

Public Open House No. 2

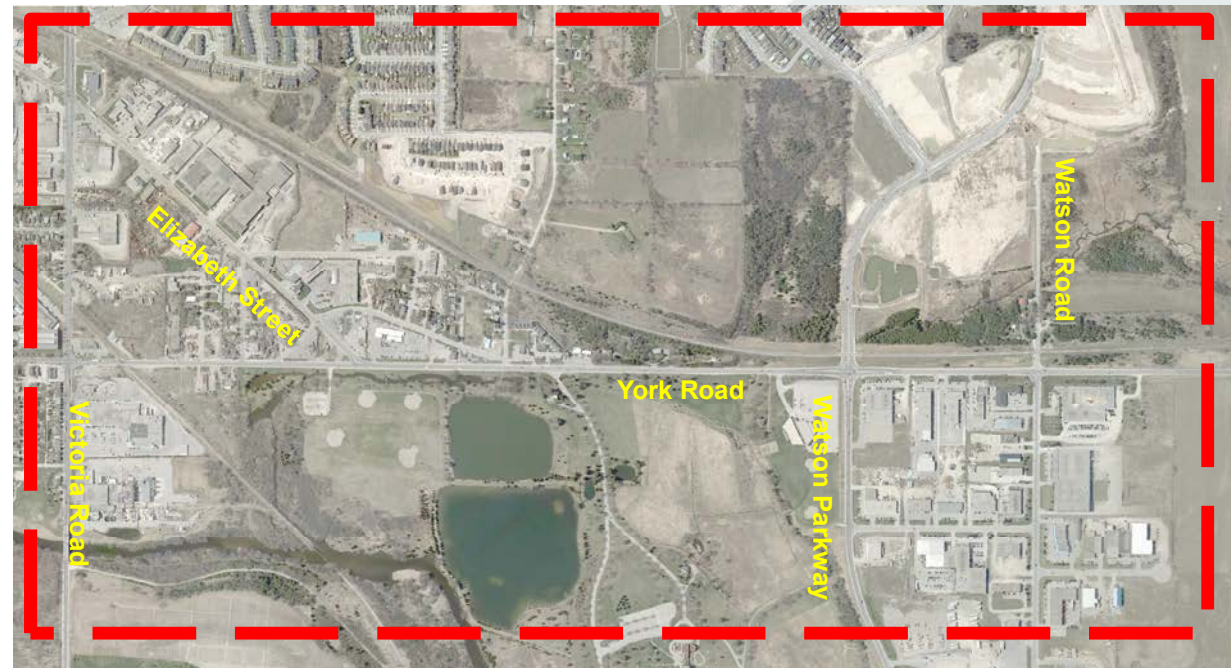
York Road from Victoria Road to East City Limits

Environmental Design Study

May 9, 2019



Study Area



Information Session Purpose and Goals

Purpose

- The City of Guelph is conducting a study of the environmental design requirements for York Road (Victoria Road to East City Limits) to meet the current and future needs of the community
- The intent of this Public Open House is to:
 - Inform the public about the study
 - Collect feedback from the public on the recommended design as it relates to their priorities and concerns to inform subsequent design decisions.

Goals

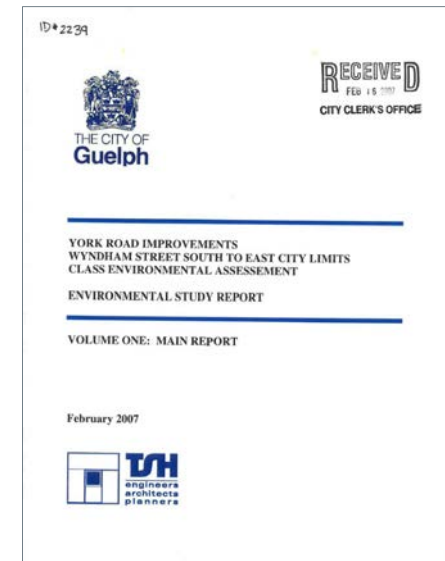
- Provide information to the public on the study area, including previously completed studies and investigation key findings
- Present alternatives considered and the preliminary preferred alternative
- Collect public feedback on the study to inform next steps



Study – Previous and Current

2007 Class Environmental Assessment (Class EA)

- Assessed the travel needs for York Road from Wyndham Street to the East City Limits
- Recommendations included the widening of the road from 2 lanes to 4 between Victoria Road and the East City Limits
- Detailed environmental design strategy was not included as part of the 2007 Class EA



Current Environmental Design Study

- Includes an Environmental Impact Study (EIS)
- Recommendation for road widening has been approved and reconfirmed, and so has not been reconsidered
- Study focus is on detailed design considerations, including:
 - Opportunities to provide active transportation facilities;
 - Impact to cultural and natural heritage; and
 - Potential modifications to Clythe Creek.



Environmental Design Study

Previous Study (2007 Class EA)

- Included a Natural Environment Report that characterized Clythe and Hadati Creeks
- Did not assess the environmental impacts of the proposed road widening in detail
- Did not consider impacts to the roadside and in-water cultural heritage features associated with the former Reformatory property.



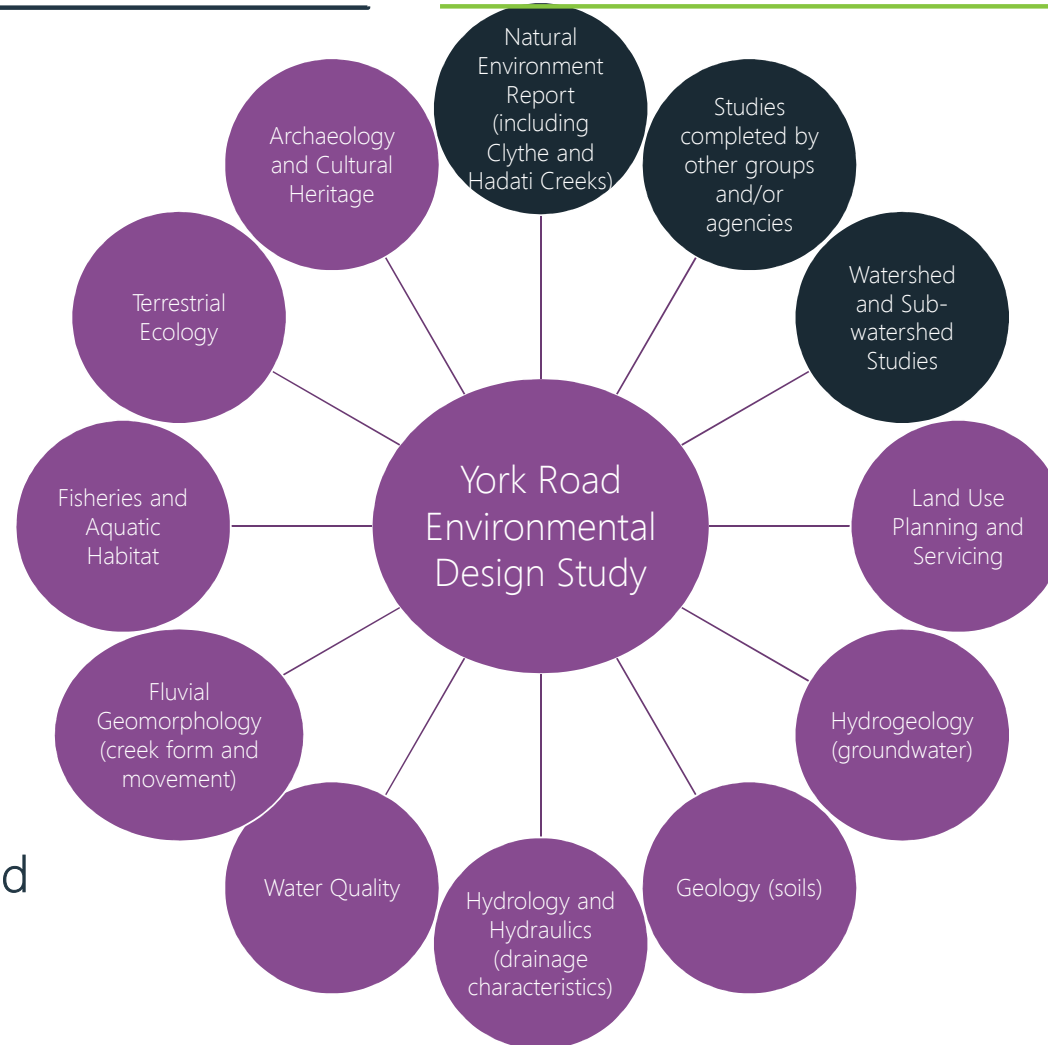
Current Study

- Review of previous completed studies and analyses
- Additional technical studies / field investigations (see next board for a fulsome list)
- Updated analyses and design work



