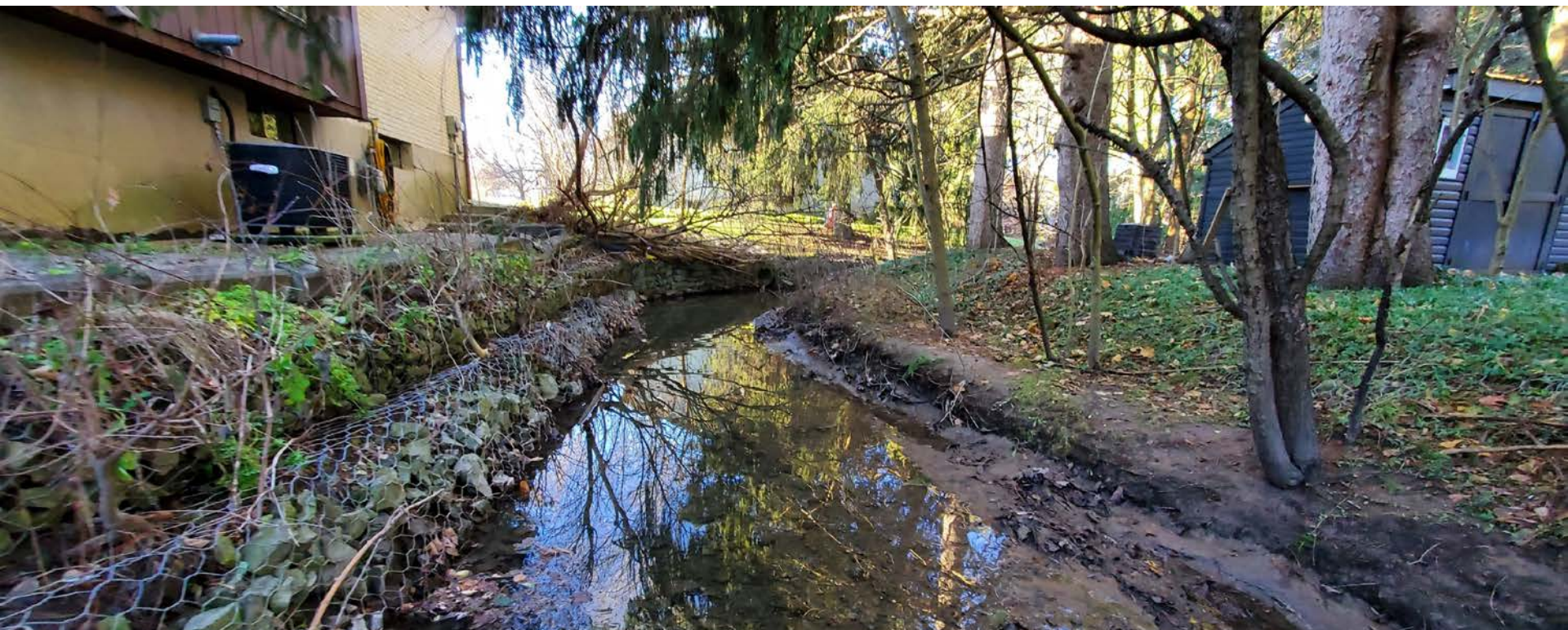




Keatsway Storm Bypass & Creek Bank Stabilization Neighbourhood Meeting

December 1, 2022



Agenda

- Introductions
- Project Overview
- Study Results
- Detailed Design
- Construction Timelines
- Expected Activities & Impacts
- Q&A Session
- Individual Property Discussions





Introductions

- **Jessica Brown**, City of Waterloo, Senior Project Engineer
- **Gavin Vermeer**, City of Waterloo, Senior Project Engineer, (as of mid-January 2023)
- **Cari Van Niekerk**, City of Waterloo, Corporate Communications Manager
- **Lauren Reaman**, AECOM, Meeting Facilitator
- **Kosta Paliouras**, AECOM, Project Engineer
- City and AECOM staff are also available to answer questions



Project Overview

The project aims to restore a portion of Clair Creek between Keats Way and McDougall Road to reduce the risk of erosion, flooding and damage to private property in the area.

