ABTP - OUTFALL CONCEPTUAL DESIGN AND RECEIVING WATER ASSESSMENT ICMC – Meeting #2

October 2013



MEETING AGENDA

- Introduction of ICMC & Project Team
- Re-cap of Previous Meeting
- Presentation: Preliminary Evaluation of Alternatives
 - Selection of Alternative Outfall Lengths
 - Preliminary Evaluation and Findings
- Discussion

INTRODUCTION OF ICMC & PROJECT TEAM

Personal Introductions

Project Team

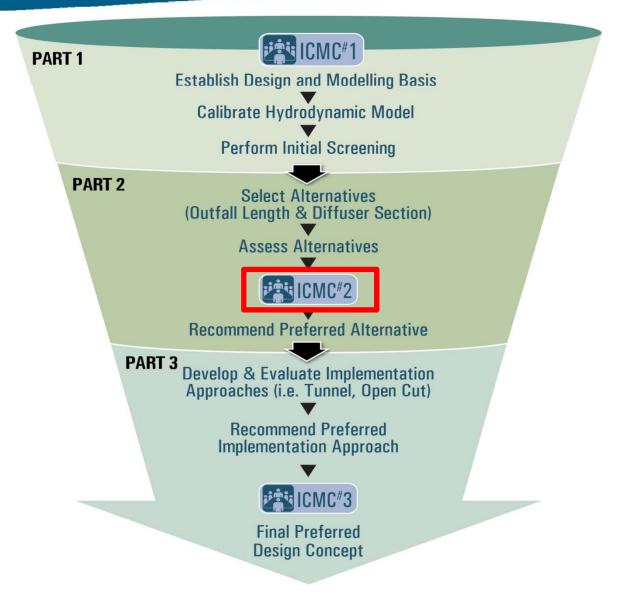
- Includes three consultants:
 - CH2MHILL prime consultant
 - Hatch Mott MacDonald outfall design and agency consultation
 - Baird lake modelling and sediment modelling
- Site-Specific Experience ABTP, Lake Ontario
- Technical Experience Outfall Conceptual Designs, Public/Agency Consultation, Tunneling, Lake Modelling

RECAP OF PREVIOUS MEETING

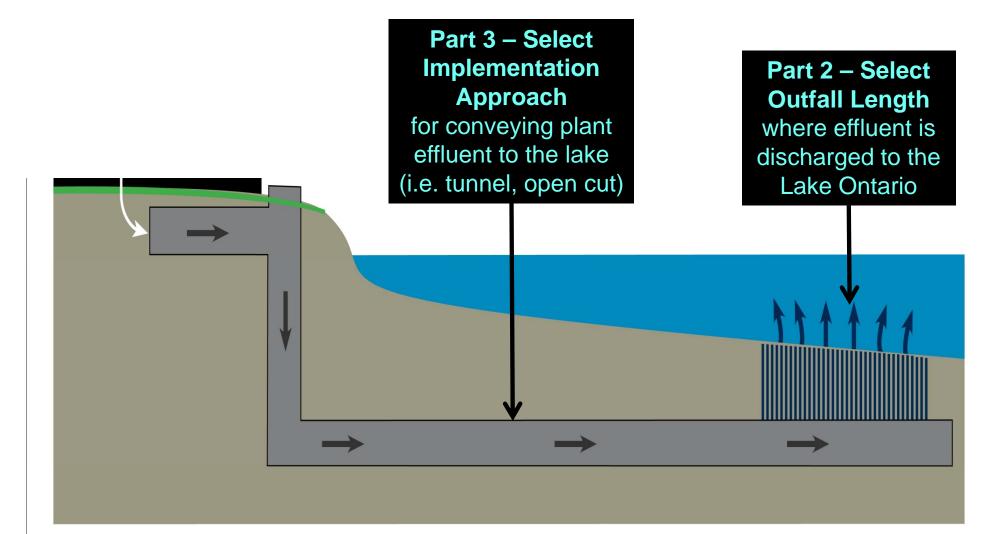
PROJECT PURPOSE

Deliver a conceptual design for a new outfall that meets regulatory acceptance and improves nearshore water quality in Lake Ontario

