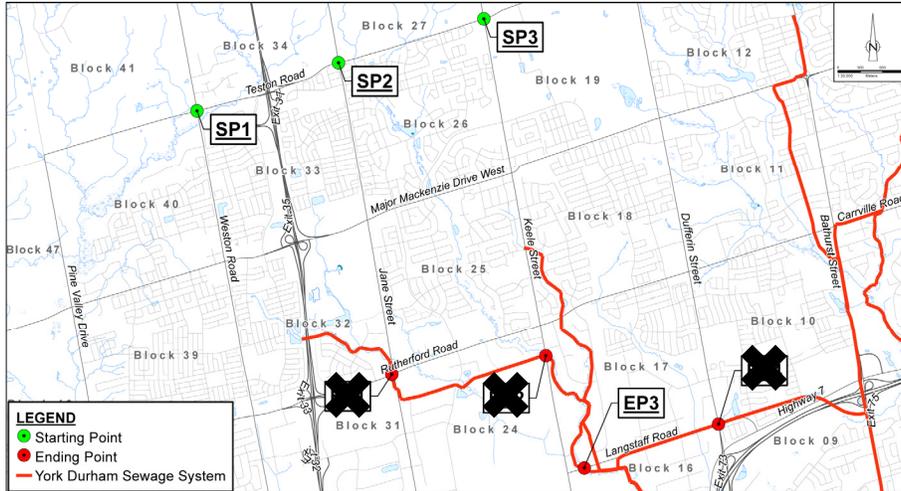
<b>Principle 1</b>	Gravity based sewer system
<b>Principle 2</b>	Sewage flow will be from northwest to southeast direction
<b>Principle 3</b>	Starting point for conveying sewage flow on Teston Road
<b>Principle 4</b>	Connection into York Durham Sewage System (YDSS) at first available point with sufficient downstream capacity to service approved growth to 2051 or beyond



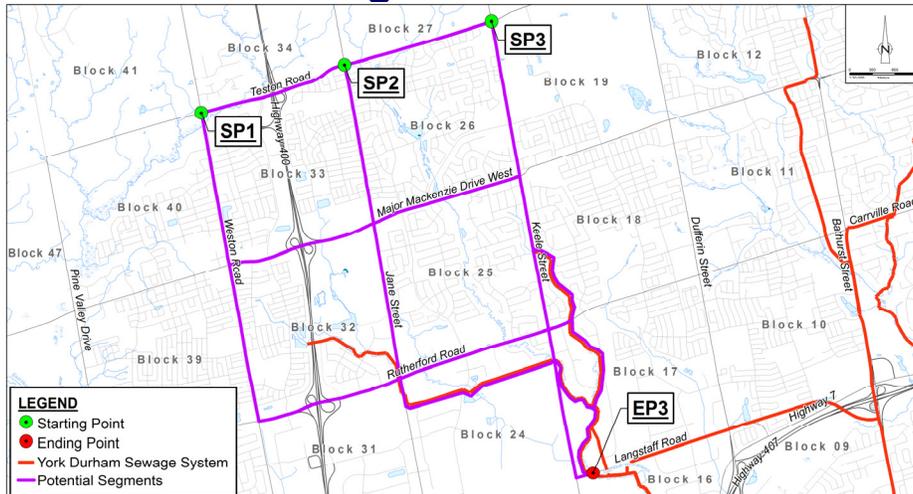
## Developing Sewer Routes - Start and End Points



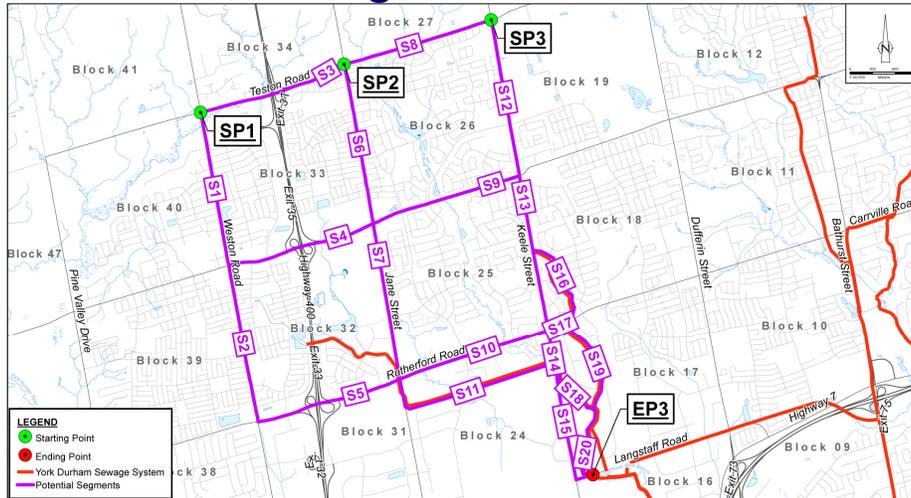
## Developing Sewer Routes – Eliminated End Points