Recommended work includes:

- Replacing retaining walls
- New storm sewer bypass





Problem and Opportunity Statement

The main priorities are to:

- Protect existing building structures
- Reduce risk to public safety
- Reduce risk of flooding to the adjacent properties



Public Engagement

- Project information can be found on the Engage Waterloo web page:

<https://www.engagewr.ca/clair-creek-at-keats-way>



Study Area Map





Existing Site Conditions





Current Flood Mapping

- Area currently recognized by Grand River Conservation Authority (GRCA) as floodplain
- Residential properties are regulated by GRCA and would require GRCA permit





Preferred Alternative Criteria

- Constructability
- Minimize potential impacts
- No increase to flooding, erosion
- Maintains existing infrastructure
- Natural channel design
- Enhance habitat





Work Completed



Ecological
Assessment



Fluvial
Geomorphology



Flood
Modelling



Geotechnical
Investigation



Subsurface Utility
Investigation



Bypass/Creek
Assessment



Ecological Assessment



Surveys
completed in
spring 2022



Species-at-risk

Aquatic habitat



Terrestrial



Geomorphic Assessment



Claire Creek is transitional and dynamic



Failing gabion baskets

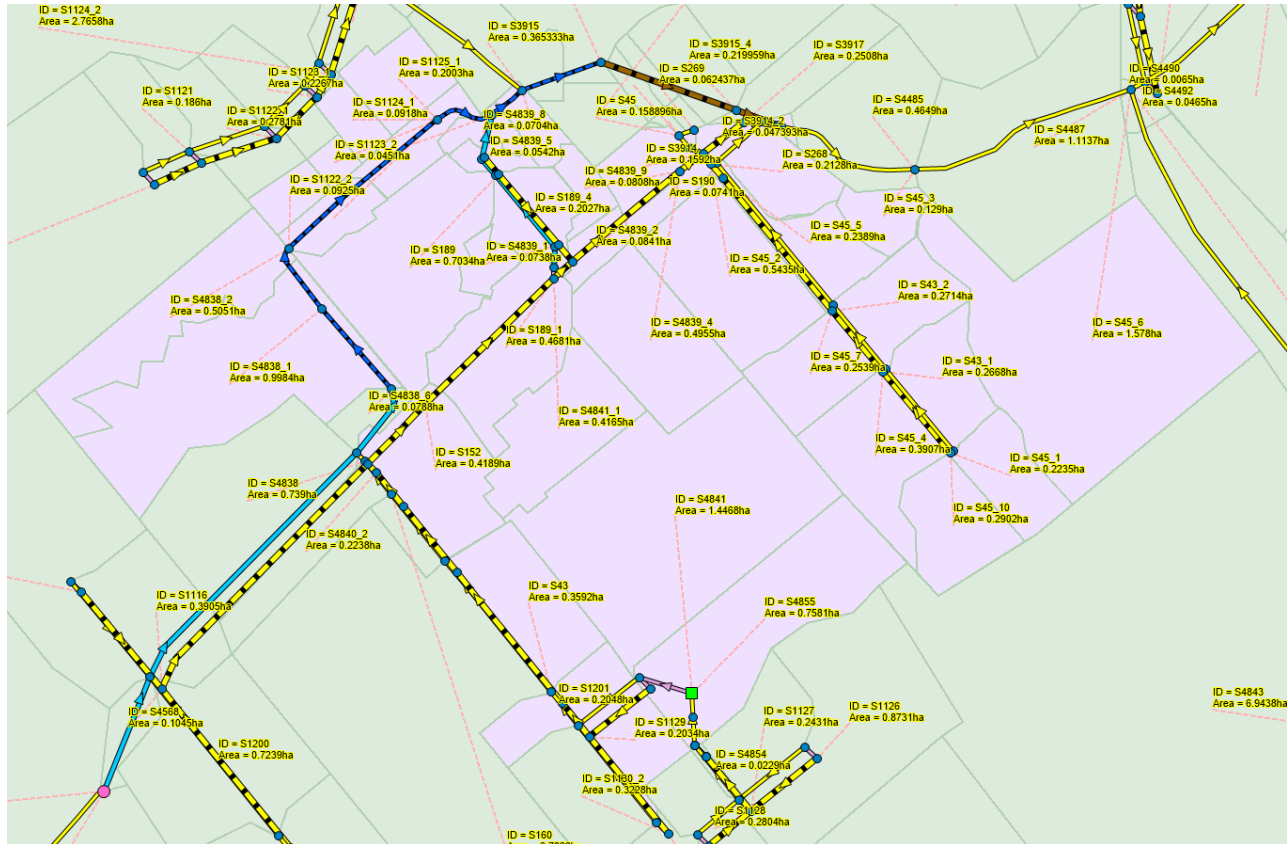


Unprotected banks show signs of instability



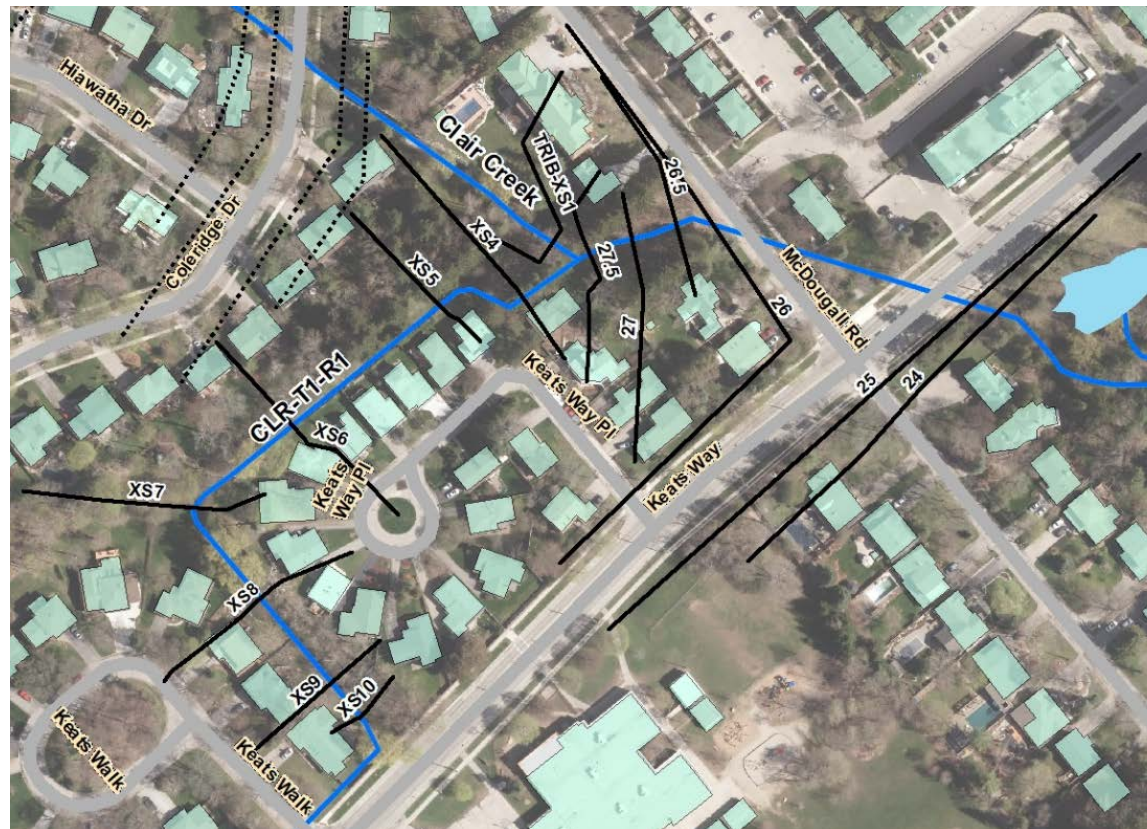
Softer channel restoration measures were deemed not feasible

