

Thornbury WWTP Effluent Outfall

New Outfall to Georgian Bay — Overview, Project Status & Restoration

Community Information Session



MEETING INFORMATION



DATE

Friday, August 28, 2026



TIME

1 – 2 p.m.



LOCATION

Town Hall
32 Mill Street, Thornbury

WELCOME

Introducing Today's Speakers



Adam Smith

Chief Administrative Officer
(CAO)

TOWN OF THE BLUE
MOUNTAINS



Stefano Gubert

Site Inspector

ARCADIS



Fady Shweihat

Principal – Practice Lead, Linear
Infrastructure

ARCADIS



Glen Douglas

Principal – Sr. Practice Lead &
Project Manager

ARCADIS



Sean Geddes

Senior Associate Ecologist

ONTERRIS



Please hold all questions until the end of the presentation — time will be set aside for Q&A.

WELCOME

Working Together Respectfully



Critical Municipal Infrastructure

This project is delivering critical municipal infrastructure that supports the long-term operation, reliability and capacity of the Town's wastewater system.



Temporary, Understood Disruption

The Town understands that construction activity is inherently disruptive, but staff ask for the understanding and cooperation of residents during these temporary conditions.



Respectful Public Interactions Policy

The Town's Respectful Public Interactions Policy seeks to ensure a positive, safe and respectful environment for both members of the public and Town employees. Please help us today by keeping discussions respectful to all parties involved.

Agenda

- **01****Resident Concerns & Inquiries**

What we've heard, and how it's being addressed
-
- **02****Why We're Building the Outfall**

The capacity need driving this project
-
- **03****Outfall Details & Construction**

Offshore pipe, diffuser & how it gets built
-
- **04****Restoration Work**

Returning the shoreline & lakebed to natural condition
-
- **05****Environmental Monitoring**

Environmental monitoring for offshore works
-
- **06****Current Project Status**

Construction milestones, June through September 2026

What We've Heard From the Community

The project team has been analyzing resident concerns and inquiries raised throughout construction. Key themes identified to date:



Water Quality

Concerns about potential effects on Georgian Bay water quality during in-water construction activities.



Temporary Causeway

Questions about the temporary causeway used to access the work area, and its effect on shoreline and navigation.



Turbidity Curtain Usage

Inquiries on how and when turbidity curtains are deployed, and their effectiveness at containing sediment.



Equipment Storage

Concerns regarding onshore/offshore storage of pipe, ballast, and equipment



Site Restoration

Questions about how disturbed areas will be restored after construction.

This presentation will serve to clarify each of these inquiries and concerns in the sections that follow.

Why We're Building a New Outfall

Needed Outfall Capacity to Accommodate Flow from the Thornbury WWTP

- The Thornbury Wastewater Treatment Plant (WWTP) was recently expanded to accommodate current and future flow projections
- Detailed design work identified that the existing outfall sewer does not have sufficient capacity to convey future peak flows. Therefore, a new outfall was part of the WWTP expansion
- A new, larger outfall to Georgian Bay is being installed to safely convey treated effluent for the community's long-term future.

Phase 1 to 3

Outfall expansion currently underway

~1,500 m

Length of new outfall offshore into Georgian Bay

Project Location

The new effluent outfall runs from the Thornbury WWTP, north along the Grey Street right-of-way, and extends approximately 1,500 m offshore into Georgian Bay.