Environmental Studies

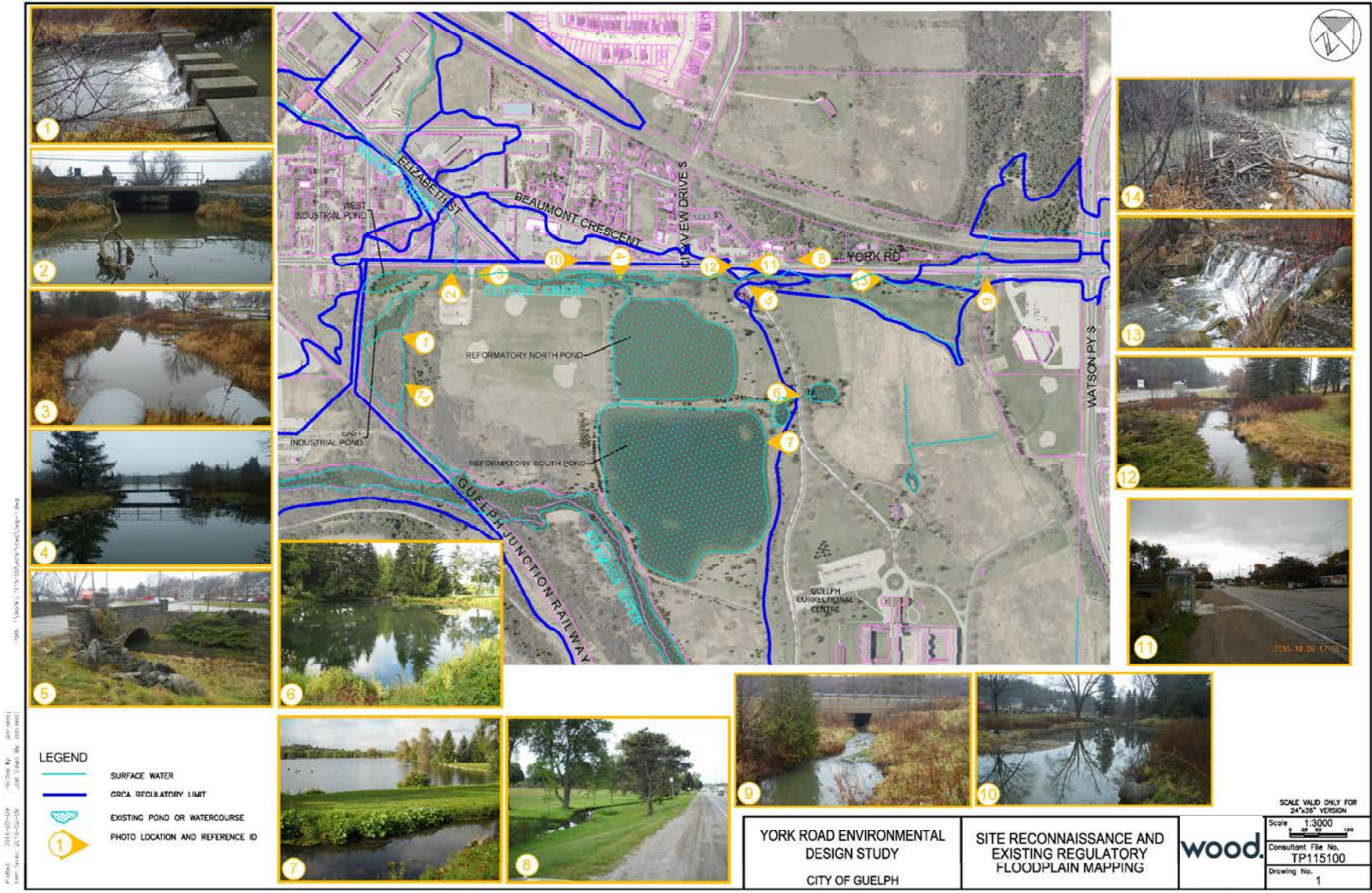
Previous Studies reviewed



Studies Completed To Support This Study



Site Reconnaissance – Clyde Creek



Study Area Characterization

Clythe Creek

- Headwater section characterized as a coldwater stream that sustains a trout population
- Lower sections are characterized as a coolwater stream, with temperature impacts from development and on-line ponds
- Highly altered, with numerous drop structures (many that have cultural heritage value¹) and on-line ponds that restrict fish passage and warm the water



Hadati Creek

- Crosses the York Road corridor
- Highly altered, with the system being fully lined and straightened. Characterized as a coolwater stream

General

- Much of the study area consists of permeable sand and gravel deposits and a high groundwater table
- Existing ponds within the Province's lands are considered part of the City's park system but are not City owned



¹ Province has identified most of their property and features along York Road as having Provincial Cultural Heritage Value

Site Reconnaissance – Cultural Heritage Features

- Total of 36 listed (but not designated) cultural heritage features identified within the study area
- Primarily hand-laid stonework crafted by inmates from the adjacent Reformatory Property
- Both roadside and in-water cultural heritage features



Site Reconnaissance – York Road

- Current York Road configuration:
 - 2-lane arterial roadway;
 - Portion of MTO’s “Connecting Link” for Highway 7;
 - No designated pedestrian or cycling facilities east of Watson Parkway South;
 - Gravel shoulders;
 - Ditches for roadside drainage;
 - Average daily traffic volume of ~ 10,000 vehicles;
 - Existing public right-of-way is approximately 20m;
 - Right-of-way is closely abutted by residential/commercial developments on the north side and cultural heritage features/Clythe Creek on the south side, which create grading challenges for the proposed road improvements.



What We Heard ...



| What we heard from Stakeholders | How that input has influenced the preferred design concept |
|---|--|
| Concern expressed regarding the proposed closure of Beaumont Crescent | The closure of Beaumont Crescent was recommended as part of the 2007 Class EA. The recommendations of the EA are not being re-examined as part of this study. |
| Concern expressed about safety associated with traffic turning onto York Road from Elizabeth Street | The 2007 Class EA recommended re-alignment of Elizabeth Street (to a 90° intersection) and addition of traffic signals. This should address this concern. |
| Seek opportunities to reduce the risk of expanding the road near the stream and potentially use the renaturalized creek section as compensation | Realignment and naturalization of the creek system is being recommended as part of this study. |
| Support for effort to restore this small stream (Clythe Creek) as a productive coldwater system with better water quality | Treatment of stormwater run-off from the roadway, as well as a recommendation to disconnect Clythe Creek from the ponds near Industrial Street will improve the health of the creek. |
| Need for off-road cycling facilities on both sides of the road, particularly given the speed and volume of traffic on York Road | Off-road multi-use pathways, which will accommodate both pedestrians and cyclists, are being recommended. |
| Desire for increased separation between York Road and the pedestrian / cycling facilities | Property restrictions on the north side of York Road, and important heritage features on the south side restrict our ability to provide separation. We've provided a minimum of 1.0 m wherever feasible. |
| Confirm need for road widening | The need for widening was reconfirmed. |



What We Heard ...



| What we heard from Stakeholders | How that input has influenced the preferred design |
|---|---|
| Need for better pedestrian and cyclist connectivity between the north and south sides | A proposed traffic signal at Elizabeth Street will improve crossing safety. Opportunities for signalized pedestrian crossings at other locations will be considered at detailed design. |
| Need for traffic calming measures to be implemented along both York Road and Industrial Street | Due to the limited available space and York Road’s designation as an MTO Connecting Link, few ‘traditional’ methods of traffic calming are possible. The City is considering the use of signage and landscaping to reduce speeds. |
| Ability to access and appreciate the cultural and natural heritage features associated with the Reformatory site. | The area will be visible from the new pathways along York Road, as well as additional pathways being proposed south of the creek. |
| Cultural features should be the highest priority aspect of design of this corridor. | Significant effort has, and will continue to be, spent on identifying strategies to maintain and restore the cultural heritage features. |
| Limit impact to Clythe Creek and restore habitat | The study recommends realignment and naturalization of Clythe Creek, which will improve fish passage, water quality and temperature. |
| Consider opportunities to use the area for urban agriculture | This consideration is beyond the scope of the current study. |
| Ensure selected plant species will thrive in their roadside environment | Recommended plant species are both local and hardy. |
| Consider locating the south multi-use pathway south of the creek. | This option was investigated but was not recommended as the path would be subject to frequent flooding. |



Creek and Heritage Design Considerations

Clythe Creek Realignment

- Natural channel design
- Improved fish habitat and fish passage
- Reduce thermal impacts from ponds
- Incorporate groundwater inputs
- No impact to flood risk



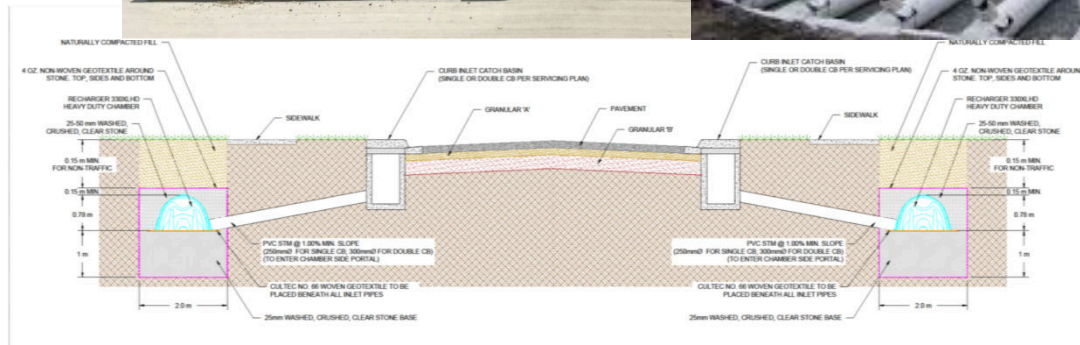
Cultural Heritage Features

- Maintain features whenever possible
- Flow to be diverted to realigned channel
- Possibly remove and relocate features to improve visibility
- Provide signage for public education



Drainage Design Considerations

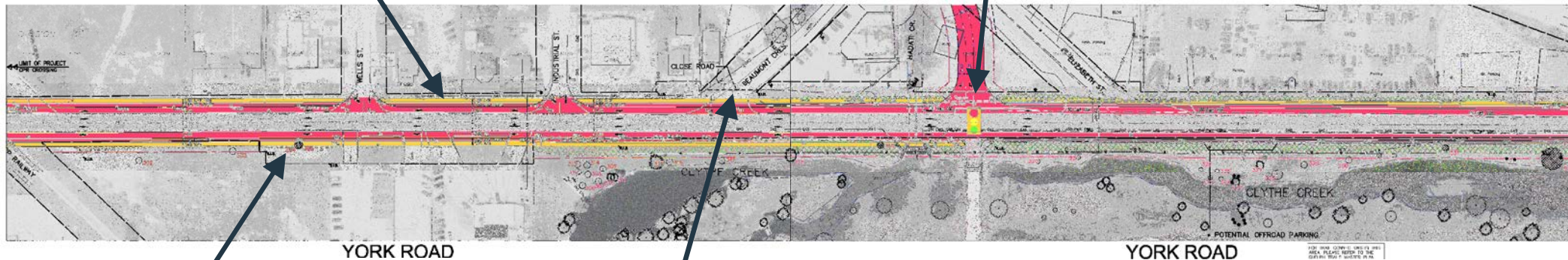
- Low impact development stormwater management best management practices (LID BMPs) could be considered within the corridor
 - Could provide water quality and quantity control for drainage from the road
 - Has to consider limited right-of-way space
 - Has to consider the City's operation and maintenance requirements



Road Design Considerations - 2007 Class EA

Widening of York Road from 2 to 4 lanes

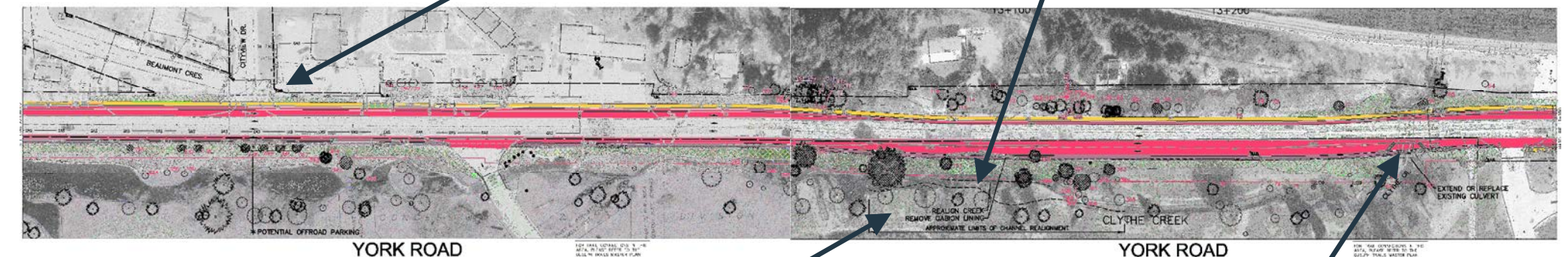
Intersection improvements at Elizabeth Street



