#### What is a Master Plan?

The Master Plan will

complete Phases 1 &

2 of the EA process

As per the Municipal Class EA document (2024), A Master Plan means "a long-range plan which integrates infrastructure requirements for existing and future land use. The Master Planning process must follow, at a minimum, the same steps of the first two phases of the MCEA process."

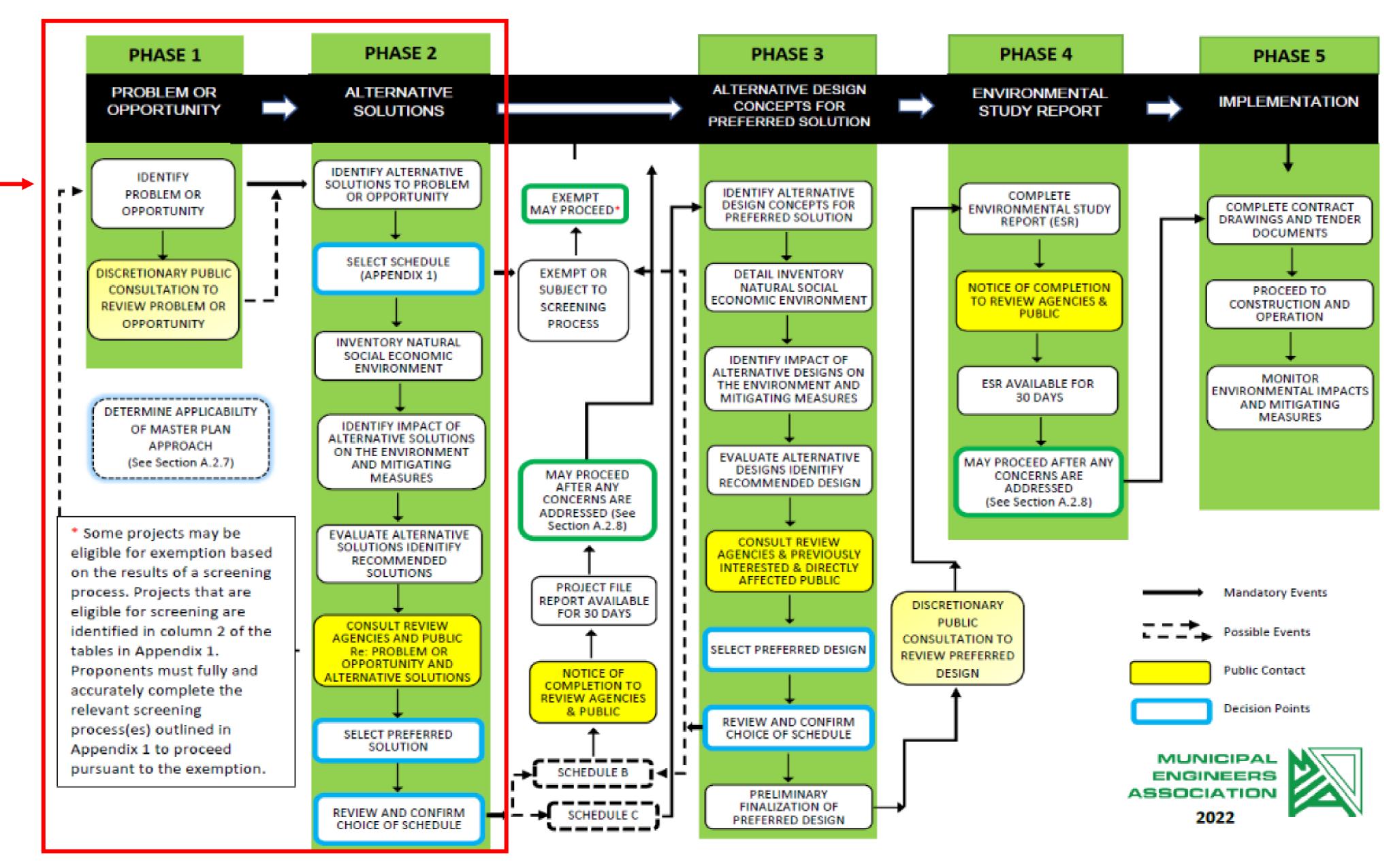
## Why is the Town Undertaking this Stormwater Management Master Plan? (Problem & Opportunity Statement)

The Objective of the Collingwood Stormwater Management Master Plan (SWM MP) is to identify and select preferred alternative stormwater management solutions to address existing and future anticipated flooding issues in Collingwood. Selected solutions will minimize impacts to both the natural and social environments and will be both technically feasible and economically sensible.