Flood Modelling | Hydrological/Hydraulic Modelling



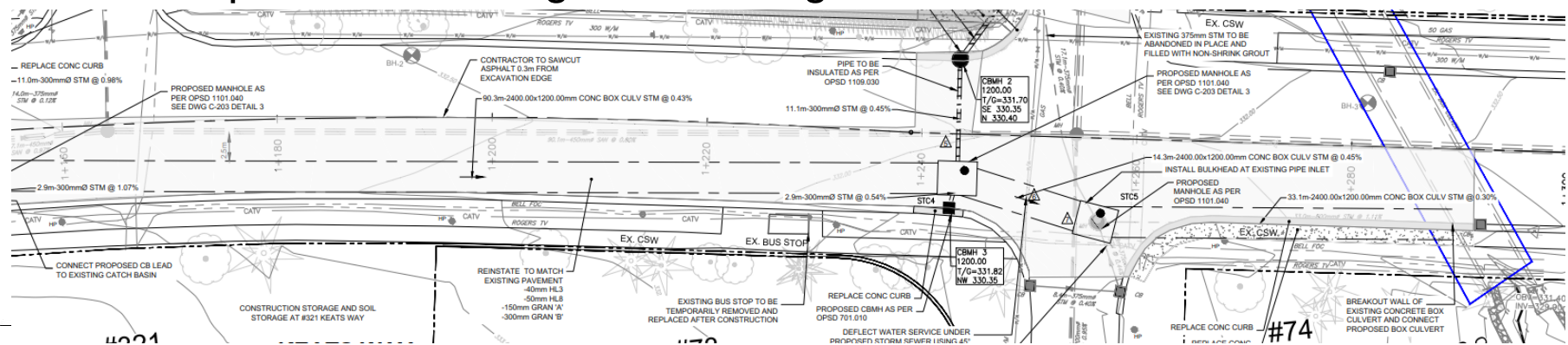


Flood Modelling | Hydrological/Hydraulic Modelling

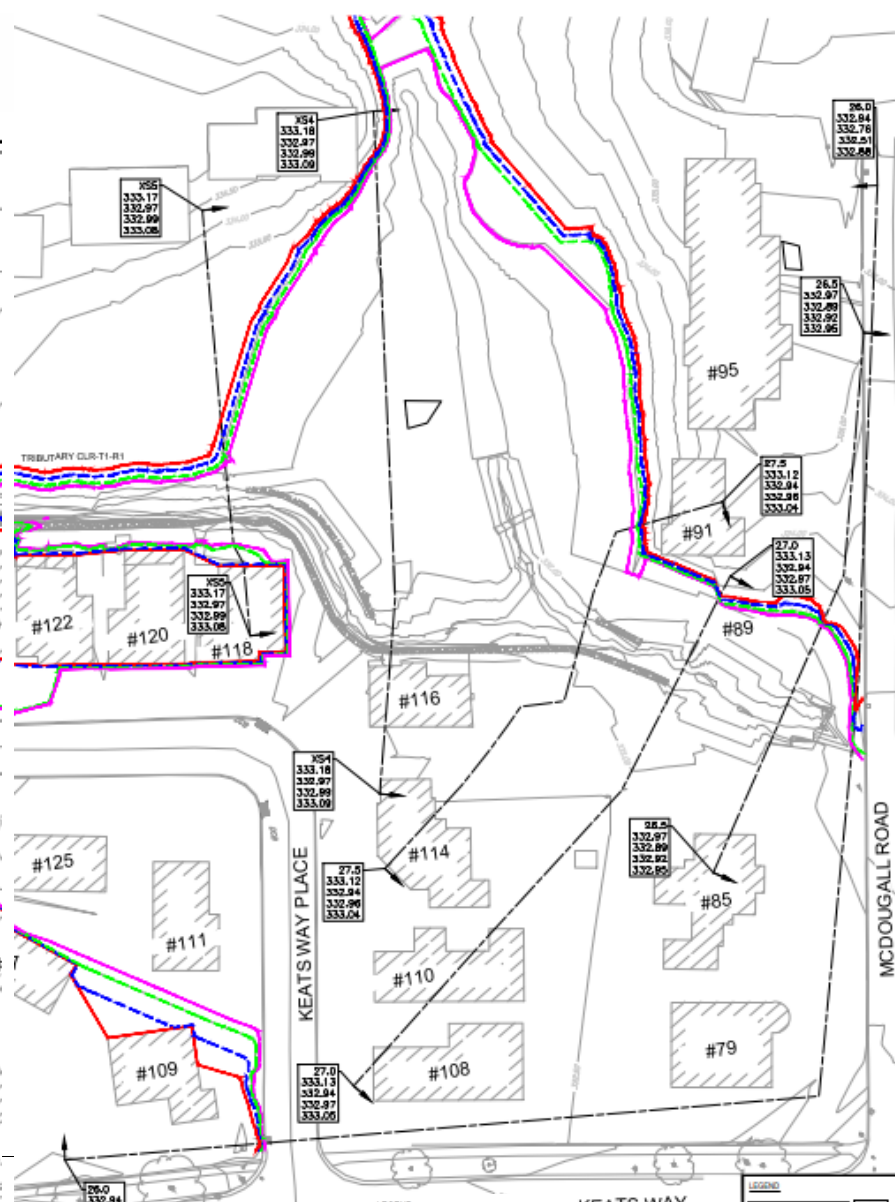
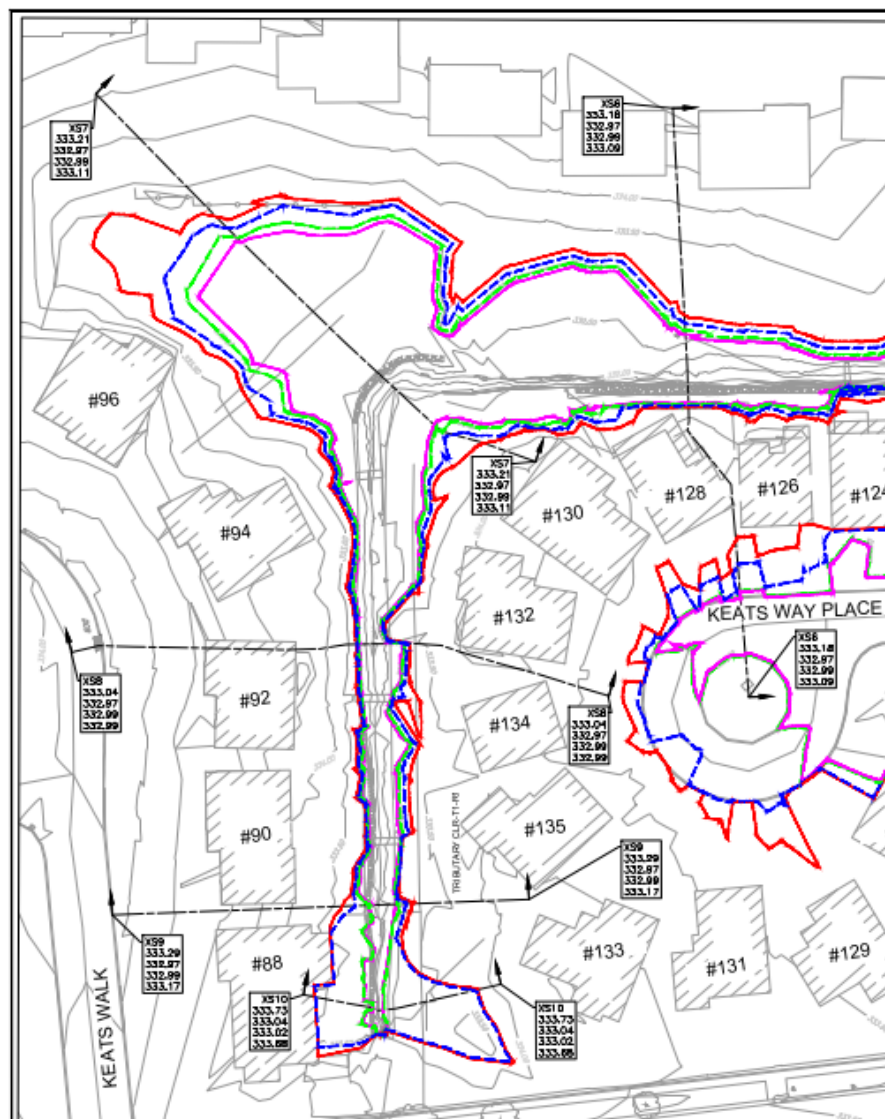


Bypass Assessment

- Four (4) options were developed and reviewed for the proposed bypass
 - Option #1: Do Nothing
 - **Option #2a: Discharge to Existing McDougall Road Culvert**
 - Option #2b: Discharge directly to Clair Creek
 - Option #3: Underground storage

