



Online Public Information Centre

**Highway 417 Rapid Bridge Replacements
Detail Design and Environmental Assessment**

Contract 1 (GWP 4124-14-00): Maitland
Avenue and Woodroffe Avenue

May 22, 2024 to June 5, 2024

INTRODUCTION

The purpose of this online Public Information Centre (PIC) is to provide an overview of, and gather public feedback on:

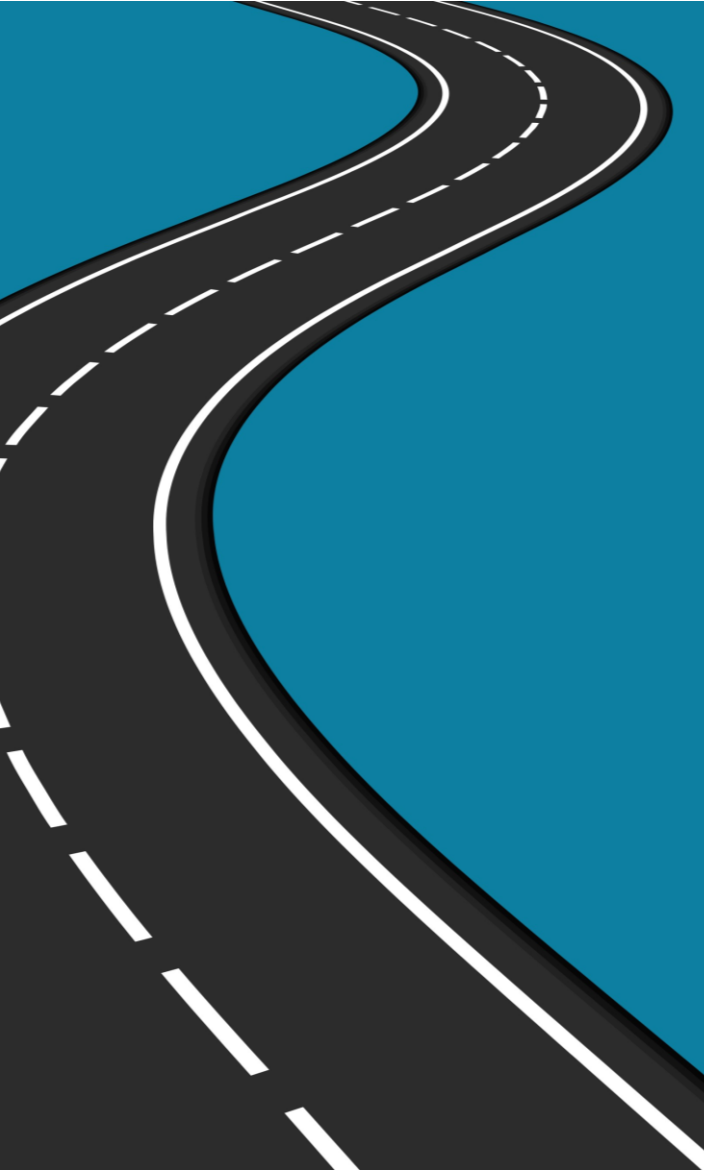
- The current Detail Design study;
- The MTO Class Environmental Assessment (EA) process;
- Existing conditions within the study areas;
- Recommended design details for Contract 1 (Maitland and Woodroffe);
- Proposed construction staging, road closures and detour plans;
- Anticipated environmental impacts and mitigations measures.

We welcome your feedback on the material presented here. Please submit any questions or comments via the [Contact Us](#) page on the Project Website.

Project Overview



PROJECT BACKGROUND



- In **2007**, the Ministry of Transportation (MTO) completed an Environmental Assessment (EA) for the preliminary design of Highway 417 (Ottawa Queensway) from Highway 416 to Anderson Road in response to growing traffic volumes. This study resulted in a Recommended Plan to guide the evolution of the Queensway over the next 20 years. In summary, the Recommended Plan provided recommendations for widening sections of the Highway 417 mainline, modifying interchanges, rehabilitating pavement, bridges and the illumination system, enhancing drainage systems and Advanced Traffic Management Systems, landscaping and upgrading noise walls. Included in the Recommended Plan is the replacement of five bridges at four sites on Highway 417 located at Maitland Avenue, Woodroffe Avenue, Pinecrest Road, and Richmond Road.
- In **2011**, a Context Sensitive Design Report was prepared in collaboration with various stakeholders including the City of Ottawa and the National Capital Commission. The report provides an overall design vision for the Highway 417 corridor. Design concepts and recommendations are outlined in the report to serve as a starting point for the development of standard details and specifications for a range of aesthetic improvements to be used throughout the corridor.
- In **2017**, various structure configuration alternatives and construction staging alternatives were evaluated for the replacement bridges to determine a technically preferred detail design alternative for the five bridge replacements at Woodroffe Avenue, Maitland Avenue, Richmond Road and Pinecrest Road.
- In **2022**, MTO initiated this current Detail Design assignment to confirm and refine the Recommended Plan for the five bridges and to prepare the project for implementation.