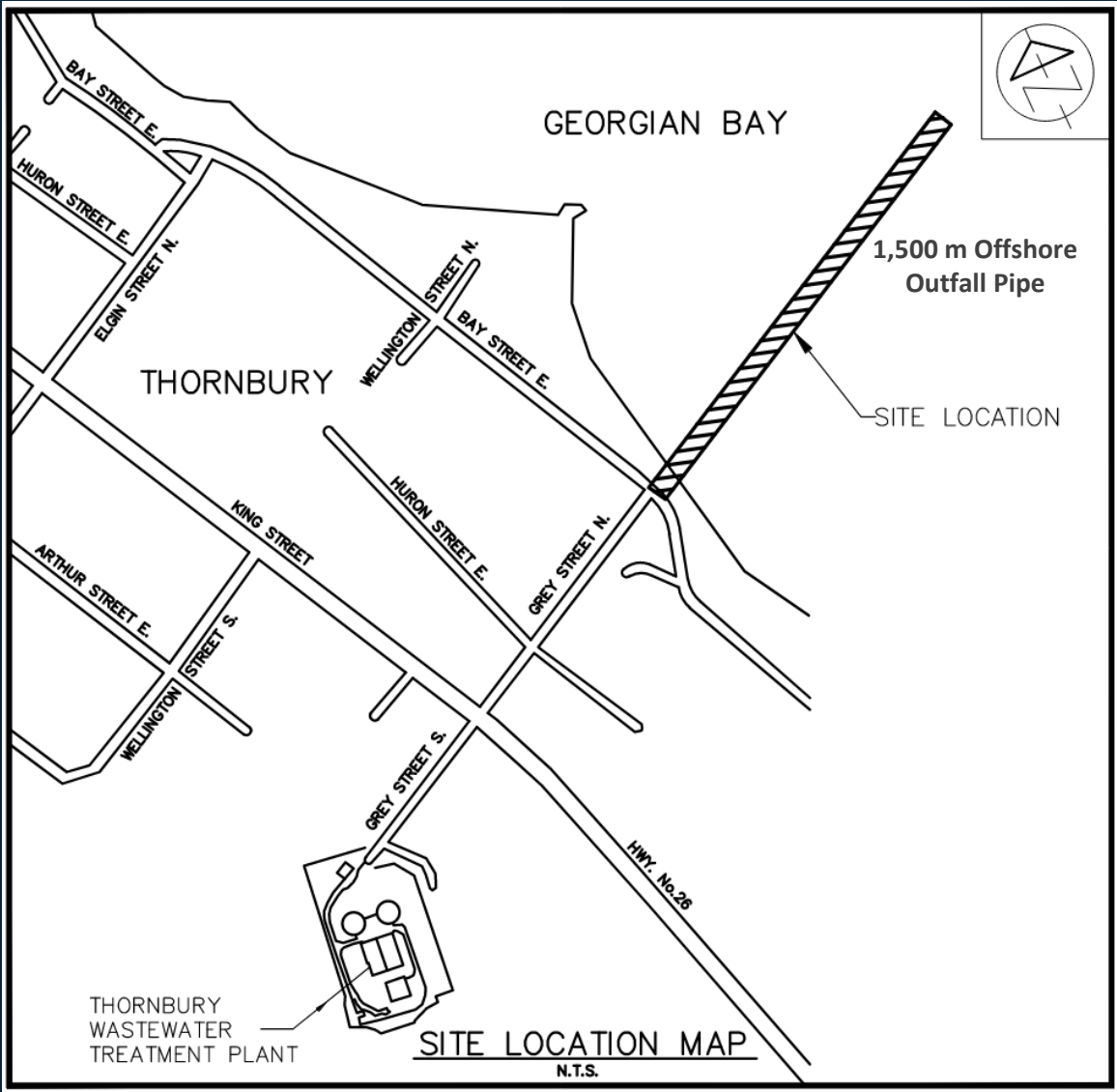
- 1

Thornbury WWTP
Point of origin — Grey Street South
- 2

King & Bay Street crossings
Onshore alignment along Grey Street
- 3

Georgian Bay shoreline
Onshore-to-offshore transition & valve chamber
- 4

Diffuser System in the Georgian Bay
~1,500 m offshore, releasing treated effluent