PROJECT APPROACH



PROJECT APPROACH

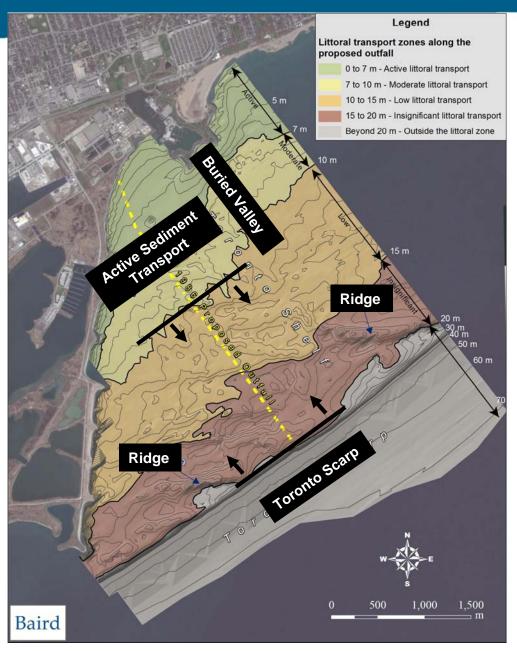


PRESENTATION

Preliminary Evaluation of Alternative Outfall Lengths

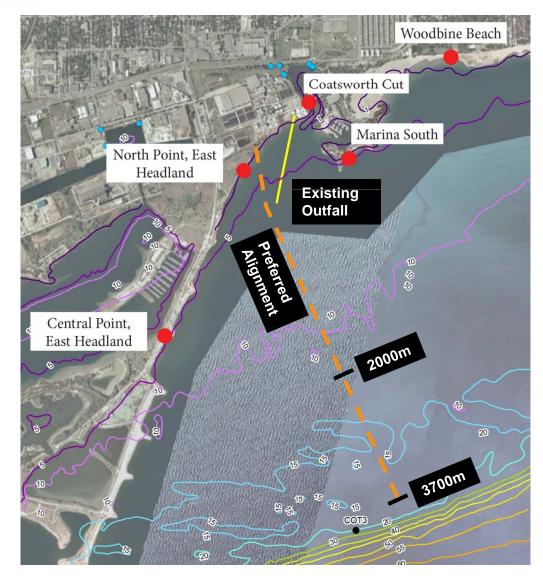
SELECTION OF ALTERNATIVE OUTFALL LENGTHS

- Geotechnical and Sediment Field Studies Performed
- Alternatives selected that were:
 - Offshore from sediment transport zone (1500m)
 - Inshore from scarp (3700m)
 - Along 1986 preferred alignment which is clear of buried valley and ridge features

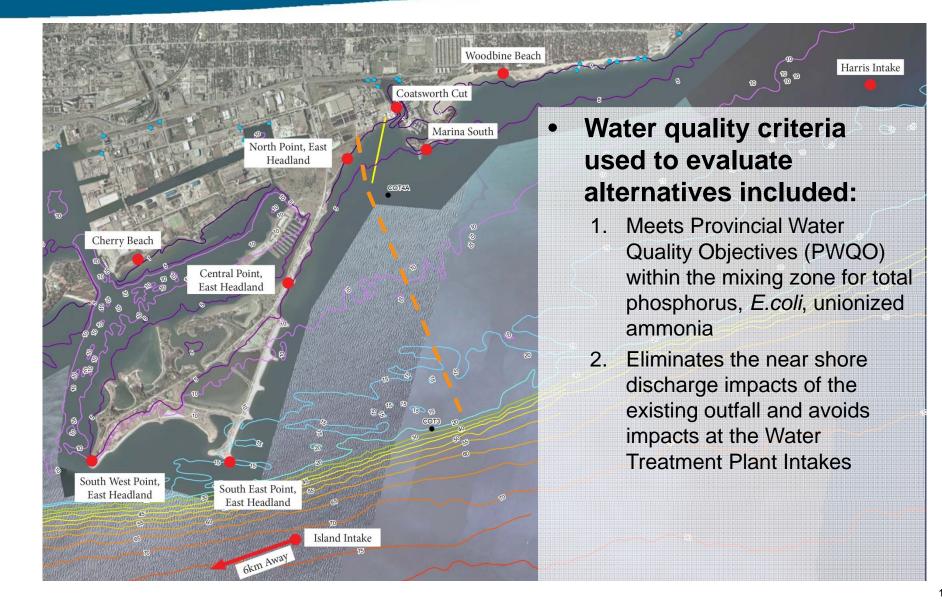


SELECTION OF ALTERNATIVE OUTFALL LENGTHS

- Alternative Outfall
 Lengths Selected
 - Total Outfall Lengths range from (2000m – 3700m)
 - Includes the 1986 concept (3700m outfall)