PROJECT DESCRIPTION

Morrison Hershfield and Jacobs Consultancy Canada have been retained by MTO to deliver the Detail Design and Class Environmental Assessment (EA) for the rapid replacement of five bridges at four sites on Highway 417 in the City of Ottawa. The project consists of two separate contracts:

- Contract 1 (GWP 4124-14-00) – Highway 417 Maitland Avenue and Woodroffe Avenue Rapid Bridge Replacements
- Contract 2 (GWP 4069-19-00) – Highway 417 Pinecrest Road and Richmond Road Rapid Bridge Replacements

Implementation of the project will involve:

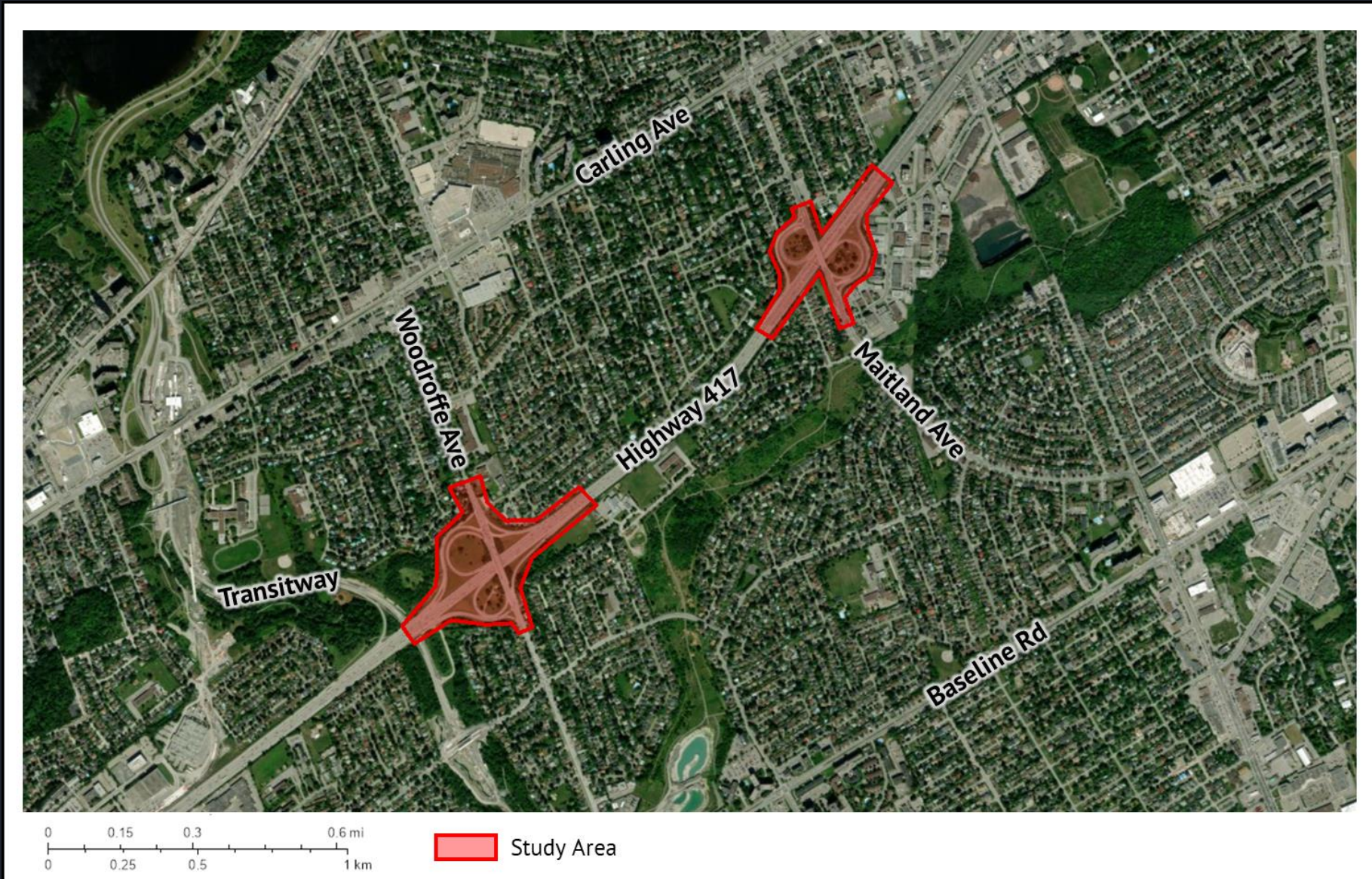
- Rapid demolition and replacement of the five bridges;
- Repairs to deteriorated concrete on exposed surfaces of any retained elements, including rehabilitation of the bridge abutments;
- Replacement or rehabilitation of support facilities and features including drainage, stormwater management, illumination, signage, and the temporary relocation and protection of Advanced Traffic Management Systems (ATMS), as required.