SECTION 03

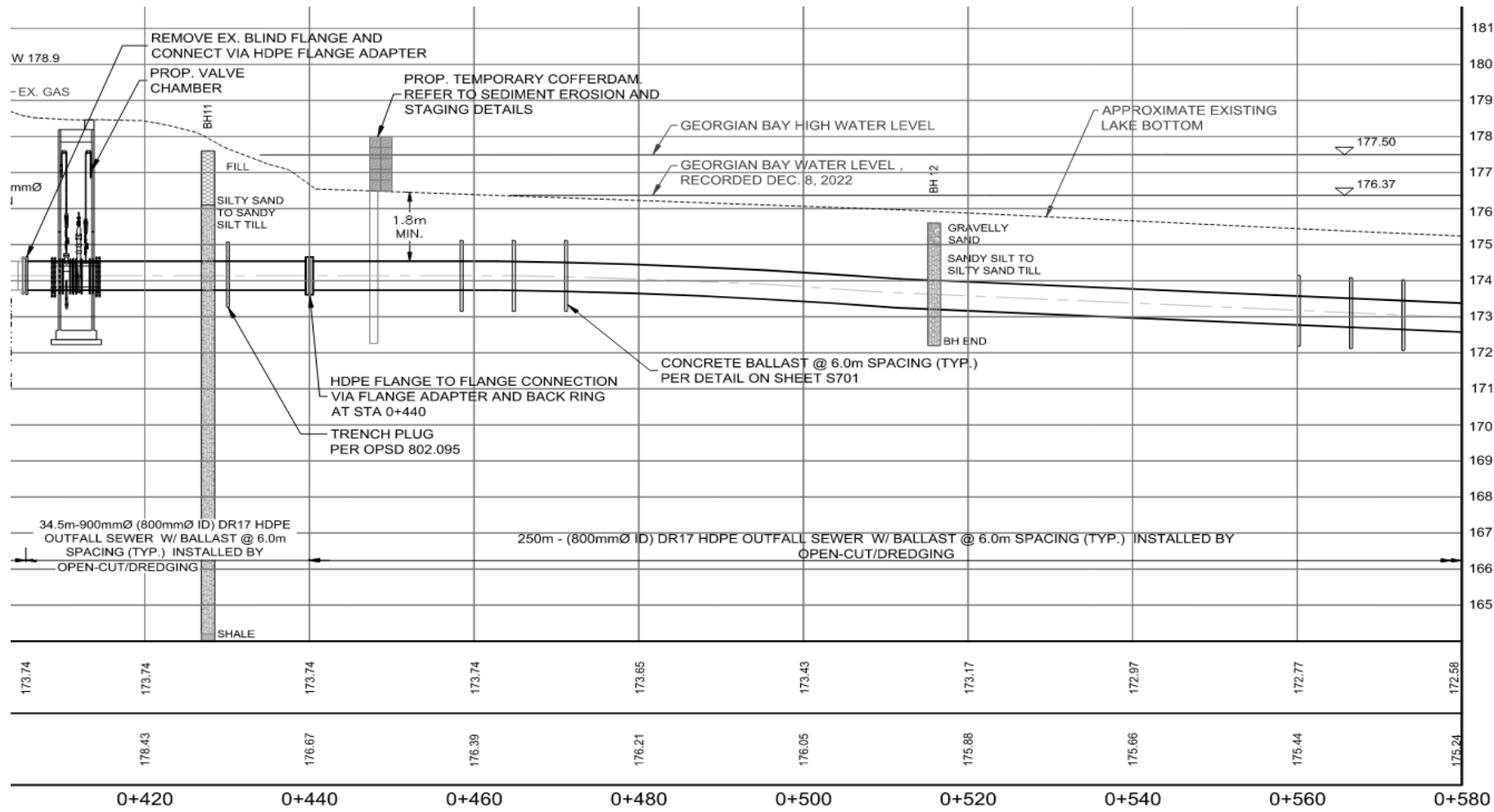
Outfall Details & Construction

Outfall details & how the offshore pipe is built and put in place.



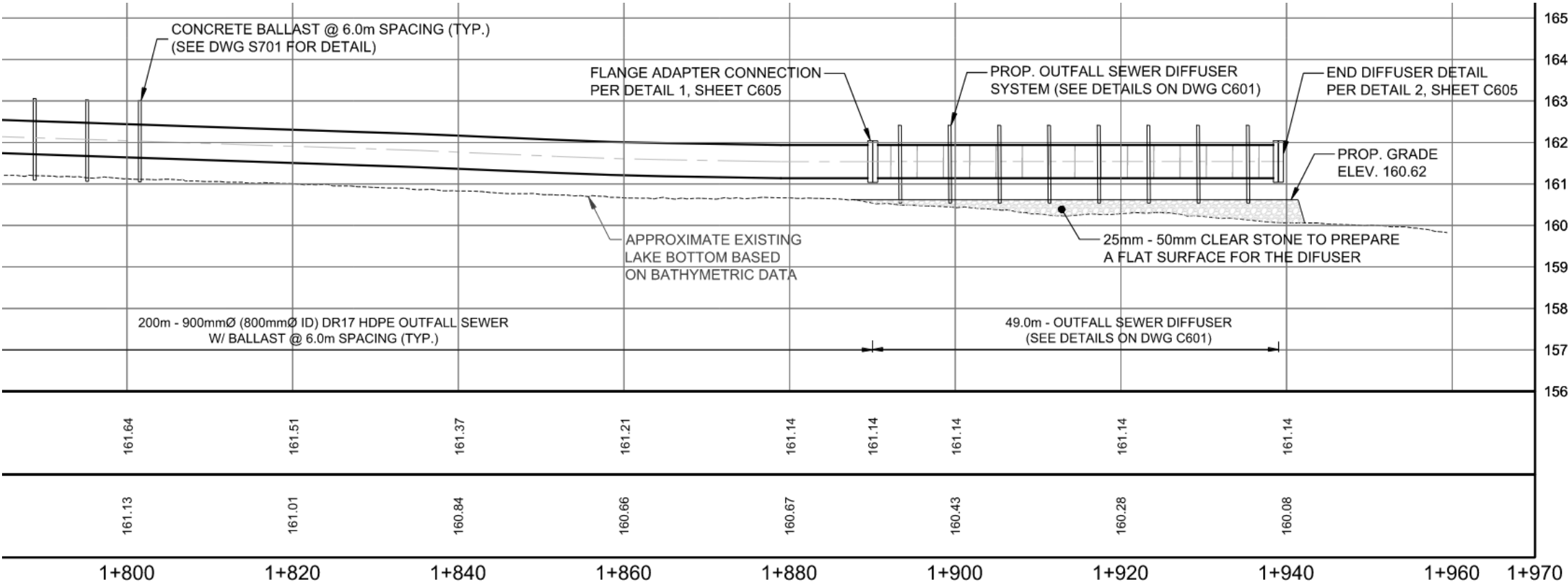
Offshore Profile — Dredged & Buried Portion ~600m Offshore