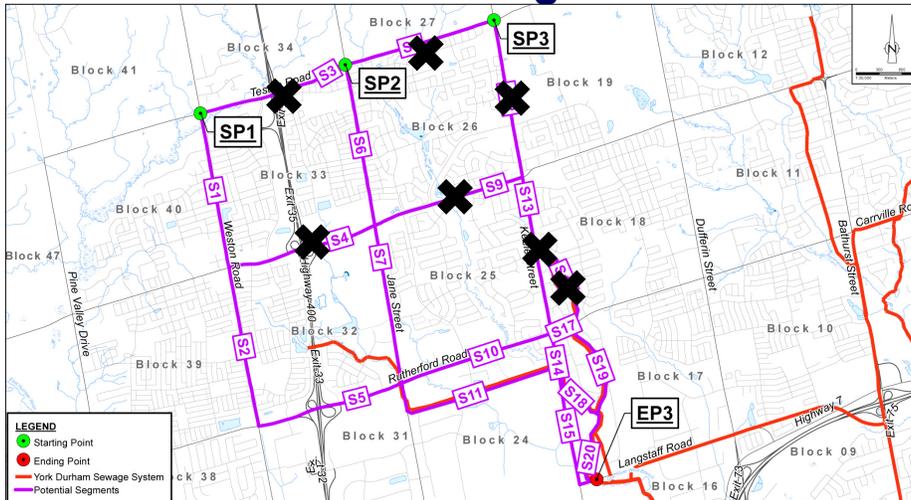
## Developing Sewer Routes – Segment Grid



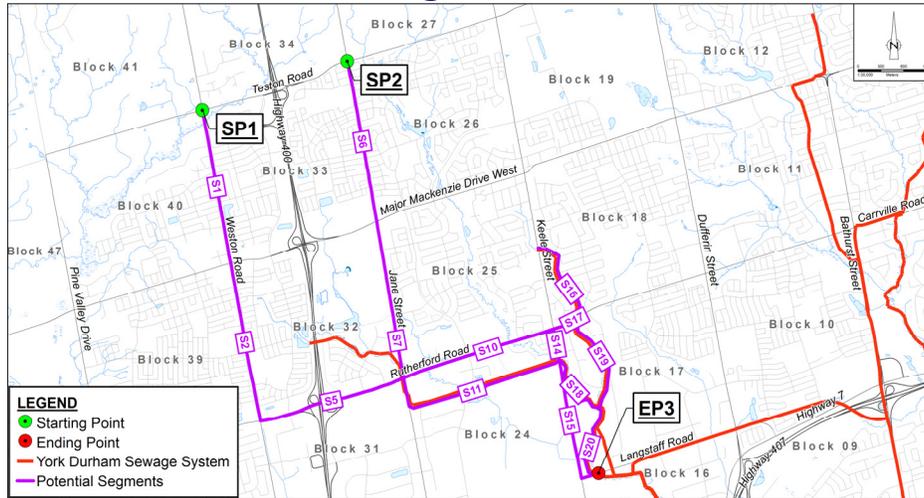
## Developing Sewer Routes – Segment Grid



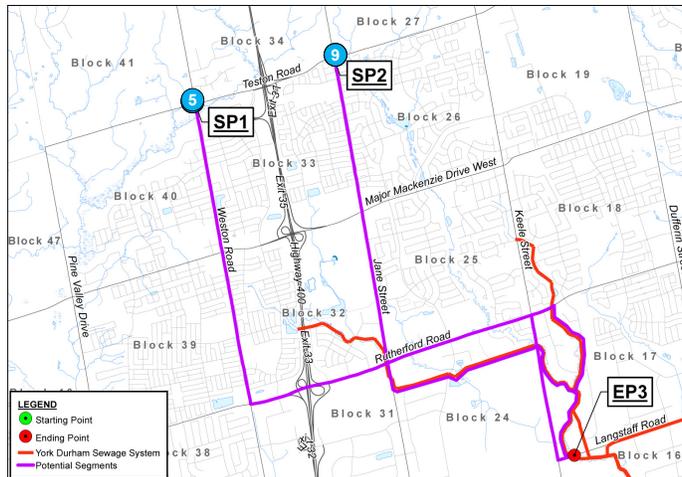
## Developing Sewer Routes – Eliminated Segments



## Developing Sewer Routes – Segments



## Ten Alternative Sewer Routes



- Route 1
- Route 2
- Route 3
- Route 4
- Route 5
- Route 6
- Route 7
- Route 8
- Route 9
- Route 10