Design for Contract 1 is advancing ahead of Contract 2 and is the subject of this PIC.

A second PIC, specific to Contract 2, will be held as the design progresses further.



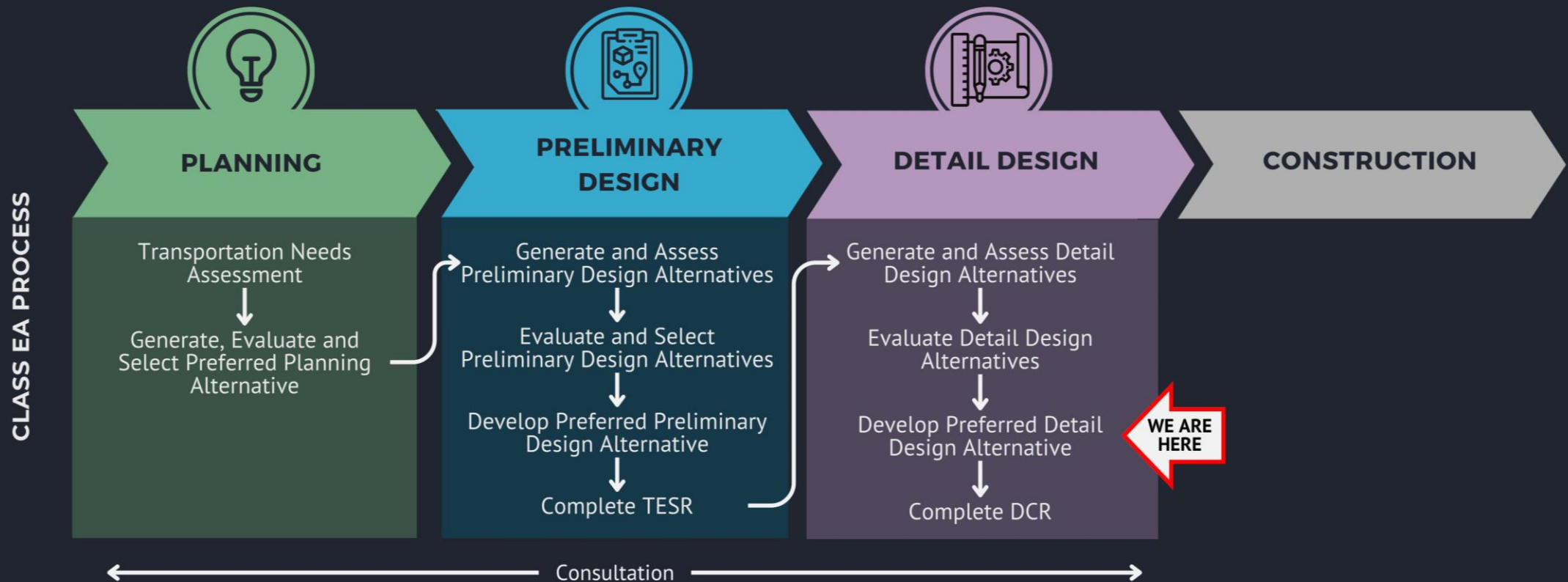
CONTRACT 1 STUDY AREA



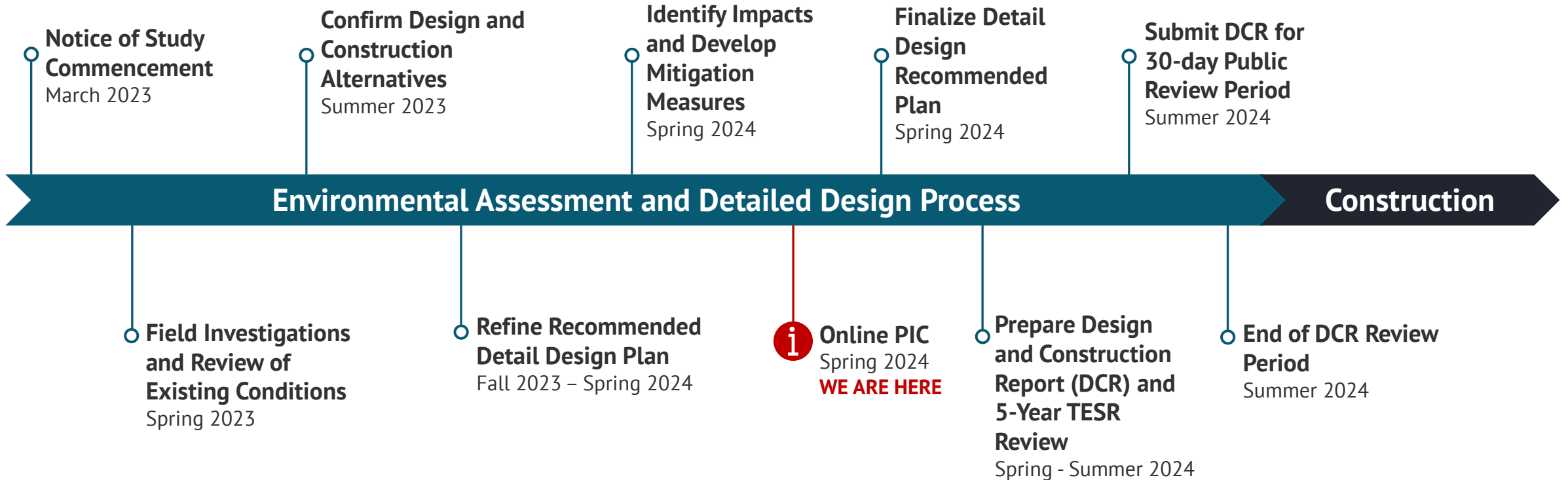
CLASS ENVIRONMENTAL ASSESSMENT PROCESS

The preliminary design of Highway 417 from Highway 416 to Anderson Road followed the approved planning process for Group B undertakings in accordance with the Class Environmental Assessment for Provincial Transportation Facilities, 2000 (MTO Class EA) and was documented in a Transportation Environmental Study Report (TESR).

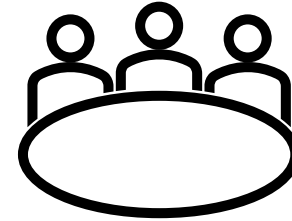
This detail design project is also following the process for Group B undertakings in accordance with MTO's Class EA. At completion of the study, a Design and Construction Report (DCR) will be prepared to document the EA process, the Recommended Detail Design Plan, a summary of consultation, and the anticipated environmental impacts and recommended mitigation measures. The DCR will be available on the project website for a 30-day public review period.



CONTRACT 1 SCHEDULE



CONSULTATION TO-DATE



Municipal Technical Advisory Committee (MTAC)

- Two MTAC meetings have been held to-date to facilitate streamlined consultation with parties of municipal interest in the City of Ottawa.
- An initial MTAC meeting was held to introduce the Project, and to gather input from the participants on any known challenges or areas of interest.
- A second MTAC meeting was held to provide an up-date on project progress and gather input on active transportation, detour routes and municipal road impacts, and utility impacts.

City Councillors

- A meeting was held with the City of Ottawa Bay Ward Councillor and College Ward Councillor to provide an overview of the Project.

Existing Conditions





Vegetation within Maitland Avenue Study Area.



Groundhog burrows within Woodroffe Avenue Study Area.



Groundhog within Maitland Avenue Study Area.

EXISTING ENVIRONMENTAL CONDITIONS

Natural Environment

Natural environment field investigation were completed in April 2023.