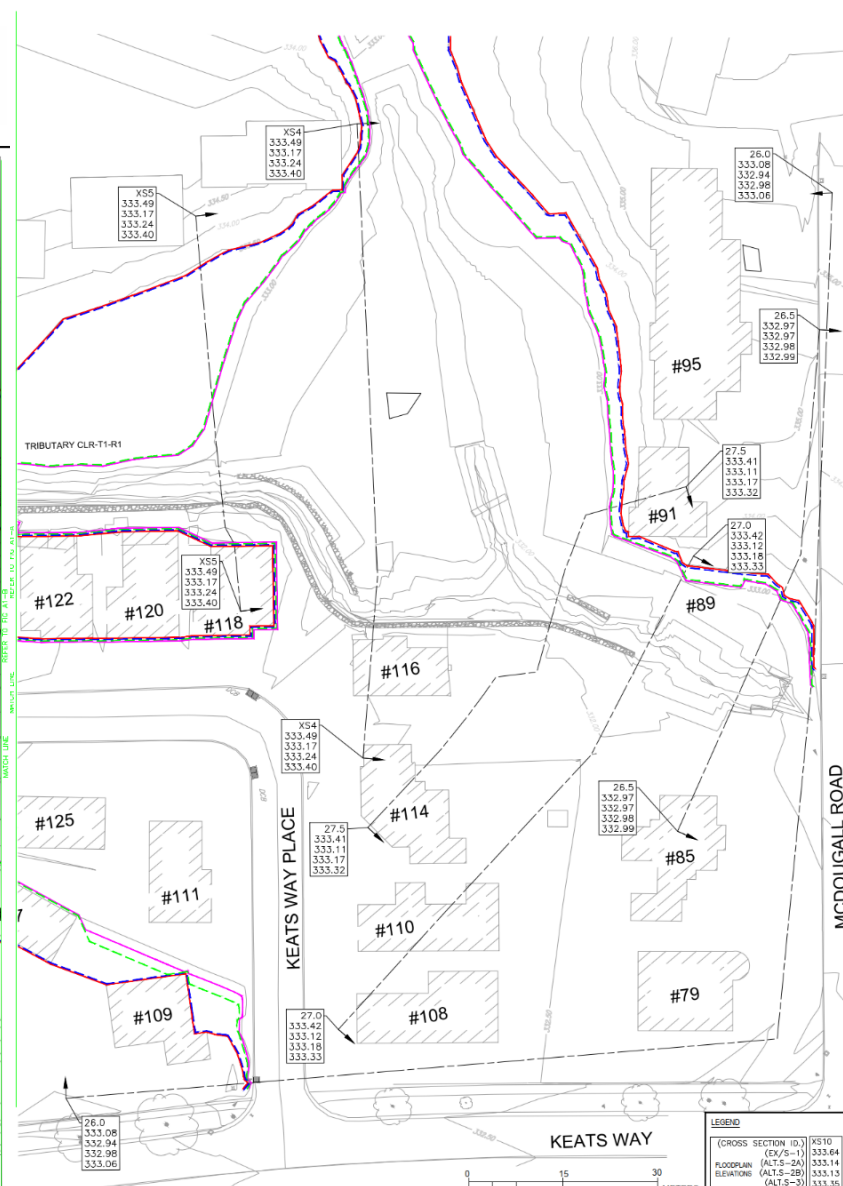
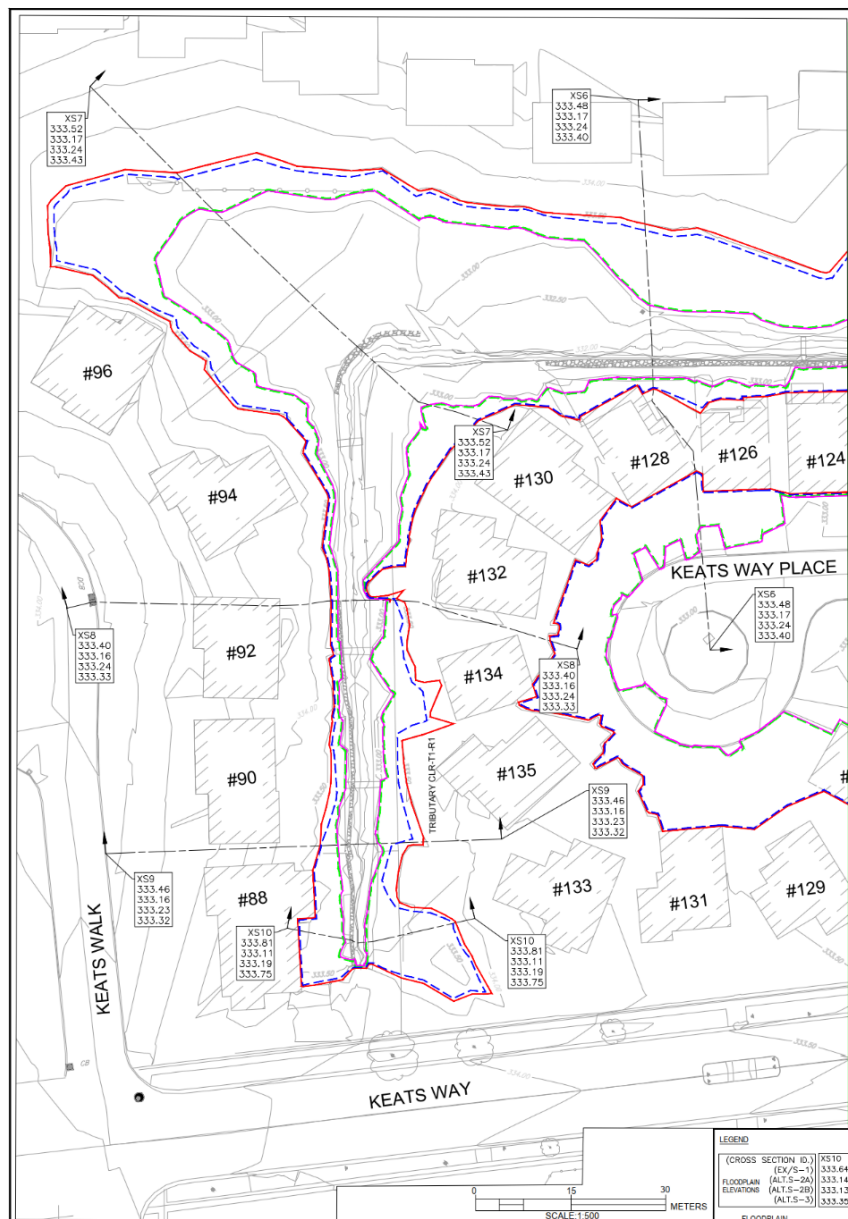