Excerpt from IFC Drawing C506 (Sta. 0+400 to 0+580, Contract 2025-30-T-OPS)

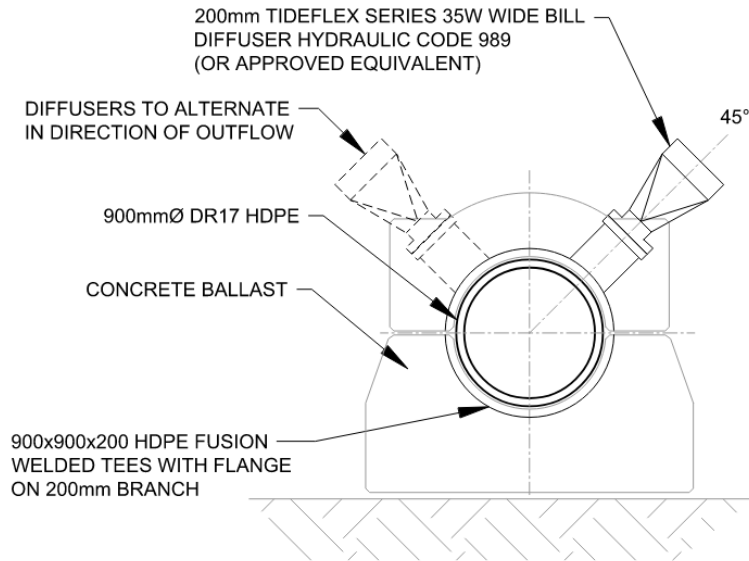


Offshore Profile — Lakebed-Laid Section & Diffuser System

Excerpt from IFC Drawing C506 (Sta. 1+780 to 1+940, Contract 2025-30-T-OPS)



Diffuser System



Alternating Port Layout Prevents Jetting in One Direction

- Ports alternate direction along the diffuser to spread and dilute the treated effluent evenly.
- Each port has a check valve that opens only under flow, preventing lake water from entering the pipe.
- The diffuser sits on a clear-stone bed to keep it stable on the lake bottom.

Ports Open in Phases as Flows Grow

Phase 1A

3 of 8 ports

Phase 1B

4 of 8 ports

Phase 2

6 of 8 ports

Phase 3

8 of 8 ports

Construction Sequencing: Staging at Lora Bay Beach Park

Lora Bay Beach Park — Staging Area



- HDPE pipe is fused into ~200 m strings, including one continuous 600 m string for the dredged portion.
- Concrete ballast and outfall piping/flanges are delivered and stored at the laydown area.



Lora Bay Beach Park

Dedicated site for HDPE pipe fusing, pipe string storage, and ballast storage



Pipe String Storage

The dredged-portion 600m pipe string as well as four 200m pipe strings are fully fused and stored at Lora Bay Beach



Anchored storage

Pipe strings held in water using concrete anchors and Poly Steel Rope

Construction Sequencing: Dredging, Transport & Controlled Sinking



1. Dredge the Trench

The trench for the dredged portion (Sta. 0+440 to 1+060) is dredged and confirmed complete



2. Tow Pipe Strings to Site

Fused pipe strings are transported by barge tow from Lora Bay to the confirmed alignment, in accordance with the IFC drawings. Ballasts are installed offshore from a barge once each section is positioned.