The SWM MP will also provide existing and future conditions infrastructure modeling and asset management/planning recommendations for the proposed stormwater management systems identified.

#### EXHIBIT A.2. MUNICIPAL CLASS EA PLANNING AND DESIGN PROCESS

NOTE: This flow chart is to be read in conjunction with Part A of the MCEA







## Existing Flood Damage Centres – Urban







## Existing Flood Damage Centres – Riverine



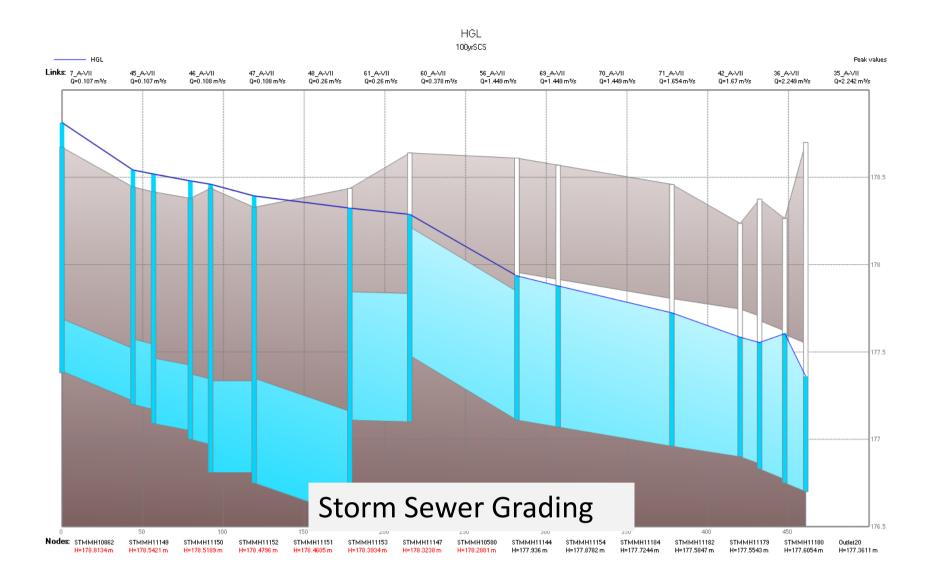


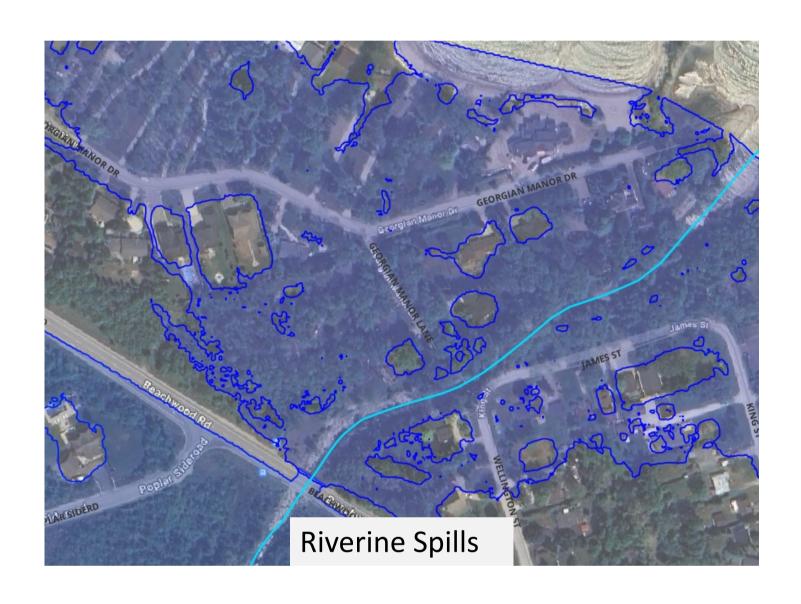


## **Apparent Causes of Flooding**

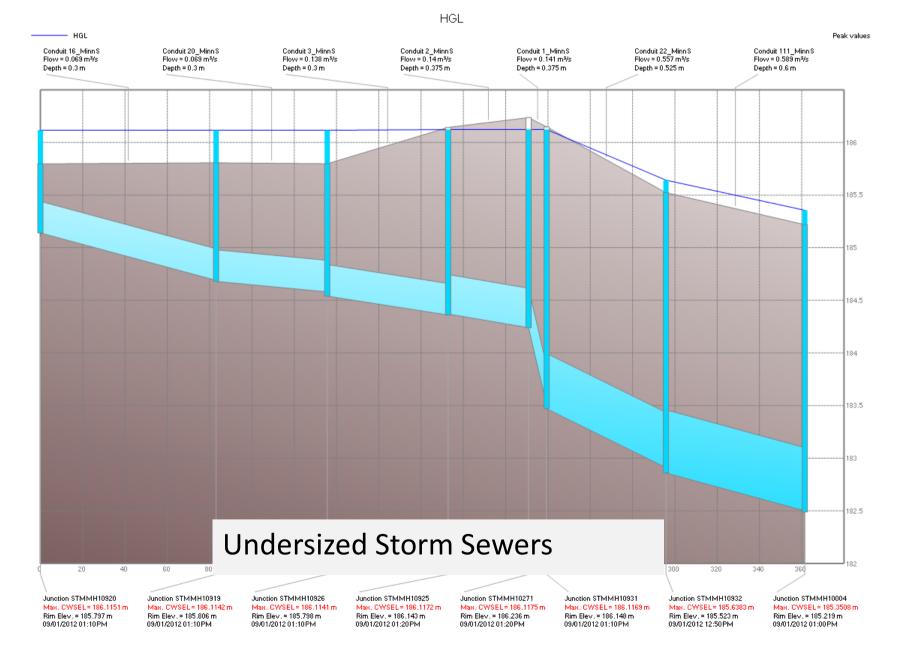
FDC.	Area	Key	Apparent Causes
No		infrastructure	
		within	
		flooded area	
1	Elm St	Road	Property grading. Downstream sewer elevations are higher than Upstream.
			Undersized sewers
2	Hickory St, east of Spruce St, south of First St, north of Second St	Road	Spills from FDC 3. Lot grading. Right of Way grading
3	Residential Properties, back of lots: west of Walnut St, east of Spruce St, north of Fifth St	Private Property; Residential homes	Undersized sewers. Lot grading. Right of Way grading
4	West of Walnut St, north of Sixth St	Road, Private Property	Downstream sewer size smaller than Upstream. Lot grading