Addition of sidewalks and bike lanes along the length of York Road

Closure of intersection with Beaumont Crescent

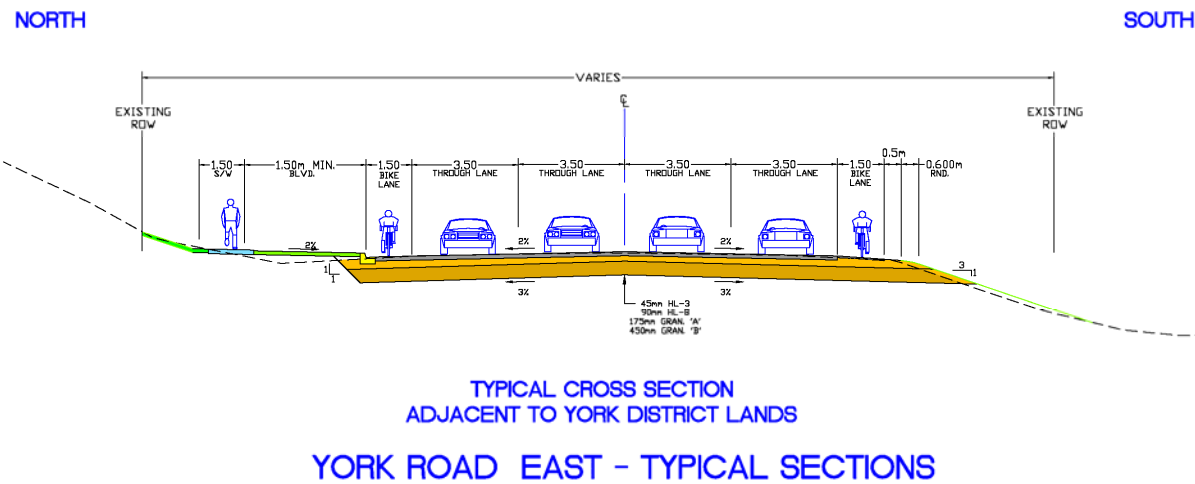
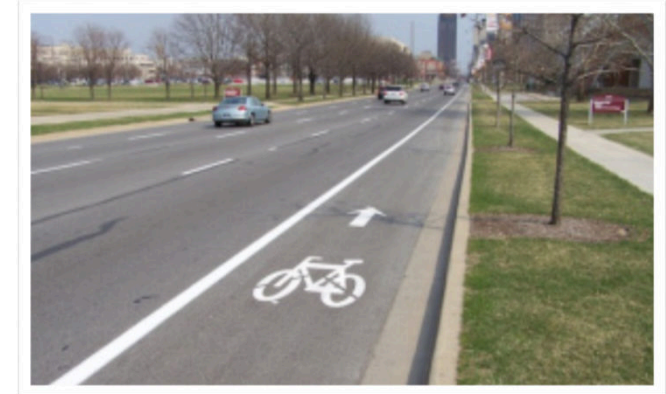
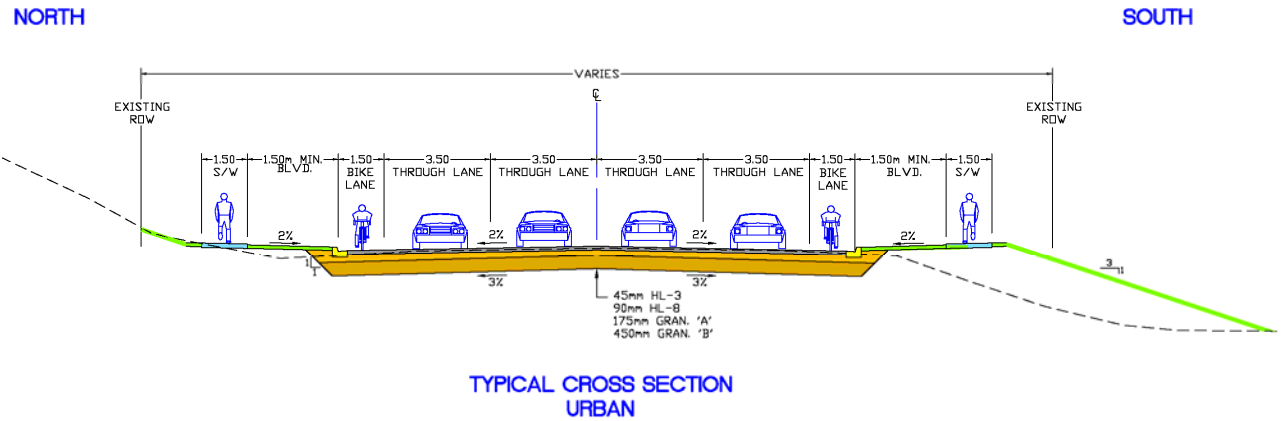
Realignment of approximately 135m of Clythe Creek channel to accommodate the road widening



Riparian plantings to separate the widened roadway from the relocated Clythe Creek channel

Extension of the Clythe Creek culvert crossing of York Road (just west of Watson Parkway)

Road Design Considerations - 2007 Class EA



Preliminary Alternatives

York Road Design Overview

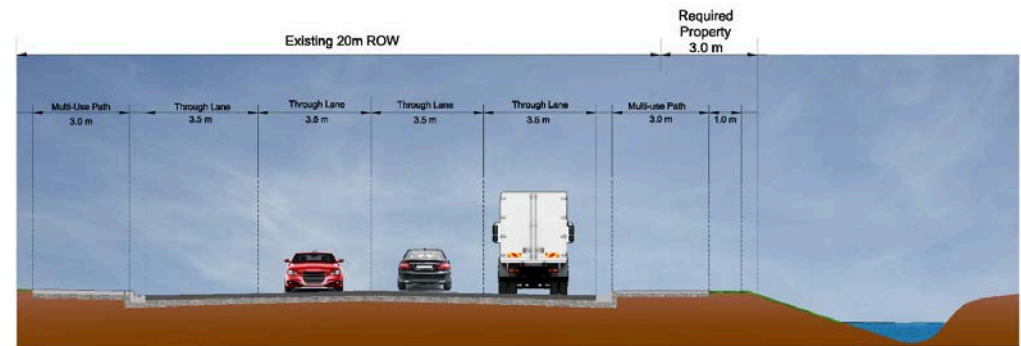
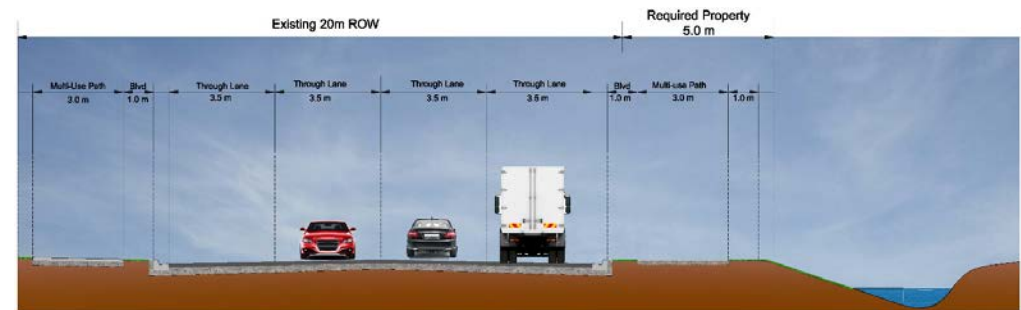
- All alternatives provide 2 travel lanes in each direction (4 lane cross-section) per the 2007 EA
- No impact to the north property limit, with exception of property at the intersections of York Road with Victoria Road, Watson Parkway and Watson Road to make space for turning lanes.
- Both pedestrian and cycling facilities to be provided using multi-use pathways
 - Due to traffic volumes and operating speed, on-road facilities were not identified as the preferred facility type for the majority of users.
- A total of 29 alternatives were considered as part of the initial evaluation, with a shortlist of 5.



Preliminary Alternatives

York Road

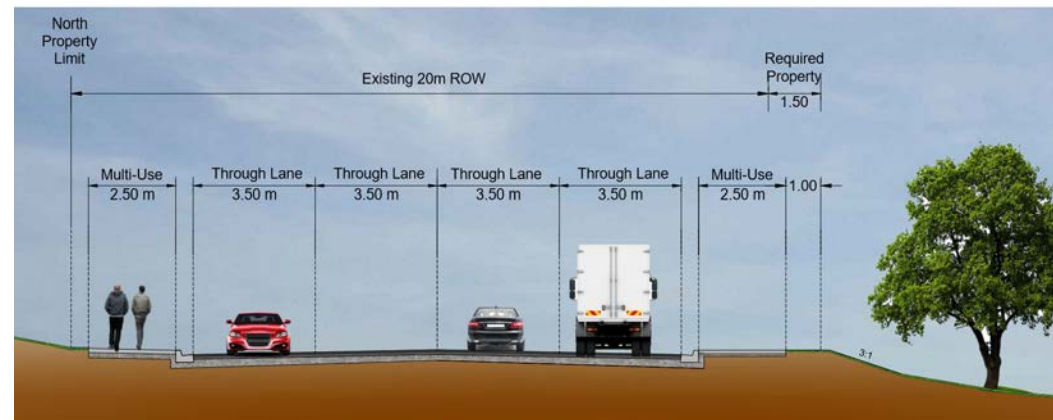
- **Alternative 1**
 - 4 lane road cross-section
 - 3.0 m wide multi-use pathways on both the north and south sides
 - 1.0 m minimum boulevard between the curb and multi-use pathway
- **Alternative 2**
 - 4 lane road cross-section
 - 3.0 m wide multi-use pathways on both the north and south sides
 - 1.0 m minimum boulevard between the curb and multi-use pathway east of the Reformatory Entrance and west of Elizabeth Street. *(Section shown just west of Reformatory Entrance)*