3. Controlled Sinking

Temporary blind flanges flood each string with lake water while air vents from the far end, lowering the pipe to the lakebed in a controlled descent.



4. Underwater Connection

Pipe strings are aligned with lift bags and draw bolts and bolted together. Once pipe strings are installed in the final location, a hydrostatic pressure test will be completed.

The dredged 600 m string is only floated and sunk once dredging of that portion has been confirmed complete; subsequent 200 m strings are installed the same way, progressing toward the diffuser.

SECTION 04

Restoration Work

Returning disturbed shoreline, staging areas, and lakebed to a stable profile generally matching the elevation and contour of the adjacent lakebed.



Existing Conditions (Before Construction)



Existing Lakebed at Grey St N & Bay St E, prior to construction



Existing shoreline at Grey St N & Bay St E, prior to construction

A Natural, Cobble Shoreline

- Natural cobble and gravel beach, with existing boulder groin structures along the shoreline.
- Sparse shoreline vegetation and driftwood along the high-water line.
- This condition serves as the baseline for restoration works, guiding the target profile and material placement once construction is complete.

Existing Conditions (Before Construction)



Lora Bay Park, prior to construction



Lora Bay Beach, prior to construction

Lora Bay Beach

- Restore lawn, landscaping, beach, and gravel pathway/parking surfaces to original conditions
- Reinstall site furnishings (signage, receptacles) to original locations
- This condition serves as the baseline for restoration works at Lora Bay Beach

Restoring Onshore & Offshore Areas



Onshore Restoration

- Native seed mixes tailored to each area
- Shrub and shoreline plantings replace vegetation removed for construction.
- Construction staging areas restored to equal or better than pre-construction condition.
- Tree protection fencing and replacement plantings for any trees removed.