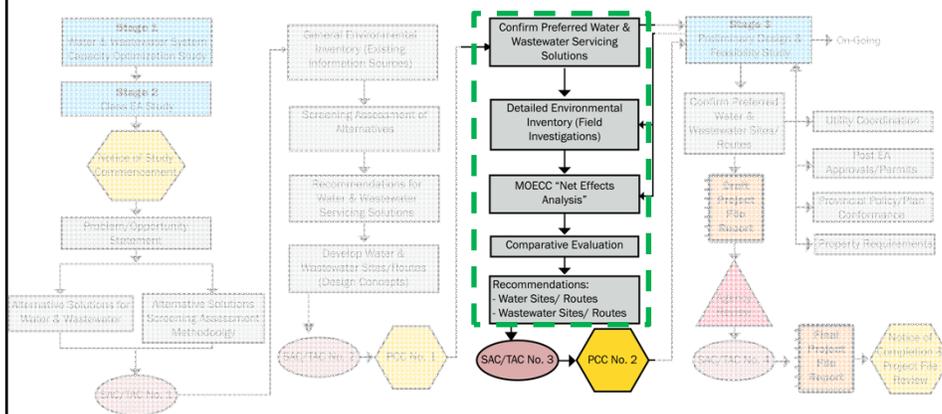
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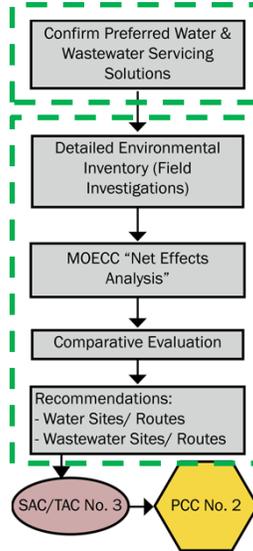
## 5. Proposed Evaluation Methodology and Criteria for Assessing Alternative Sites/Routes



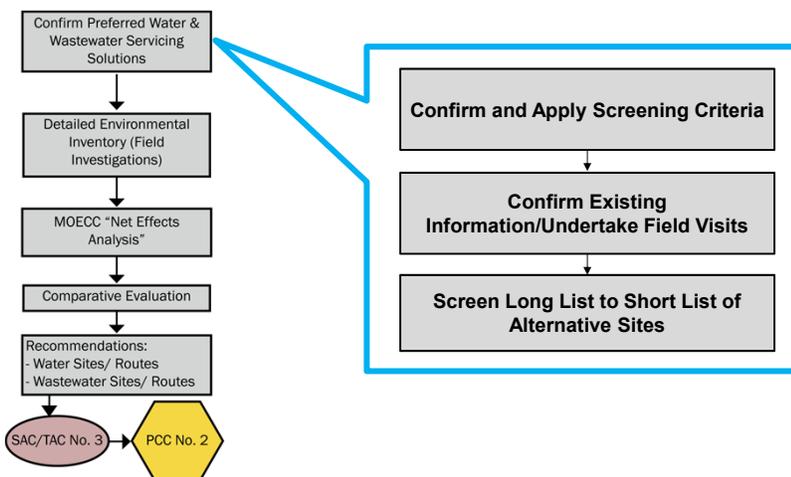
### Project Road Map



## Project Road Map

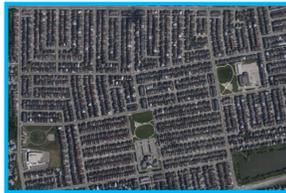


## Identification of Recommended Water Storage Sites and Watermain Routes



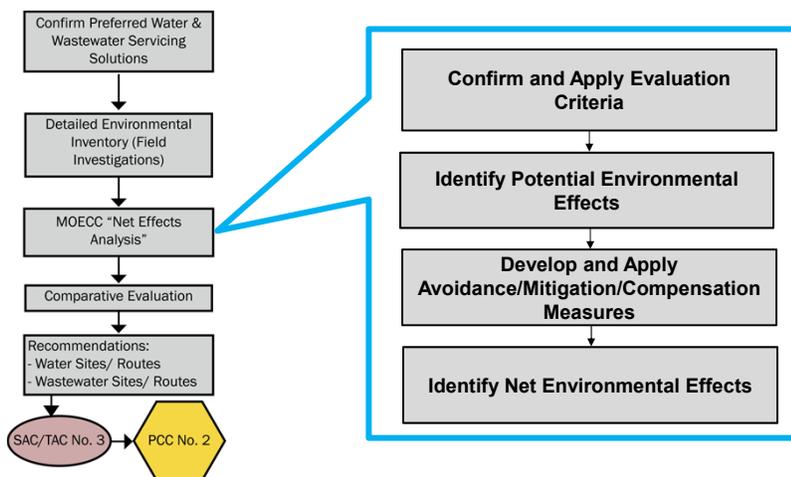
## Preliminary Screening Criteria for Water Storage Sites