5	Residential Properties, back of lots: west of Cedar St, east of Walnut St, north of Fifth St	Private Property; Residential homes	Lot grading. Right of Way grading
6	Residential Properties, back of lots: east of Cedar St, Oak St	Private Property; Residential homes	Lot grading. Right of Way grading
7	Residential Properties, back of lots: Birch St, east of Oak St Channel, south of First St, north of Fourth St	Private Property; Residential homes	Lot grading. Right of Way grading
8	Birch St / Tenth St		Lot grading. Sewer surcharging.
9	Harbour St W	Harbour St W	Undersized ditch
10	East Street, south of Simcoe Street	Road	Downstream sewer higher than Upstream
11	Peel St / Harben Ct	Road	Downstream sewers are smaller than Upstream. Downstream sewer elevations higher than Upstream.
12	Seventh Street, west of Maple Street	Road	Right of Way grading. Undersized sewer.
13	between Robinson & Paterson St/Manning Ave	Private Property; Residential homes	Right of Way grading. Undersized sewer
14	Collingwood Collegiate Institute, north end of property	Parking, Road Access	Downstream sewer smaller than Upstream.  Downstream sewer higher than Upstream.
15	Residential Properties, St. Clair St	Private Property; Residential homes	Spills from creek (Eden Oak). Lot grading. Right of Way grading.

