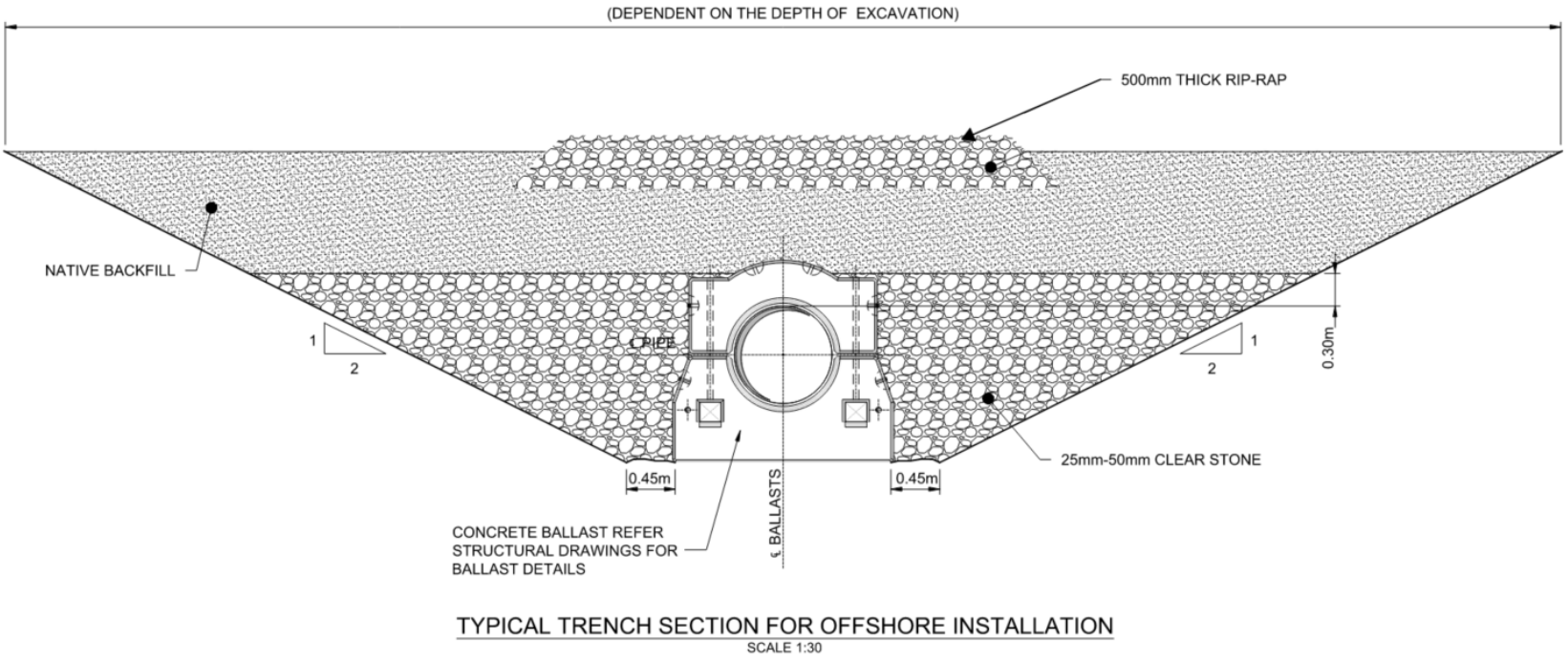


Offshore / Lakebed Restoration

- Disturbed lakebed along the pipe trench is restored to a level no more than 200mm above the surrounding lakebed.
- A 500mm thick layer of rip-rap is placed over the native backfill to protect and stabilize the trench.
- Restore lake geomorphology (i.e., restore the bed and banks, gradient and contour of the waterbody) to its natural state

Offshore Trench Restoration Detail

Typical Trench Section for Offshore Installation (Dwg. C605)



- A 500mm thick layer of rip-rap is placed over the native backfill along the offshore trench.
- The rip-rap is placed no more than 200mm above the surrounding lakebed; restoring the lakebed to existing conditions
- A 25-50mm clear stone layer supports the pipe and ballast beneath the backfill. Note that this clear stone is first used temporarily to construct a causeway to facilitate installation access, and is later removed and reused as the bedding layer shown in this detail

SECTION 05

Environmental Monitoring

How the project safeguards Georgian Bay during offshore construction.



Keeping a Close Watch on Georgian Bay

 **Contractor's Environmental Monitoring**

 **Fish & Wildlife Rescue**

- The Contractor's Qualified Professional (QP) biologist leads all fish and wildlife rescue and dewatering activities ahead of in-water work.

 **Environmental & Regulatory Permitting**

- Constructed under applicable environmental and regulatory approvals including DFO, MNR, Transport Canada, and GSCA requirements

 **Real-Time Turbidity Monitoring**

- The Contractor monitors turbidity in real time outside the turbidity curtain zone, at background and downstream reference points.
- An adaptive management approach adjusts dredging activity based on monitoring results, weather, and fisheries observations.

 **Independent Oversight for the Town**

In addition, the Town has retained Onterris Canada Inc. as a third-party environmental consultant to provide independent field and technical support during construction.

 Initial site assessment ahead of turbidity curtain redeployment, including water quality sampling.

 Weekly site visits by an aquatic biologist to observe construction, water quality, and shoreline conditions.

 Independent water quality sampling and review, reported to the Town and Arcadis. Sampling includes TSS, TDS, turbidity, temperature, conductivity & dissolved oxygen

 Quality review of the Contractor's monitoring data and reporting.