LEGEND	
(CROSS SECTION ID.)	XS10
(EX/S-1)	333.64
FLOODPLAIN (ALT.S-2A)	333.14
ELEVATIONS (ALT.S-2B)	333.13
(ALT.S-3)	333.35

FLOODPLAIN
EXISTING CONDITIONS S-1
FLOODPLAIN S-2A
FLOODPLAIN S-2B
FLOODPLAIN S-3



LEGEND	
(CROSS SECTION ID.)	X510
(EX/S-1)	333.64
FLOODPLAIN	333.14
(ALT.S-2A)	333.13
FLOODPLAIN S-2A	333.13
(ALT.S-3)	333.35
FLOODPLAIN S-3	333.35
FLOODPLAIN	
EXISTING CONDITIONS S-1	---
FLOODPLAIN S-2A	---
FLOODPLAIN S-2B	---
FLOODPLAIN S-3	---

LEGEND

(CROSS SECTION ID.)	X510
(EX/S-1)	333.64
FLOODPLAIN	333.14
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FLOODPLAIN S-2A	333.13
(ALT.S-3)	333.35
FLOODPLAIN S-3	333.35

FLOODPLAIN
EXISTING CONDITIONS S-1
FLOODPLAIN S-2A
FLOODPLAIN S-2B
FLOODPLAIN S-3



Bypass Assessment | Creek Restoration





Bypass Assessment | Creek Restoration





Bypass Assessment | Construction Costs

Project	Cost (\$ millions)
Proposed Bypass	\$2.55 million
Creek Restoration	\$1.12 million
Total	\$3.77 million



Activities, Impacts and Mitigations |

Construction impacts

- Property access
- Erosion and sediment control
- Lane closures/ traffic control along Keats Way





Activities, Impacts and Mitigations |

Property Impacts



Removal
of trees



Existing landscaping
/gardens



Pedestrian
bridges



Activities, Impacts and Mitigations |

Pre- and post-construction monitoring





Construction Timeline

Winter 2023

Start creek restoration

Spring 2023

Bypass construction

Summer 2023

Continue and finish creek restoration



Next Steps



Q & A Session



Stay Involved

Contact us if you have any questions or concerns:

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Engage Waterloo

<https://www.engagewr.ca/clair-creek-at-keats-way>