Vegetation

- The Study Areas consist of a mixture of natural and disturbed vegetation communities indicative of past disturbance due to previous construction and road maintenance activities along Highway 417, Maitland Avenue, and Woodroffe Avenue.
- Rare vegetation species were not observed during field investigations.

Wildlife and Species at Risk (SAR)

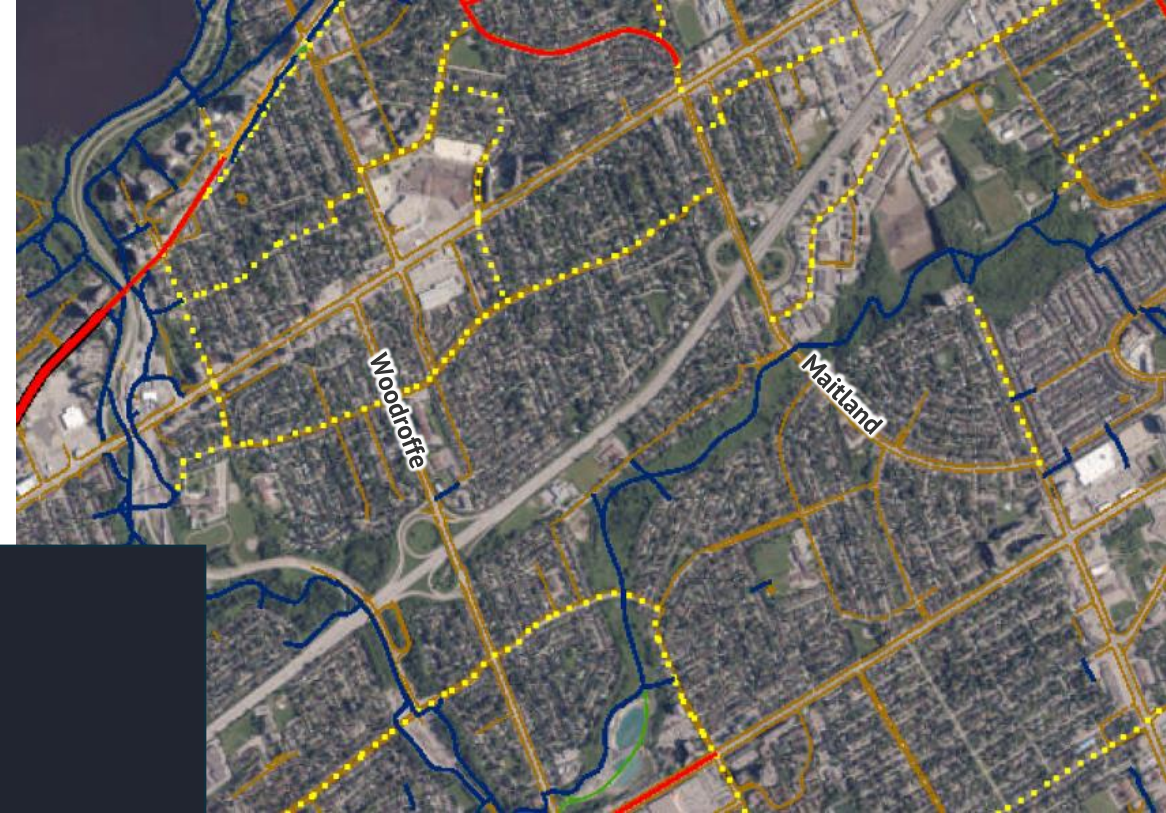
- Several avian species were observed including, Common Grackle, Red-winged Blackbird, Song Sparrow, Canada Goose, Mallard, American Crow, European Starling, American Robin and Common Raven.
- Barn Swallow individual and nest searches were completed beneath each bridge structure. None were observed.
- Groundhog and Groundhog burrows were observed within the Study Areas.
- No provincially designated Endangered or Threatened SAR were observed during field investigations.

Fish and Fish Habitat

- No fish or fish habitat is present within or around the Maitland Avenue or Woodroffe Avenue Study Areas.

EXISTING ENVIRONMENTAL CONDITIONS

Cultural and Social Environment



Archeology

- A Stage 1 Archeological Assessment was completed for both Study Areas. The assessments found that the Study Areas are disturbed due to the construction, maintenance, and alteration of Highway 417, and do not exhibit archaeological potential.