- Presence of development
- Proximity to sensitive land uses (including viewshed)
- Presence of local environmental features



**York Region**

## Identification of Recommended Water Storage Sites and Watermain Routes



**York Region**

## Preliminary Evaluation Criteria

CATEGORY	EVALUATION CRITERIA
<b>Technical</b>	<ul style="list-style-type: none"> <li>▪ Constructability</li> </ul>
<b>Natural Environment</b>	<ul style="list-style-type: none"> <li>▪ Effect on groundwater</li> <li>▪ Effect on surface water</li> <li>▪ Effect on aquatic habitat</li> <li>▪ Effect on stream geomorphology</li> <li>▪ Effect on aquatic species including species at risk, species of local concern, native and invasive species</li> <li>▪ Effect on groundwater recharge and discharge areas in relation to aquatic/wetland habitat</li> <li>▪ Effect on terrestrial habitat or functions</li> <li>▪ Effect on terrestrial species including species at risk, species of local concern, native and invasive species, and area-sensitive species</li> <li>▪ Effect on groundwater recharge and discharge areas in relation to terrestrial habitat</li> </ul>
<b>Built Environment</b>	<ul style="list-style-type: none"> <li>▪ Effect on agricultural operations and capital investment related to agriculture</li> <li>▪ Effect on existing residences, businesses, and/or community, institutional, and recreational facilities</li> <li>▪ Effect of vibration on existing buildings</li> <li>▪ Effect on property</li> <li>▪ Effect on existing roadway/utility infrastructure</li> <li>▪ Effect on traffic</li> </ul>
<b>Social Environment</b>	<ul style="list-style-type: none"> <li>▪ Effect on wells</li> <li>▪ Effect of noise on sensitive receptors</li> <li>▪ Effect of perceptible vibration levels on sensitive receptors</li> <li>▪ Effect of odours on sensitive receptors from current conditions</li> <li>▪ Effect on existing views</li> </ul>
<b>Economic Environment</b>	<ul style="list-style-type: none"> <li>▪ Effect on approved/planned land uses</li> <li>▪ Effect on agricultural soil resources</li> </ul>
<b>Cultural Environment</b>	<ul style="list-style-type: none"> <li>▪ Effects on known or potential significant archaeological resources</li> <li>▪ Effects on built heritage resources and cultural heritage landscapes</li> </ul>
<b>Financial</b>	<ul style="list-style-type: none"> <li>▪ 25-year Net Present Worth Costs</li> </ul>

## Assessment of Alternative Sites/Routes



**Potential Effects**



**Net Effects**



**Avoidance/Mitigation/Compensation**



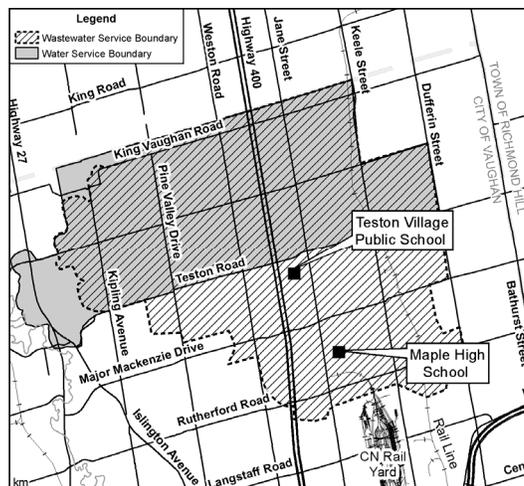
## 6. Public Consultation Centre No. 1



## Public Consultation Centre No. 1

**Monday, April 27, 2015**  
**Teston Village Public School**  
**80 Murray Farm Lane, Maple**  
**Time: 6 p.m. to 9 p.m.**  
**Presentation: 7 p.m.**

**Wednesday, April 29, 2015**  
**Maple High School**  
**50 Springside Road, Maple**  
**Time: 6 p.m. to 9 p.m.**  
**Presentation: 7 p.m.**



## 7. Project Status and Schedule



### Project Stages and Schedule

PROJECT STAGES AND MILESTONES	MILESTONE DATES
<b>Stage 1:</b> Water and Wastewater System Capacity Optimization Study	Jan to Dec 2014
<b>Stage 2:</b> Class EA Study Public Consultation Centre No. 1 Public Consultation Centre No. 2	Jun 2014 to Mar 2016 Apr 2015 Sep 2015
<b>Stage 3:</b> Preliminary Design and Feasibility Study	May 2015 to Apr 2016



## 8. Next Steps and Future Meetings



### Upcoming Project Activities

- Confirm long list of alternative water storage sites and alternative sewer routes
- Undertake field investigations
- Assess alternative sites and routes
- Identify recommended water storage sites and sewer route



## 9. Homework, Additional Questions and Discussion



**Thank You!**