Monitoring Requirements



Agency Approval Conditions

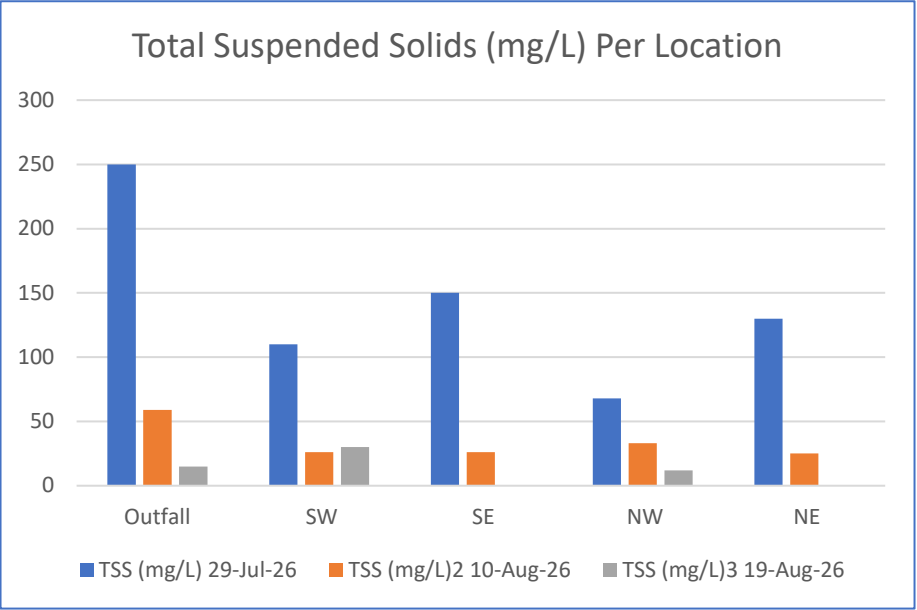
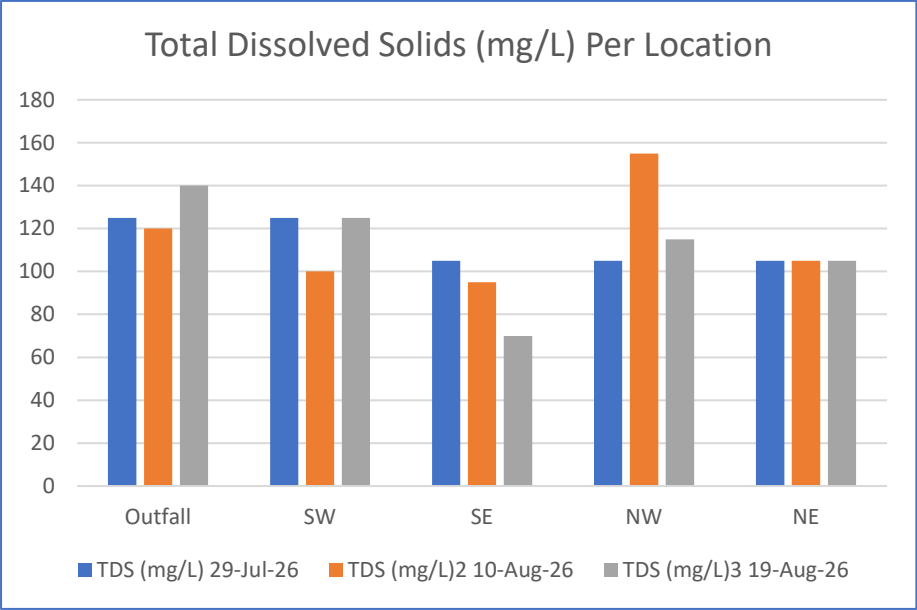
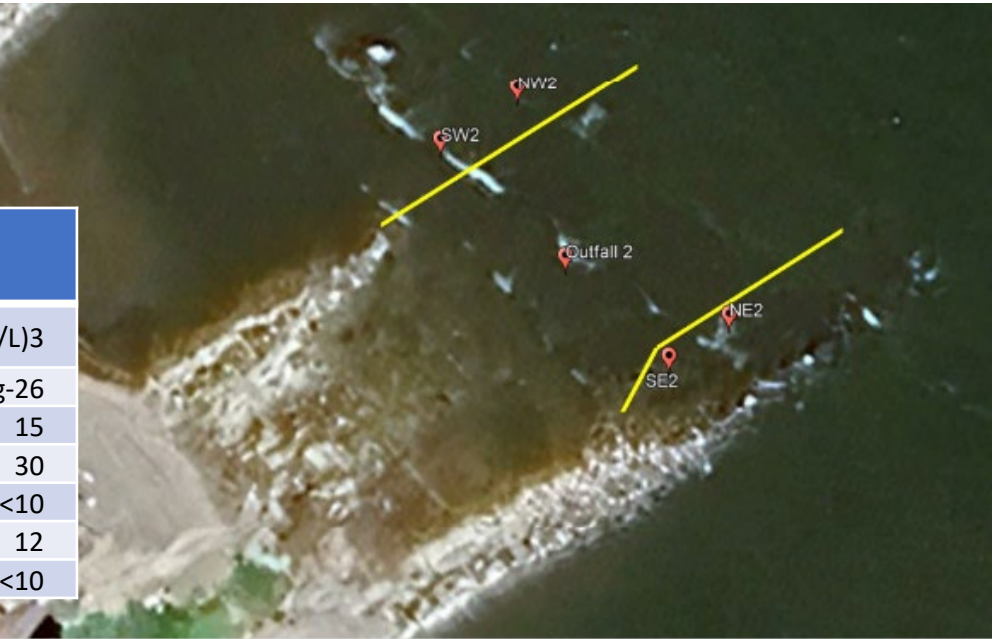
- DFO, MNR, MECP and GSCA all reviewed design and construction approach and provided approvals for the project.
- For any typical project, monitoring requirements are quite often outlined as a condition of the permit or approval issued by regulatory agencies.
- Those monitoring requirements also identify the parameters that are to be measured and monitored.
- No requirements for monitoring were identified by any approval agencies.
- The Town of The Blue Mountains identified a requirement for monitoring to demonstrate due diligence for the project.
- Contractor is responsible for regular monitoring of turbidity.
- Town has engaged third party review services and spot checking of monitoring parameters. Water samples are taken and submitted for lab analysis for Total Dissolved Solids and Total Suspended Solids.
- Also included are temperature, dissolved oxygen, conductivity and turbidity.