## Long List of Solutions

#### **Catchment Level**

#### **Riverine Spills**

Do Nothing

Flow Diversion – direct riverine storm flows through a different channel to prevent spills

Oversized Stormwater Management Ponds – over control storm flows from major developments

Offline flood storage – peak-shaving facility

Channel Maintenance – improve flow efficiency through channel by removal of vegetation

Construct a Levee to prevent spills

#### **Overland Flooding - Urban**

Do Nothing

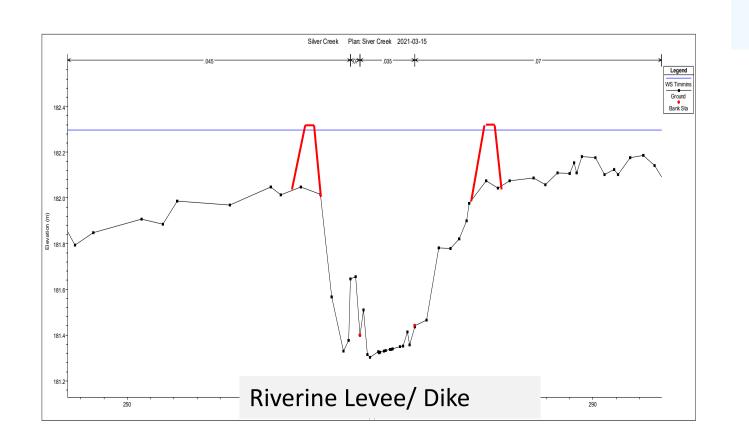
Oversized Stormwater Management Ponds – over control storm flows from major developments

Flow capture through broad implementation of Low Impact Development (Rain Gardens, Permeable Pavement, Infiltration Trenches, Bioswales etc.)

Flow Capture through broad implementation of alternative stormwater management techniques (Underground Storage Tanks)

Size storm sewers to account for future climate change

# HIGHPOINT O.45m TYP. O.09m OR APPROVED EQUIVALENT TOPSOIL O.15m COLEARSTONE 300mm# DRAIN BASIN BY ADS OR APPROVED EQUIVALENT TOPSOIL O.15m COLEARSTONE 300mm# DRAIN BASIN BY ADS OR APPROVED EQUIVALENT TERRAFIX 270R FILTER CLOTH 20mm CLEARSTONE 300mm# PIPE TERRAFIX 270R FILTER CLOTH 20mm CLEARSTONE 300mm#300mm#3150mm# TEE CONNECTION 150mm# PVC # 1.00% NON-PERFORATED PIPE D.60m SUMP 1.50m FROM EDGE 3.05m FROM D.30m PROPOSED WATERMAIN D.30m PROPERTY LINE INFILTRATION TRENCH WITHIN BOULEVARD



#### **Site Specific**

#### **Storm Sewer Surcharging**

Do Nothing

Update Right of Way grading to re-direct storm flows
Replace / upgrade storm sewers through road reconstruction program

Replace / upgrade storm sewers separate to road reconstruction program

Implement Low Impact Development features
Upsize ditches and culverts

#### **Lot Grading**

Do Nothing

Regrade Right-Of-Way to direct stormflows through roadways

Require Lot re-grading as part of proposed redevelopment

Implement Low Impact Development features

Require floodproofing for all proposed development

Optional floodproofing for existing residents

#### **Riverine Spills**

Do Nothing

Flow Diversion – direct riverine storm flows through a different channel to prevent spills

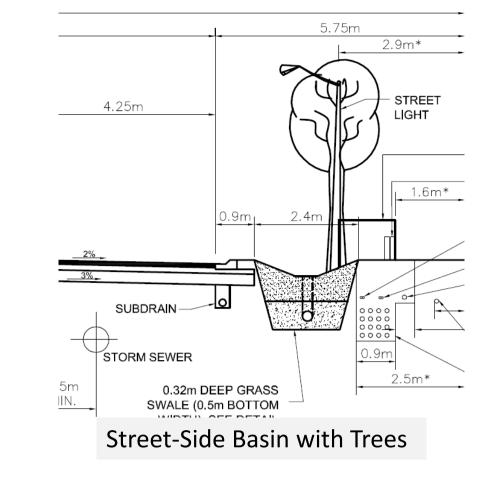
Update lot grading as part of proposed redevelopment