Preliminary Alternatives

York Road

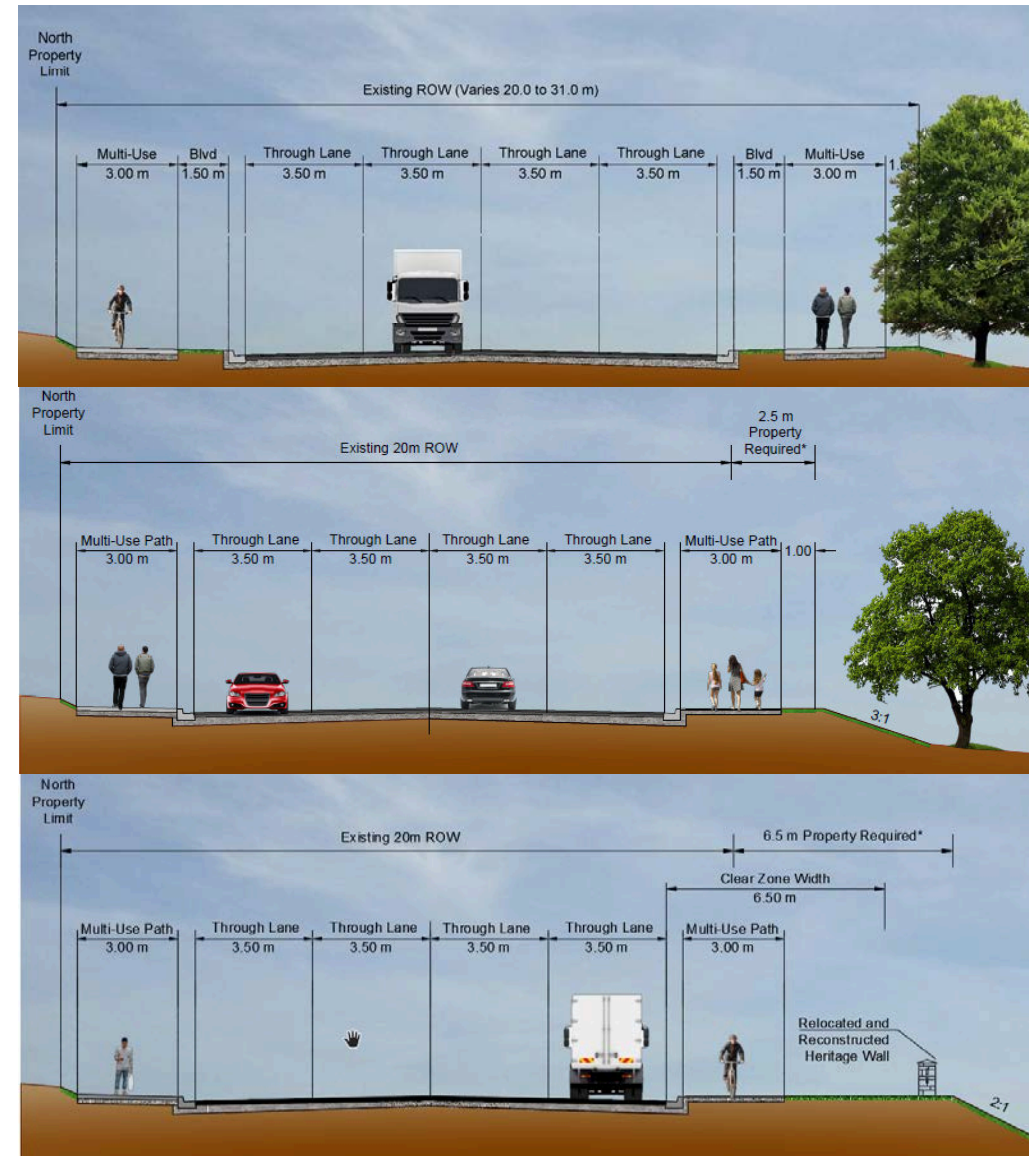
- **Alternative 3**
 - 3.0 m wide multi-use pathways and 1.0 m minimum boulevards west of Elizabeth Street and east of the Reformatory entrance.
 - 2.5 m wide multi-use pathways without boulevards between Elizabeth Street and the Reformatory Entrance (as shown)
 - Guiderail between pathway and heritage walls at the Reformatory Entrance



Preliminary Alternatives

York Road

- **Alternative 4**
 - 3.0 m wide multi-use pathways on both the north and south sides
 - 1.0 m minimum boulevard between the curb and multi-use pathway east of the Reformatory Entrance and west of Elizabeth Street (*Sections shown in close proximity of Reformatory Entrance*)
 - Reformatory Entrance heritage walls relocated and reconstructed outside of the road safety zone.



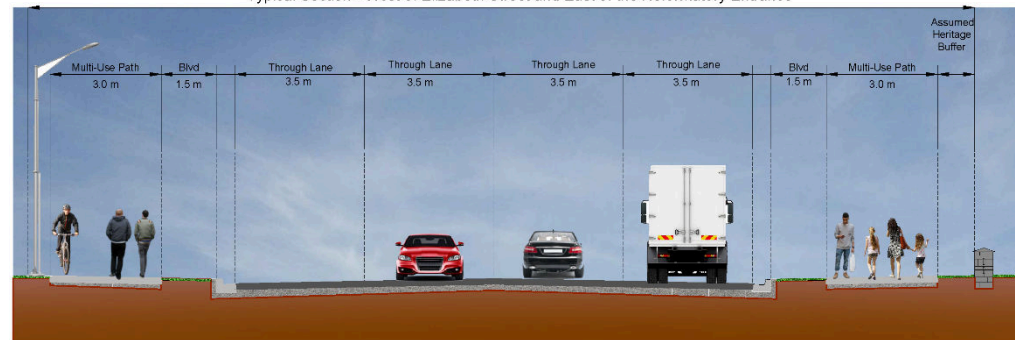
Preliminary Alternatives

York Road

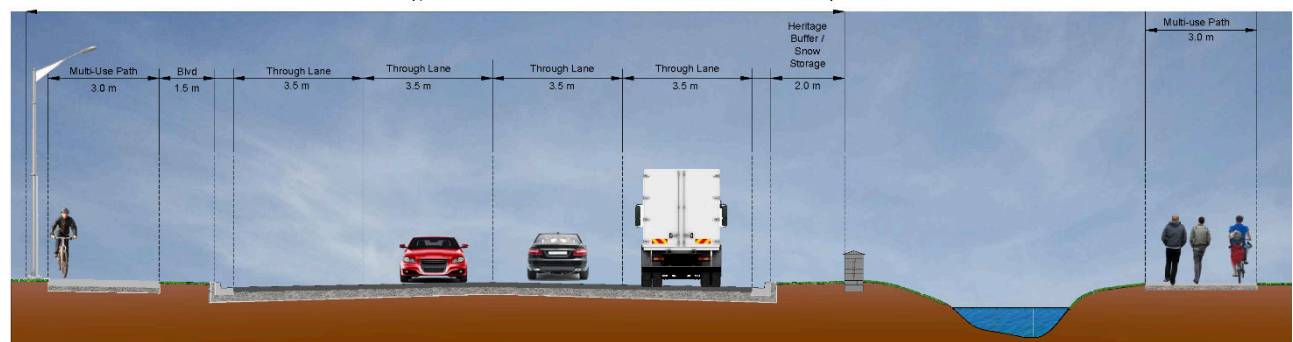
- **Alternative 5**

- 3.0 m wide multi-use pathway and 1.5 m boulevard on the north side only.
- 3.0 m wide multi-use pathway constructed south of relocated Clyde Creek (not accessible during storm events due to flooding)

Typical Section - West of Elizabeth Street and East of the Reformatory Entrance



Typical Cross-Section - Elizabeth Street to East of Reformatory Entrance



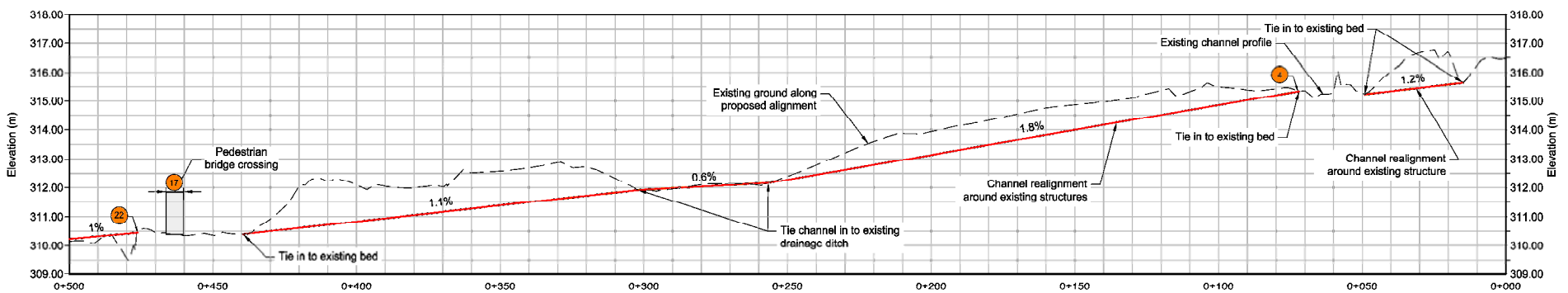
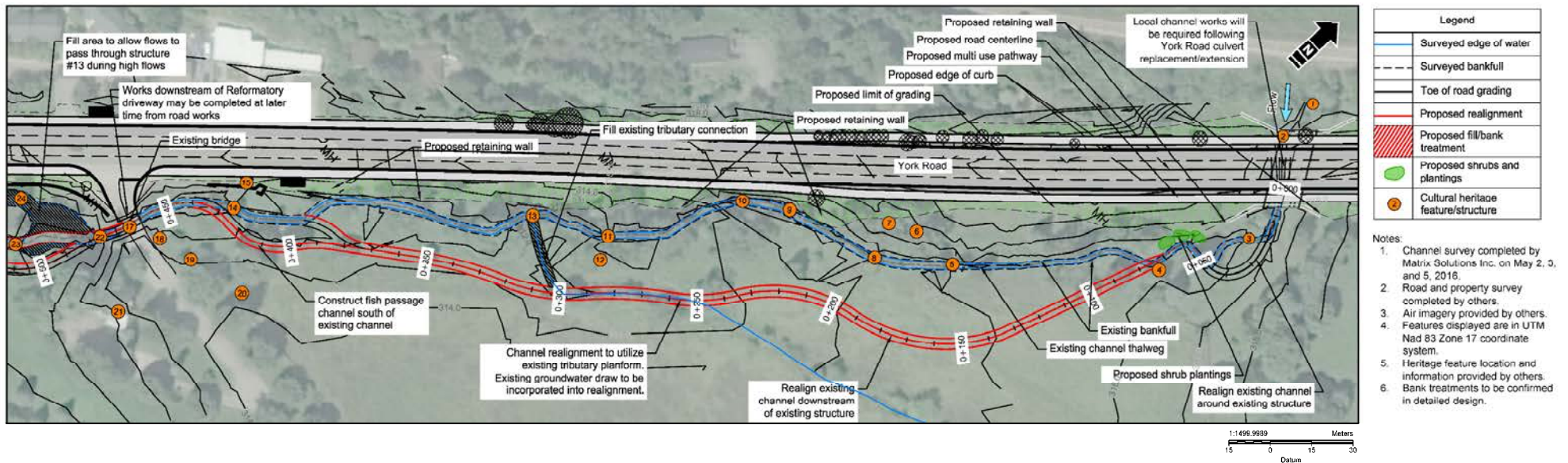
Preliminary Alternatives