Water Quality Sampling Results

Thornbury STP Outfall Installation – Summary of Weekly Results of Water Quality Sampling

Location	TDS (mg/L)	TDS (mg/L)2	TDS (mg/L)3	TSS (mg/L)	TSS (mg/L)2	TSS (mg/L)3
	29-Jul-26	10-Aug-26	19-Aug-26	29-Jul-26	10-Aug-26	19-Aug-26
Outfall	125	120	140	250	59	15
SW	125	100	125	110	26	30
SE	105	95	70	150	26	<10
NW	105	155	115	68	33	12
NE	105	105	105	130	25	<10

July 29, 2026 results are from a typical breezy day with wave action on shore. No excavation or construction activity was occurring that day.



SECTION 06

Current Project Status

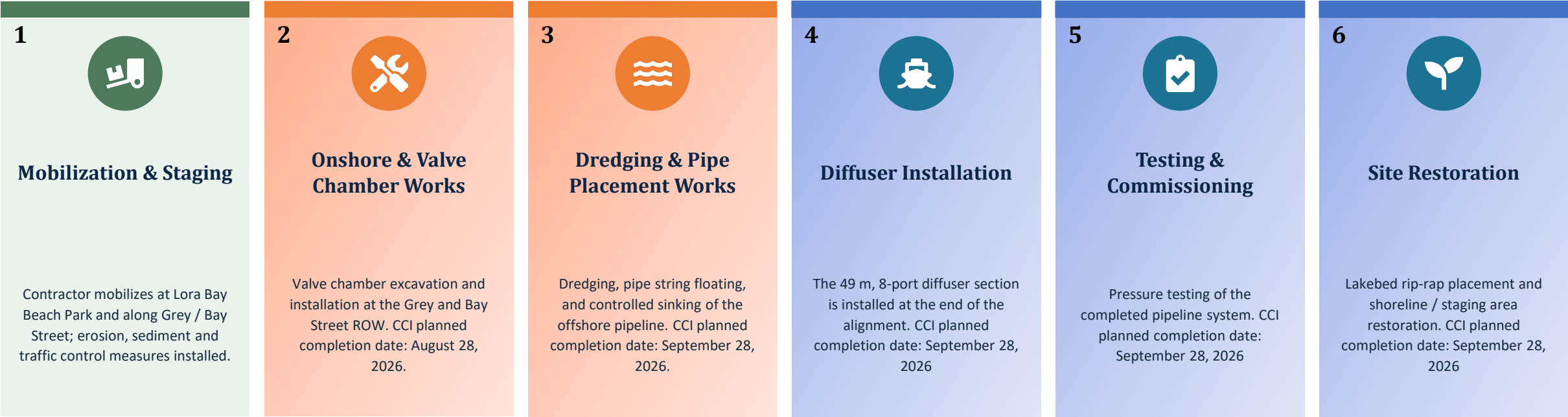
Construction is underway, with substantial completion targeted before September 30, 2026.



Construction Works

Construction is proceeding in stages, with in-water work carried out per the project permitting

Stages 3 through 6 are in-water works to be completed by the end of the permit period September 30, 2026



Project Status — Legend

-  Green indicates completed work
-  Orange indicates work in progress
-  Blue indicates upcoming work

Project Working Hours

To mitigate potential weather delays, the Contractor started working the following extended hours offshore for the remainder of the project:

- Monday to Friday: 7:00 a.m. to 9:00 p.m.
- Saturday: 7:00 a.m. to 7:00 p.m
- Sunday: 7:00 a.m. to 1:00 p.m

A Better Outfall for a Growing Community



Constructed under applicable environmental and regulatory approvals

DFO, MNR, Transport Canada, and GSCA requirements are being met.



Under construction now

Offshore works are underway, targeting completion prior to September 30, 2026.



Purpose-built for sustainable infrastructure

A larger outfall reliably conveys treated effluent for Thornbury in the present and the future.



Restored, not just built

Shoreline, staging areas, and lakebed are restored to natural condition.

Questions & Discussion