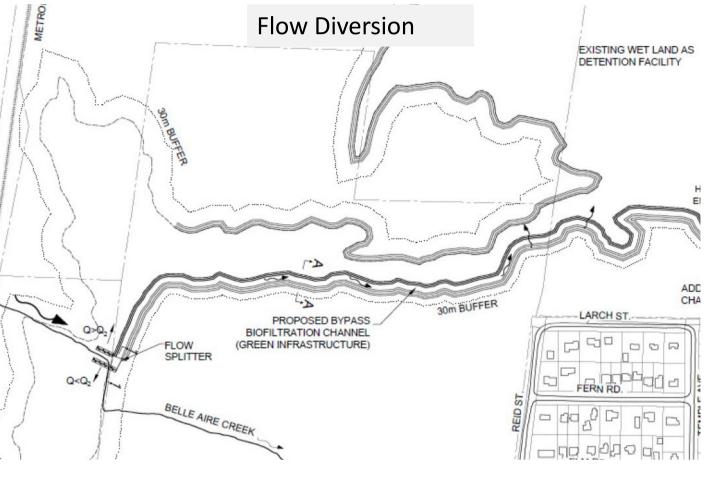
Update Right of Way grading to prevent overtopping of spills

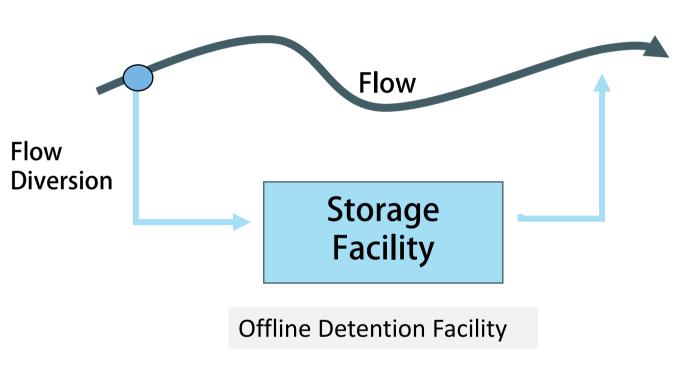
Increase culvert size

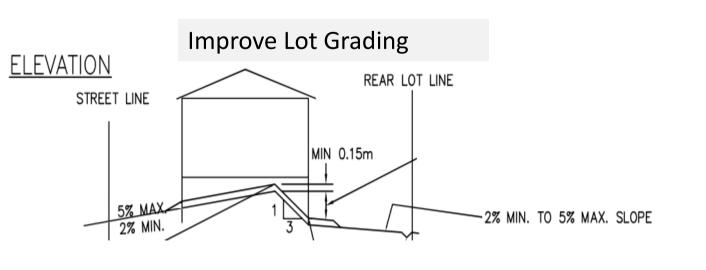
Construct a Levee to prevent spills

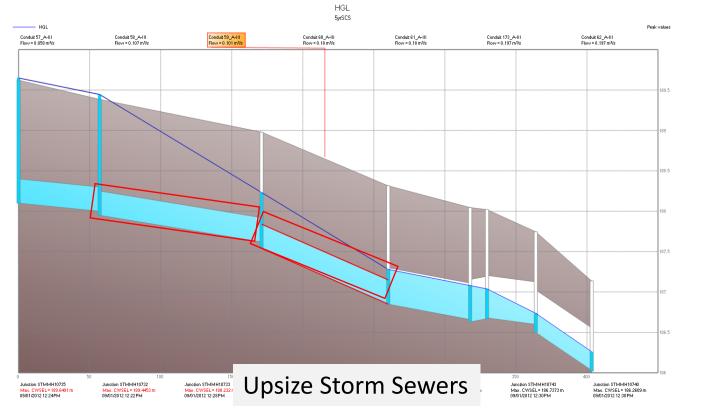
















- Engage Collingwood engage.collingwood.ca/swmmp
  - Public Survey Ends June 14<sup>th</sup>, 2024
  - Subscribe for project updates
  - Ask a question anytime
- 2<sup>nd</sup> PIC in Fall 2024 to present proposed solutions and request additional public feedback
- Email the project contacts:

Stuart West, P. Eng. Manager, Engineering Services Town of Collingwood

Email: <a href="mailto:swest@collingwood.ca">swest@collingwood.ca</a>

Josh Maitland, P. Eng. **Consultant Project Manager** Greenland Consulting Engineers Email: jmaitland@grnland.com

### **Next Steps**

- 1. Collect Feedback From the Public (This Meeting, Public Survey)
- Finalize Shortlist of Solutions & Detailed Evaluation Criteria
- Evaluate Short-Listed Solutions to Arrive at Preferred Solution
- 4. Consult with Public on Preferred Solution (PIC #2, Date TBD)
- Implement Feedback & Finalize Municipal Class EA
- Proceed to Implementation (Detailed Design & Construction) **OUTSIDE THE SCOPE OF THIS STUDY**