Clythe Creek

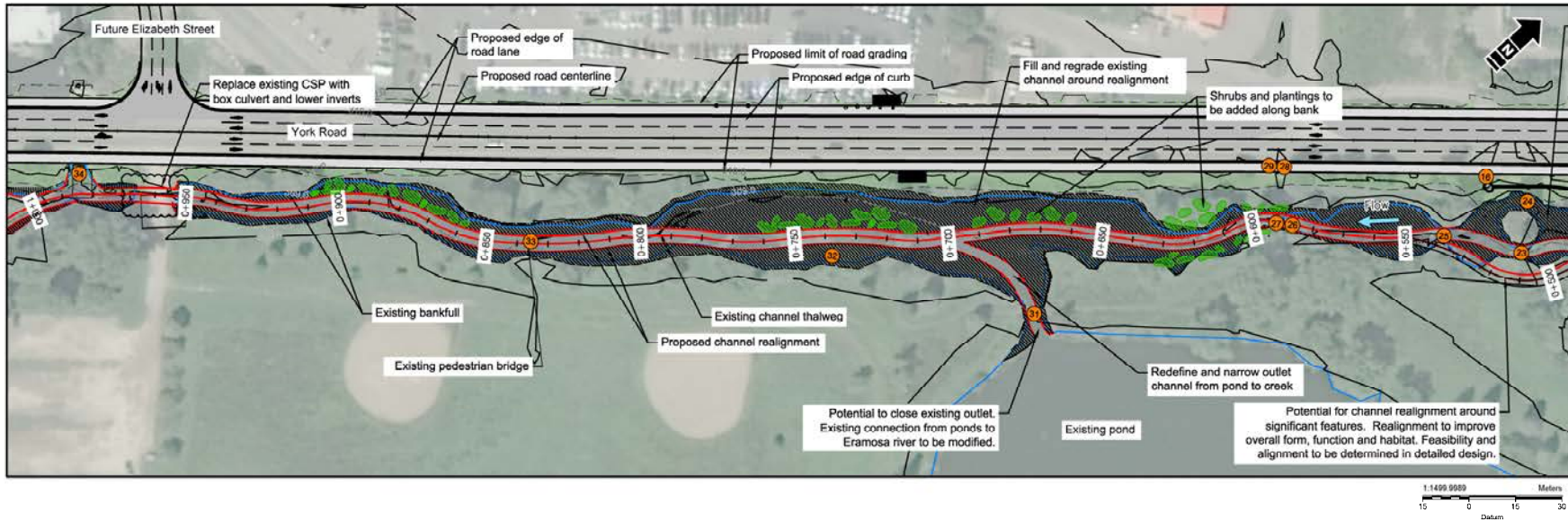
- **Alternative 1 – Do Nothing**
 - Minimized grading to accommodate road widening
 - No improvement to fish habitat or fish passage
 - No improved channel form
- **Alternative 2 – Improved Form and Function**
 - Realign creek upstream (east) of Reformatory Driveway
 - Narrow channel downstream (west) of the Reformatory Driveway to downstream of Hadati Creek
 - Limit interaction of the creek and northern Reformatory ponds by grading works



Preliminary Alternatives – Clythe Alternative 2

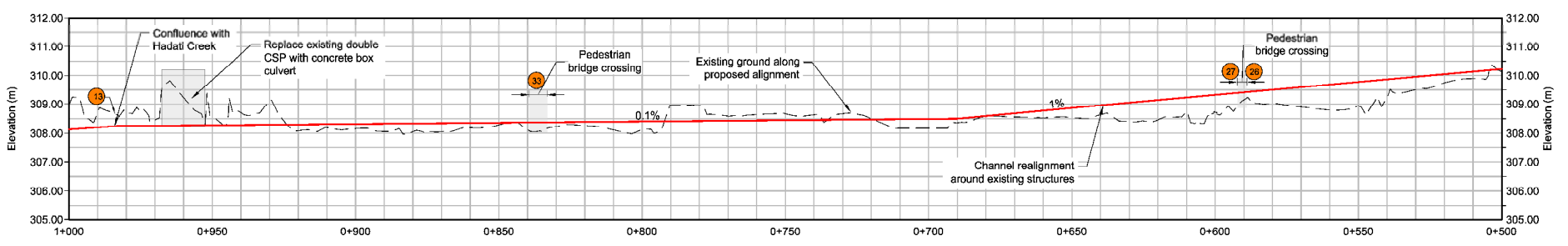


Preliminary Alternatives - Clyde Alternative 2

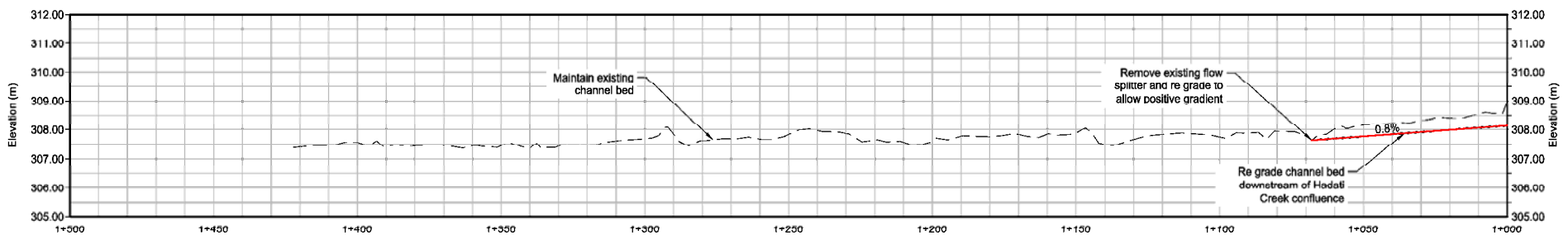
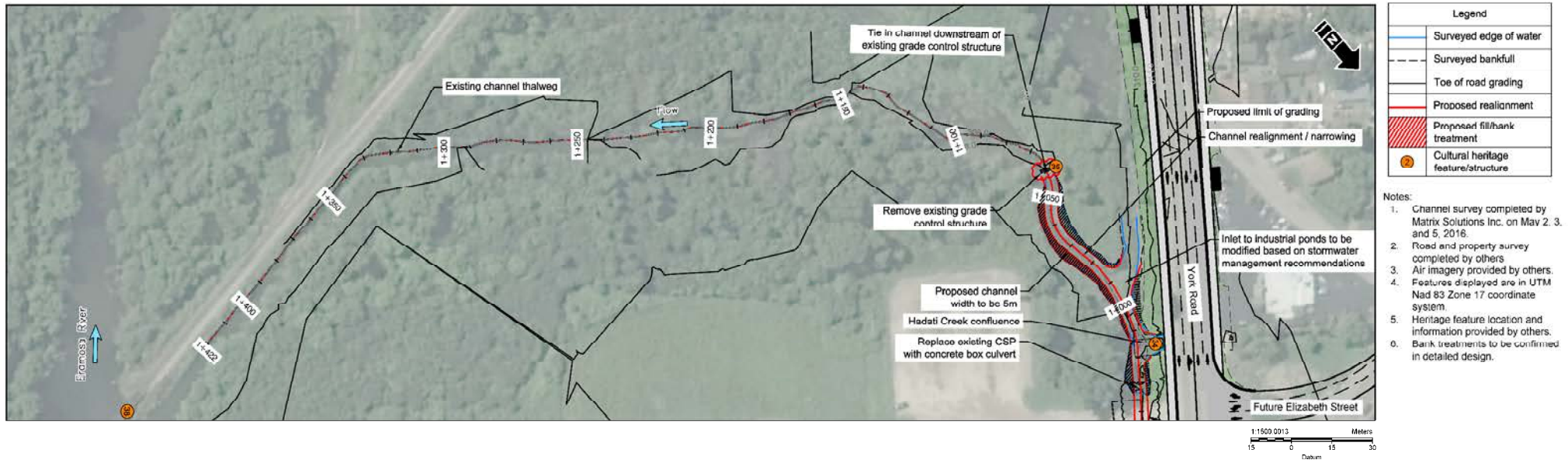


| Legend | |
|--------|-------------------------------------|
| | Surveyed edge of water |
| | Surveyed bankfull |
| | Toe of road grading |
| | Proposed realignment |
| | Proposed fill/bank treatment |
| | Proposed shrubs and plantings |
| | Cultural heritage feature/structure |

- Notes:
1. Channel survey completed by Matrix Solutions Inc. on May 2, 3, and 5, 2016.
 2. Road and property survey completed by others.
 3. Air imagery provided by others.
 4. Features displayed are in UTM Nad 83 Zone 17 coordinate system.
 5. Heritage feature location and information provided by others.
 6. Bank treatments to be confirmed in detailed design.