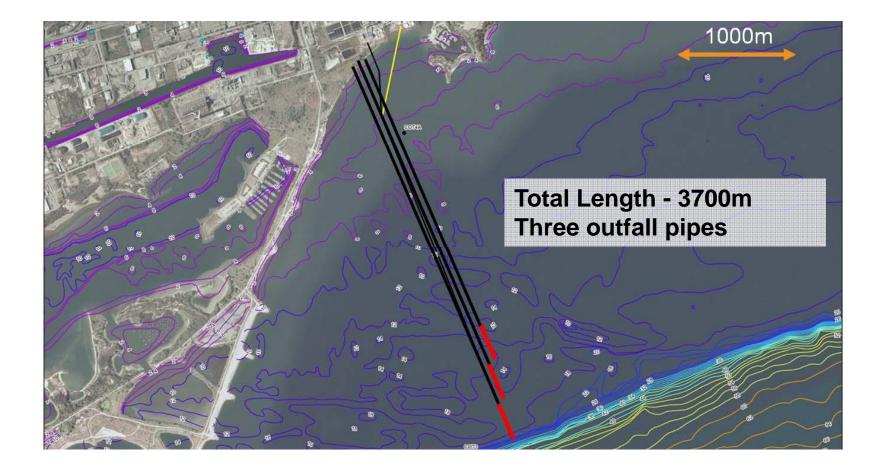


EVALUATION OF ALTERNATIVE OUTFALL LENGTHS

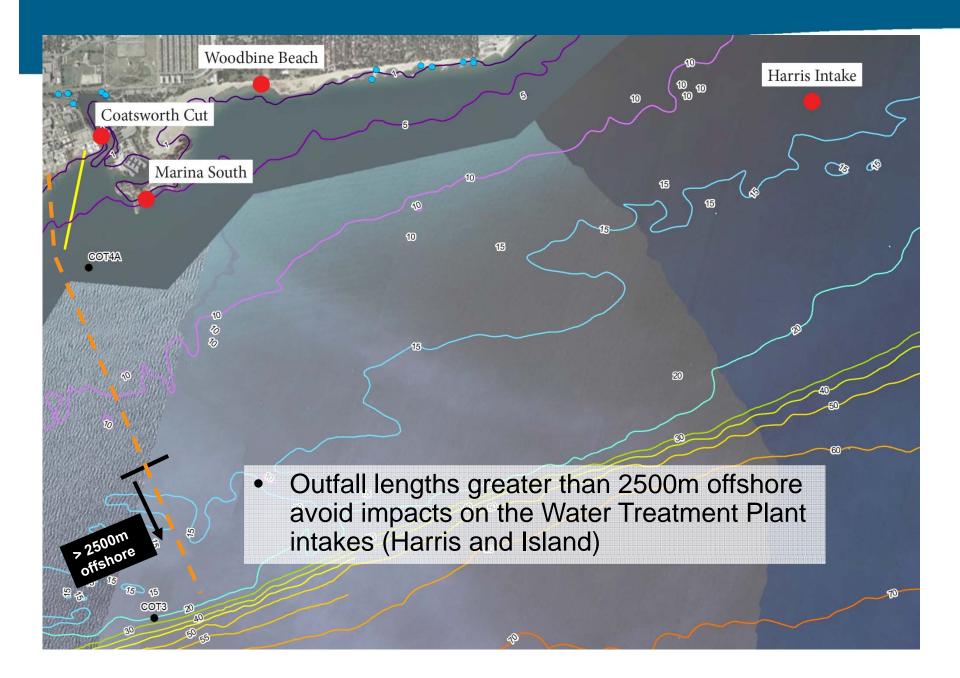


1986 OUTFALL CONCEPT

- Preferred alternative from 1986 study does not meet Provincial Water Quality Objectives (PWQO) at edge of mixing zone
 - Only one pipe operated during average conditions

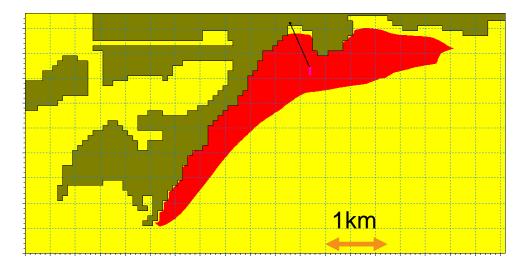


IMPACT ON WATER INTAKES



MEETING WATER QUALITY OBJECTIVES AT NEAR SHORE

- Existing Outfall Nearshore Impact
 - PWQO standard is not met at nearshore



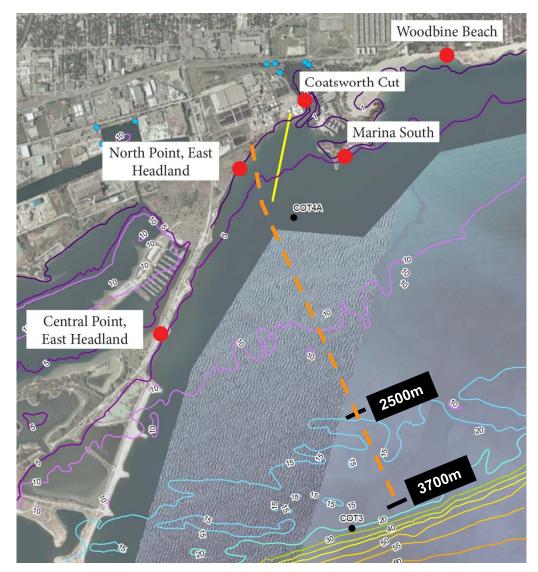
- Outfall Alternatives Eliminate Nearshore Impact
 - PWQO standard is met at nearshore



Graphs show area of phosphorus concentrations greater than the PWQO

SUMMARY OF FINDINGS

- Outfall length required to meet water quality criteria include:
 - Total outfall length greater than 2500 m
 - Limiting length between 3500 and 3700 m
 - Geotechnical "scarp" constraint



NEXT STEPS AND TIMELINE

NEXT STEPS

- October, 2013
 - Finalize Selection of Preferred Alternative Outfall Length
- November, 2013
 - Evaluate and Select Preferred Implementation Approach (i.e. Tunnelling, Open Cut)
- January, 2013
 - Conceptual Design Report

DISCUSSION & QUESTIONS