Preliminary Alternatives – Clythe Alt 2



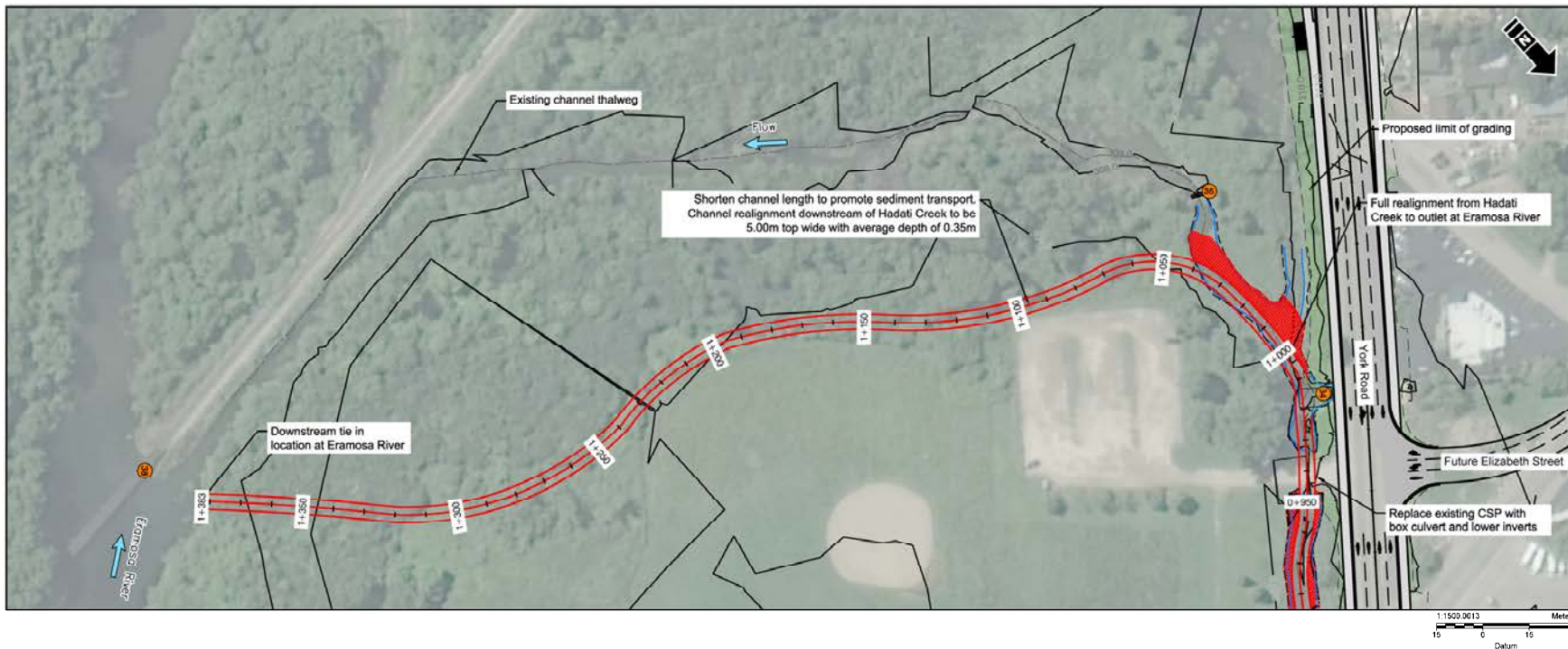
Preliminary Alternatives

Clythe Creek

- **Alternative 3 – Improve Form and Function and Partially Restore Original Water Temperature**
 - All the benefits of Alternative 2, with the following additional works:
 - Realign the creek all the way to the Eramosa River, resulting in disconnection of the online ponds which contribute to thermal warming of Clythe Creek, and
 - Improved creek form and profile to the Eramosa River.
 - Improved fish habitat
 - Opportunities to improve natural heritage system east of the recommended realigned creek
 - Opportunities to reduce size of exiting Clythe Creek downstream of online ponds; still need a drainage outlet.

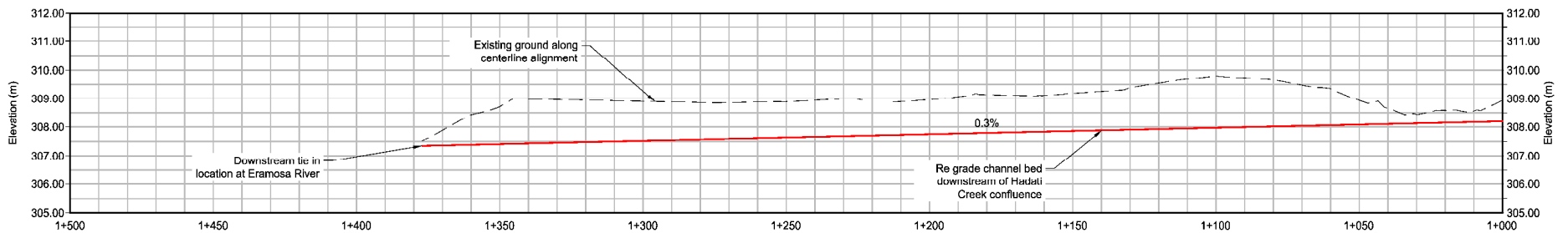


Preliminary Alternatives – Clyde Alternative 3



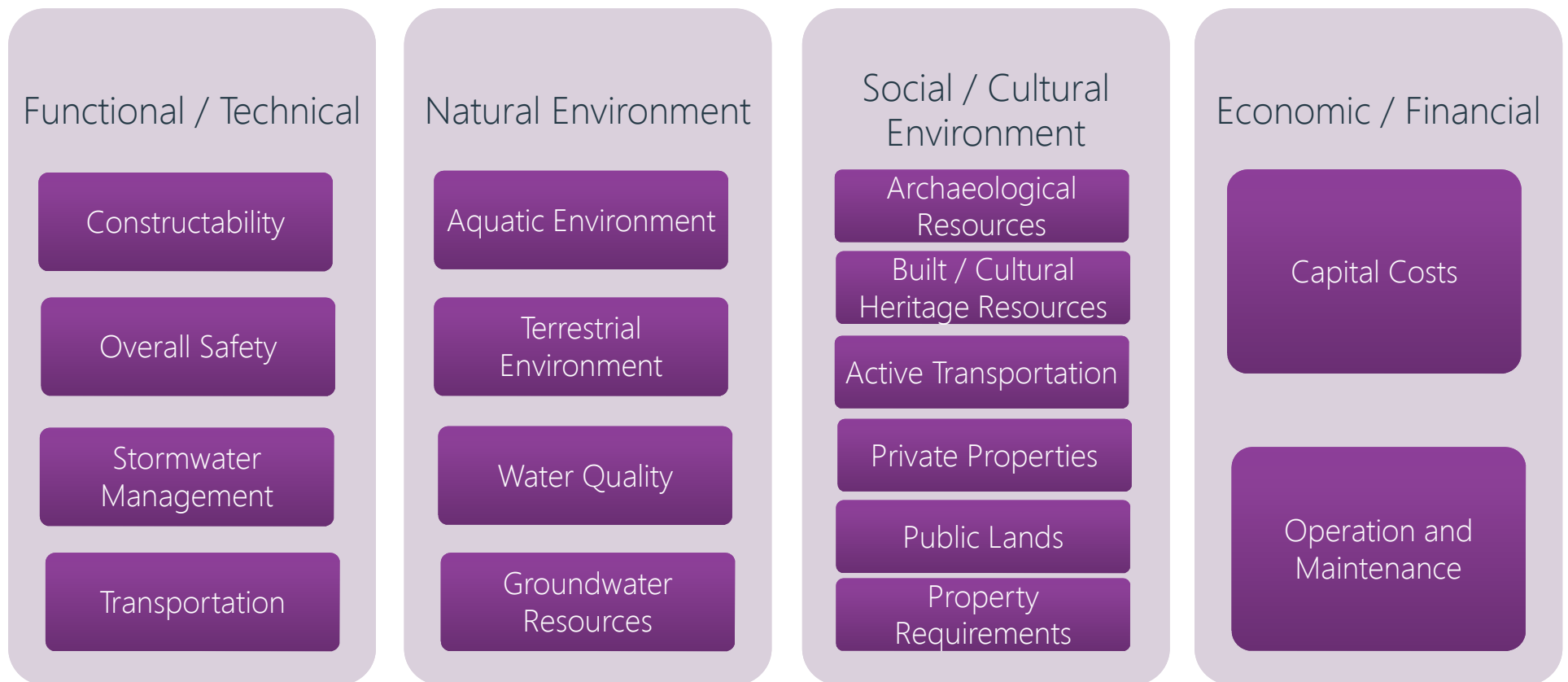
| Legend | |
|--------|-------------------------------------|
| | Surveyed edge of water |
| | Surveyed bankfull |
| | Toe of road grading |
| | Proposed realignment |
| | Proposed fill/bank treatment |
| | Cultural heritage feature/structure |

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 5. Heritage feature location and information provided by others.
 6. Bank treatments to be confirmed in detailed design.



Evaluation Criteria

The following criteria were used to evaluate alternatives and determine the preferred solution:



Selection of Preliminary Preferred Creek Solution

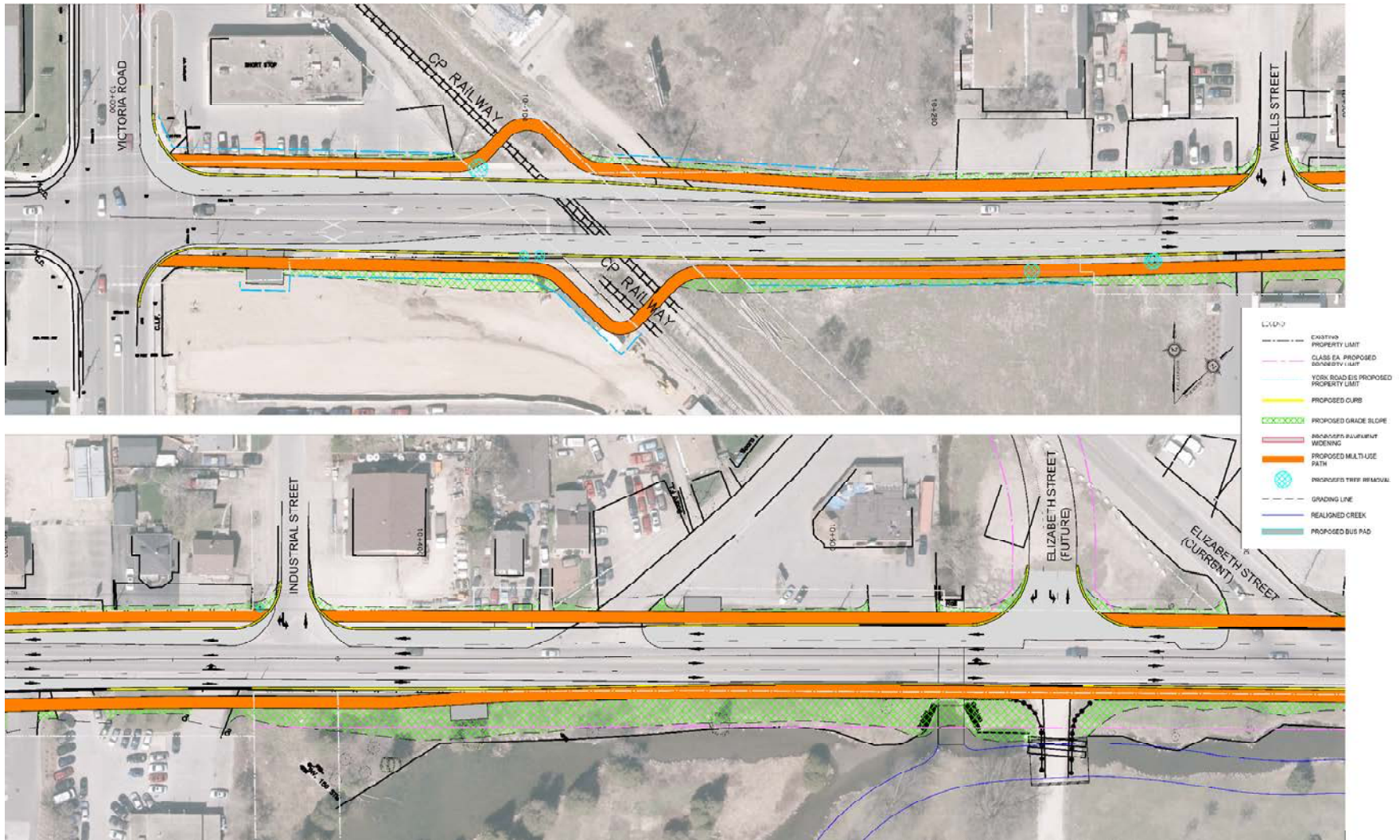
| Creek Alternative | Key Details Relative to Critical Corridor Design Constraints | Recommended Solution |
|-------------------|--|----------------------|
| 1 | <ul style="list-style-type: none"> • Minimizes grading requirements along the creek • Minimizes potential disruption to cultural heritage features within and immediately adjacent to the creek • No improvement to creek form and function as a natural watercourse • No improvement in fish passage within the creek • Reduced opportunities for natural heritage system improvements | No |
| 2 | <ul style="list-style-type: none"> • Considers creek improvements to just downstream of Hadati Creek confluence • Maintains most of the cultural heritage features in current location, with some features requiring relocation and rebuilding and others requiring salvaging. (Flow through the features would become mostly intermittent versus permanent) • Improvement to creek form and function as a natural watercourse from York Road crossing downstream to confluence with Hadati Creek • Moderate to significant improvement in fish passage and habitat • Reduces thermal impacts by eliminating connection to north Reformatory Pond. • Moderate to significant opportunities for natural heritage system improvements • Still maintains existing Clythe Creek and online ponds downstream of Hadati Creek | No |
| 3 | <ul style="list-style-type: none"> • As per Alternative 2, but extends creek realignment to the Eramosa River, therefore providing improved creek naturalization, form and function • Significant improvements to fish passage and habitat • Significant opportunities for natural heritage system improvements • Removes thermal input from online ponds downstream of Hadati Creek confluence | Yes |

Selection of Preliminary Preferred Road Solution

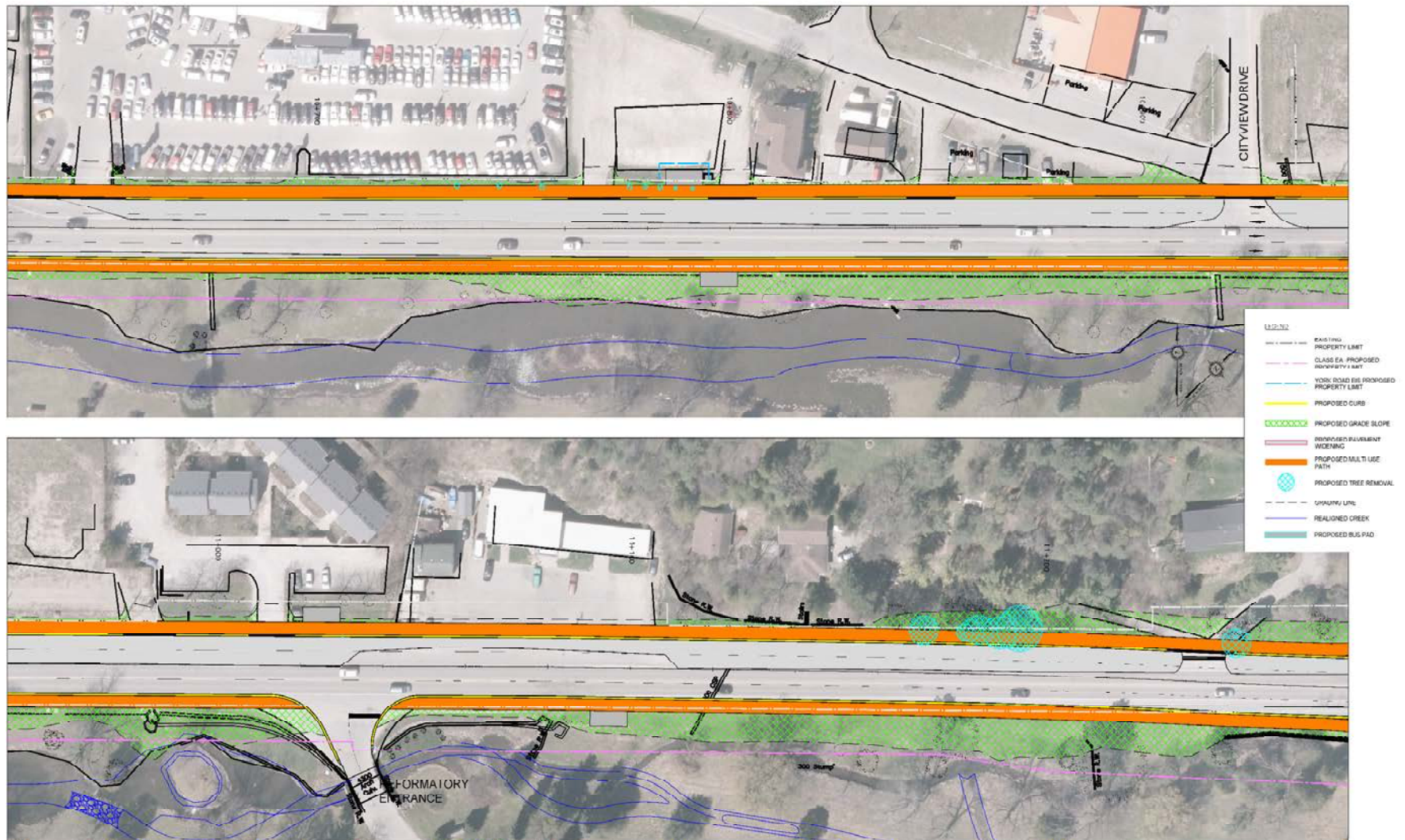
| Road Alternative | Key Details Relative to Critical Corridor Design Constraints | Recommended Solution |
|------------------|---|----------------------|
| 1 | <ul style="list-style-type: none"> Meets requirements in terms of transportation and boulevards (room for snow storage and increases separation of pedestrians and cyclists from road). Results in significant fill being added into the existing Clyde Creek floodplain. Significant impacts to both in-water and Reformatory Entrance heritage features (features would be removed). | No |
| 2 | <ul style="list-style-type: none"> Meets requirements for transportation but not boulevards (room for snow storage and increases separation of pedestrians and cyclists from road). Significant impacts to the Reformatory Entrance walls (would need to be removed) | No |
| 3 | <ul style="list-style-type: none"> No boulevards and substandard multi-use pathways widths. Reformatory Entrance heritage features would be located within the roadway safety zone, requiring protection with guiderail, and limiting ability to see walls. | No |
| 4 | <ul style="list-style-type: none"> Meets requirements for transportation, but provides limited boulevards adjacent to the Guelph Innovation District in order to mitigate impacts to in-water heritage features (ability to provide boulevards to be confirmed during detailed design) Reformatory Entrance features would be relocated and rehabilitated outside of the roadway safety zone. | Yes |
| 5 | <ul style="list-style-type: none"> Relocation of the south multi-use pathway into the floodplain of Clyde Creek would result in reduced pedestrian/cyclist infrastructure "levels-of-service" compared to what will be provided for motorized vehicles (i.e. facility would not be useable during storm events and winter maintenance would be problematic) | No |



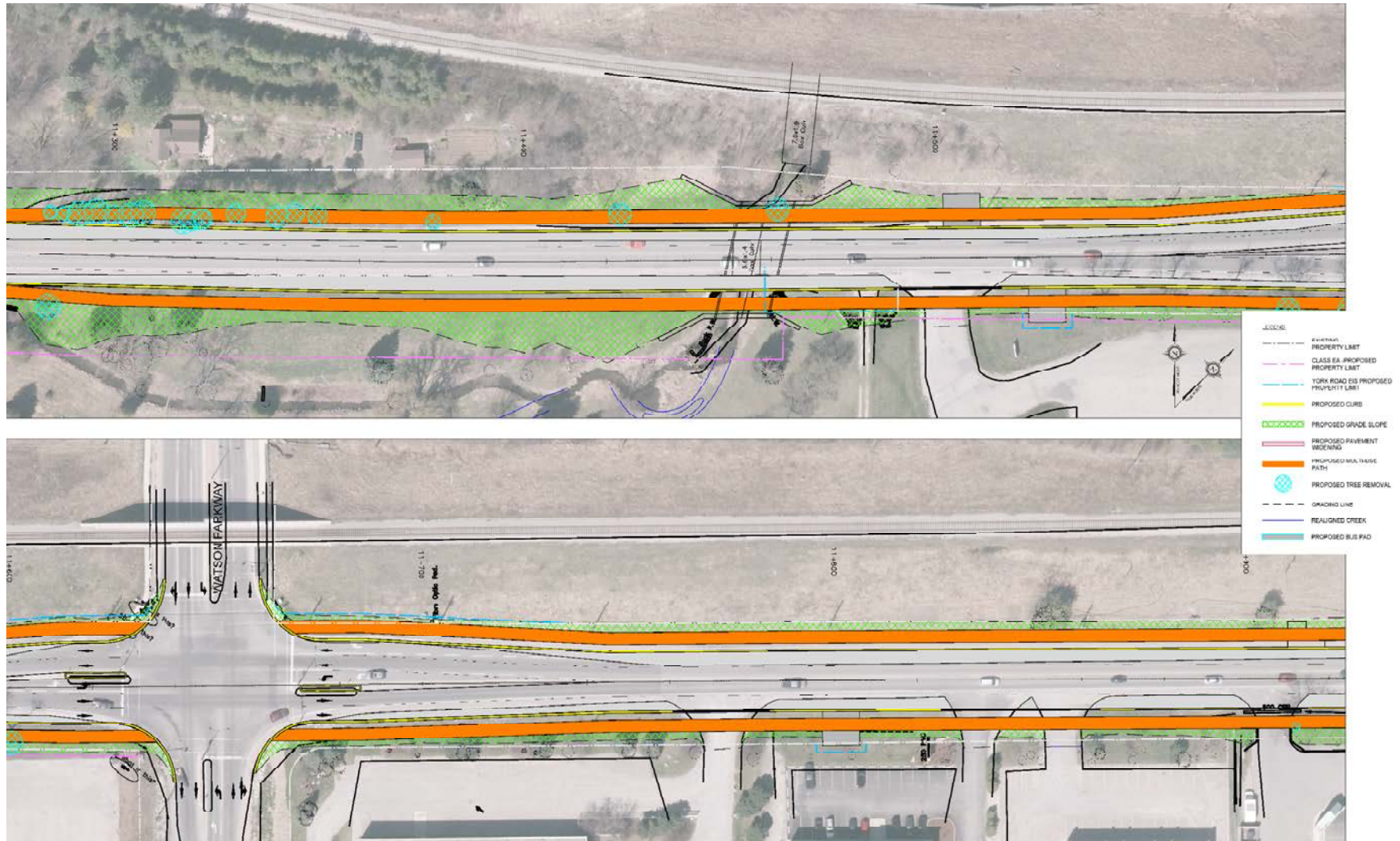
Preliminary Preferred Solution - Roadway



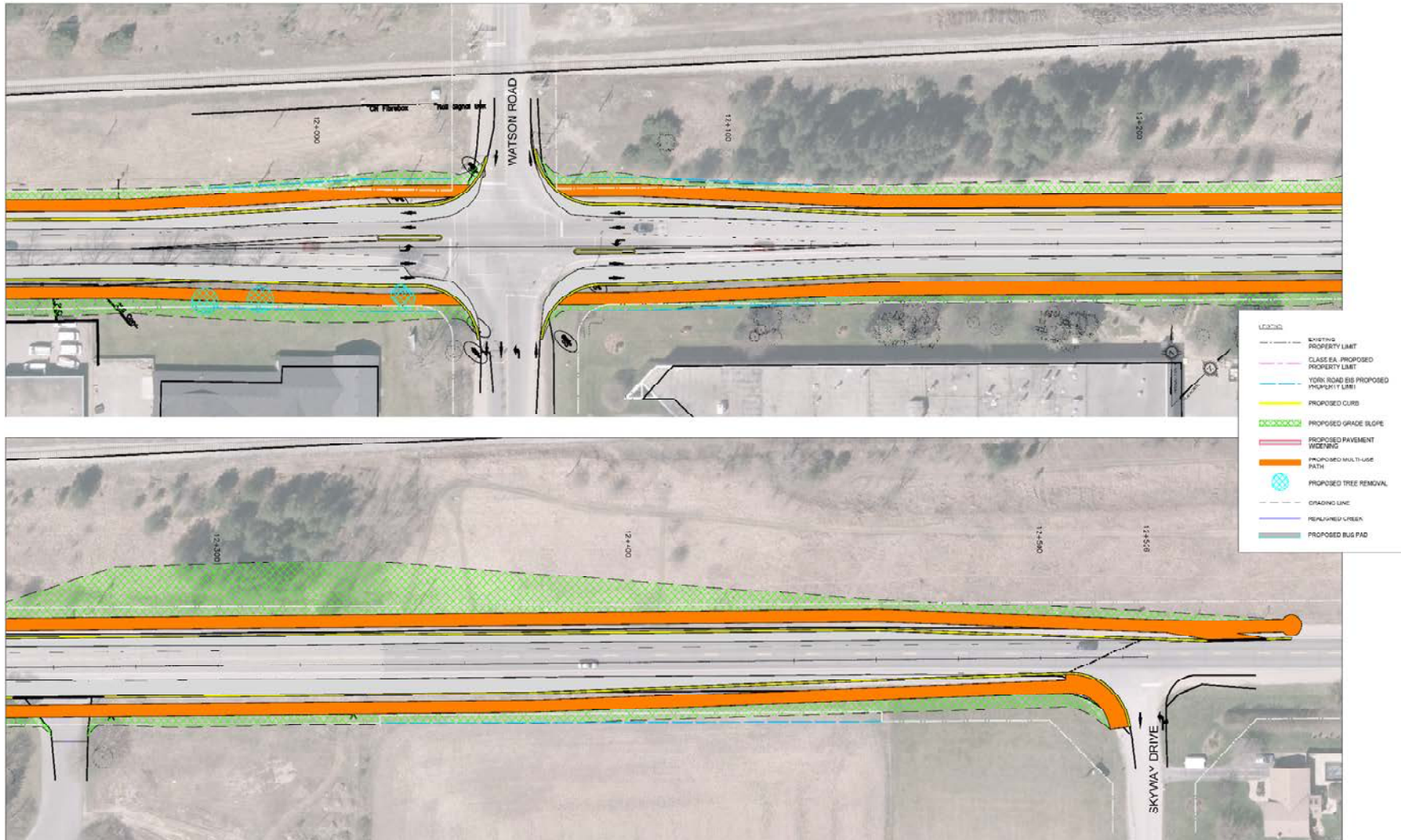
Preliminary Preferred Solution - Roadway



Preliminary Preferred Solution - Roadway

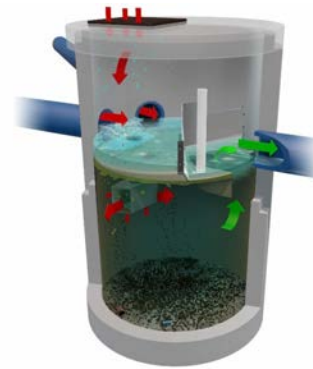


Preliminary Preferred Solution - Roadway



Stormwater Management

- **Stormwater Management Alternatives considered include:**
 - *Permeable Pavement* for multi-use pathways (not selected) - due to use of salt and anti-skid agents that may enter groundwater system.
 - *Catchbasin Shields* (selected) – filters sediments from drainage in catchbasins
 - *Biofiltration Systems* (selected) – uses vegetation and lined soil media to remove contaminants from drainage
 - *Infiltration/ filtration Systems* (selected) – uses stone and sand medias to filter contaminants and potentially infiltrate treated water
 - *Oil/ Grit Separators* (selected) – manhole systems that catch debris, sediments and oil



Oil/Grit Separator



CB Shield

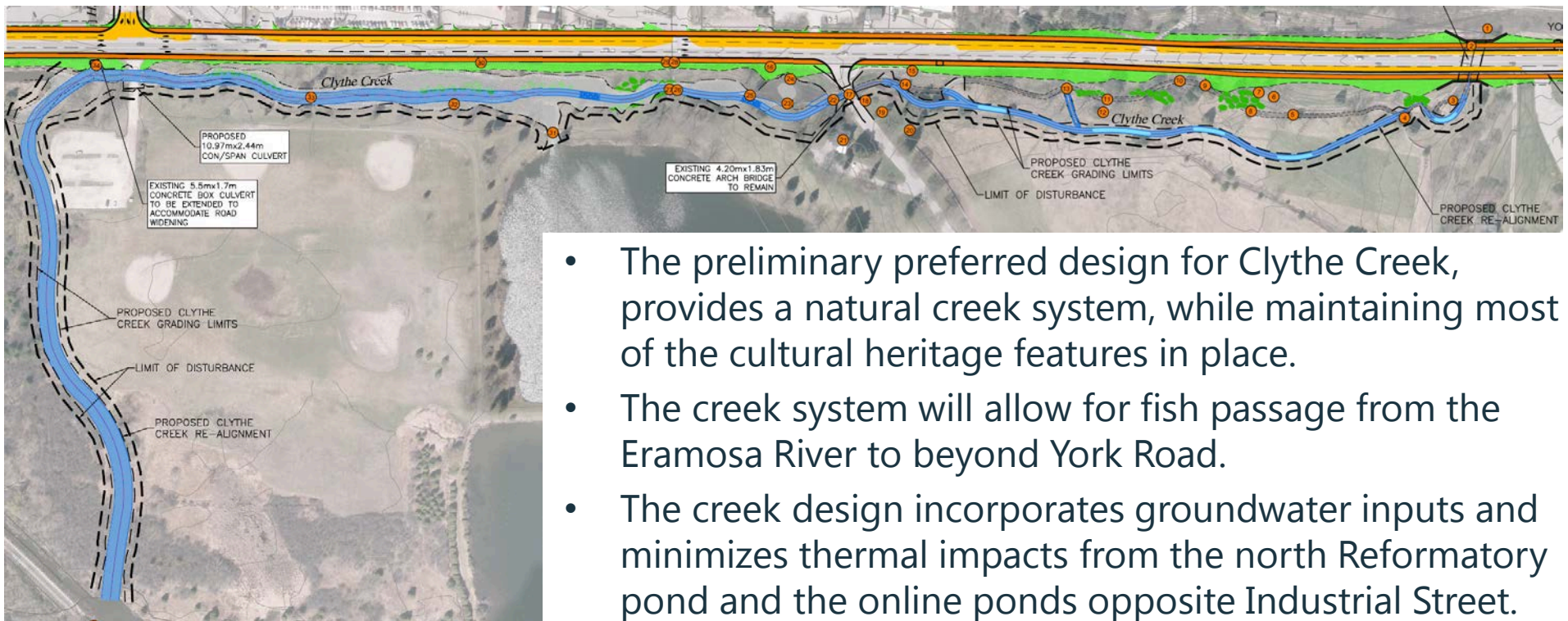
Biofiltration System



Infiltration/filtration System



Preliminary Preferred Design



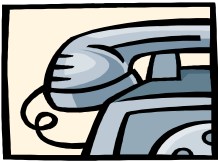
- The preliminary preferred design for Clythe Creek, provides a natural creek system, while maintaining most of the cultural heritage features in place.
- The creek system will allow for fish passage from the Eramosa River to beyond York Road.
- The creek design incorporates groundwater inputs and minimizes thermal impacts from the north Reformatory pond and the online ponds opposite Industrial Street.
- The preferred design reduces flood risk by improving the culvert crossing of York Road. The parking lot driveway crossing will also be upgraded.

Have some unaddressed concerns with the proposed solution? Please complete a comment sheet.



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**Please submit comments no later than
May 24, 2019**

Thank you for your participation!