Cultural Heritage

- The bridges do not contain any cultural heritage value or interest and no built heritage resources are located within the Study Areas.

Land Use

- Surrounding the Maitland Avenue Study Area, the lands are predominately residential, with mixed industrial lands directly adjacent to the Study Area to the East.
- The lands surrounding the Woodroffe Avenue Study Area are primarily residential, with greenspace to the West, which is transected by the Transitway (bus rapid transit network) as well as a multi-use pathway.
- Maitland Avenue is a Minor Corridor and Woodroffe Avenue is a Mainstreet Corridor.
- Pedestrian sidewalks exist along both sides of Woodroffe Avenue and Maitland Avenue.
- No cycling infrastructure currently exists on either crossing road at Highway 417.
- Both Study Areas are within an Intake Protection Zone.

Source: GeoOttawa

Existing Cycling Network

- Bike Lane
- Path
- Paved Shoulder
- Cycle Track
- Suggested Route

Existing Pedestrian Network

- Existing Sidewalks and Paths
- Existing Multi-Use Pathway

EXISTING STRUCTURAL BRIDGE CONDITIONS



Maitland Avenue Bridge

- Constructed in 1960
- Two-span, concrete slab-on-steel I-girder structure
- Total length of 70.2 m (two 35.1 m continuous spans)
- Structure width of 18.19 m, comprised of:
 - A two-lane 7.5 m wide northbound roadway
 - A two-lane 7.5 m wide southbound roadway
 - Two 1.5 m wide sidewalks
 - Two 0.455 m wide concrete barriers with railing



Woodroffe Avenue Bridge

- Constructed in 1960
- Two-span, concrete slab-on-steel I-girder structure
- Total length of 64.008 m (two 32.004 m continuous spans)
- Structure width of 24.1 m, comprised of:
 - A two-lane 7.62 m wide northbound roadway
 - A three-lane 11.28 m wide southbound roadway
 - A 1.22 m wide median curb
 - Two 1.53 m wide sidewalks
 - Two 0.46 m wide concrete barriers with railing

Recommended Plan



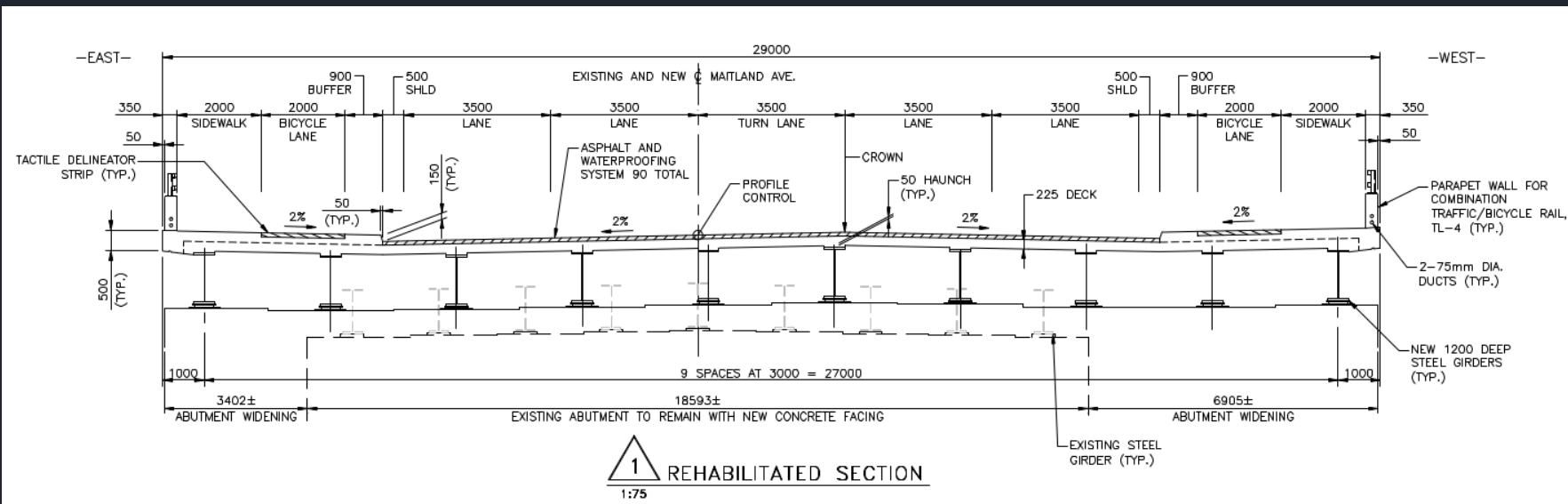
Recommended Plan - Bridge Design

Maitland Avenue

The recommended cross-section of the replacement Maitland Avenue bridge deck is 29 m, which is 10 m wider than the existing bridge. The widening will accommodate new features including:

- Four lanes of through-traffic
- Left turn lanes
- New 2 m sidewalks on both sides of the bridge
- New 2 m cycle tracks on both sides of the bridge

Maitland Avenue Cross-Section



Proposed cross-section:

- Accommodates future Active Transportation (AT) connections to be completed by the City of Ottawa.
- Maintains existing lane configuration and ramp connections.
- Allows for future tie-ins for widened Highway 417.

Note: The cross-section of Highway 417 will remain unchanged. Widening of Highway 417 will happen in a future contract.

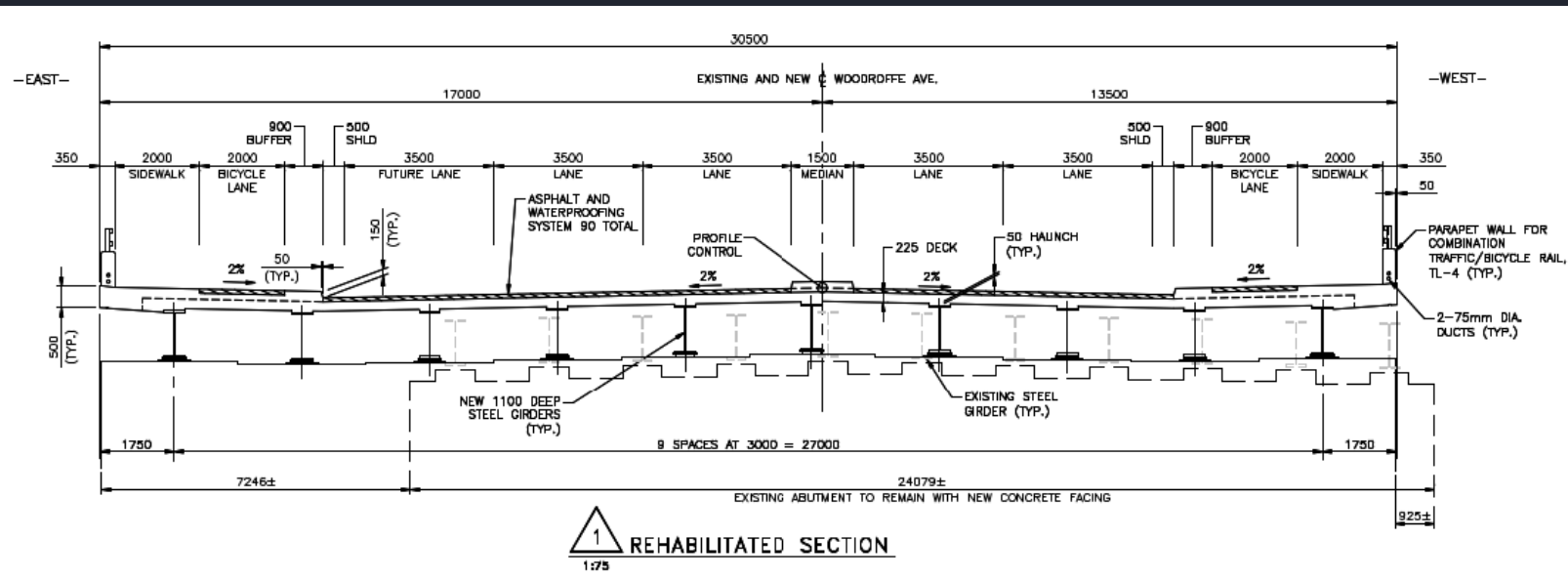
Recommended Plan - Bridge Design

Woodroffe Avenue

The recommended cross-section of the replacement Woodroffe Avenue bridge deck is 30.5 m, which is 6.4 m wider than the existing bridge. The widening will accommodate new features including:

- Four lanes of through-traffic
- A concrete median
- New 2 m sidewalks on both sides of the bridge
- New 2 m cycle tracks on both sides of the bridge

Woodroffe Avenue Cross-Section



Proposed cross-section:

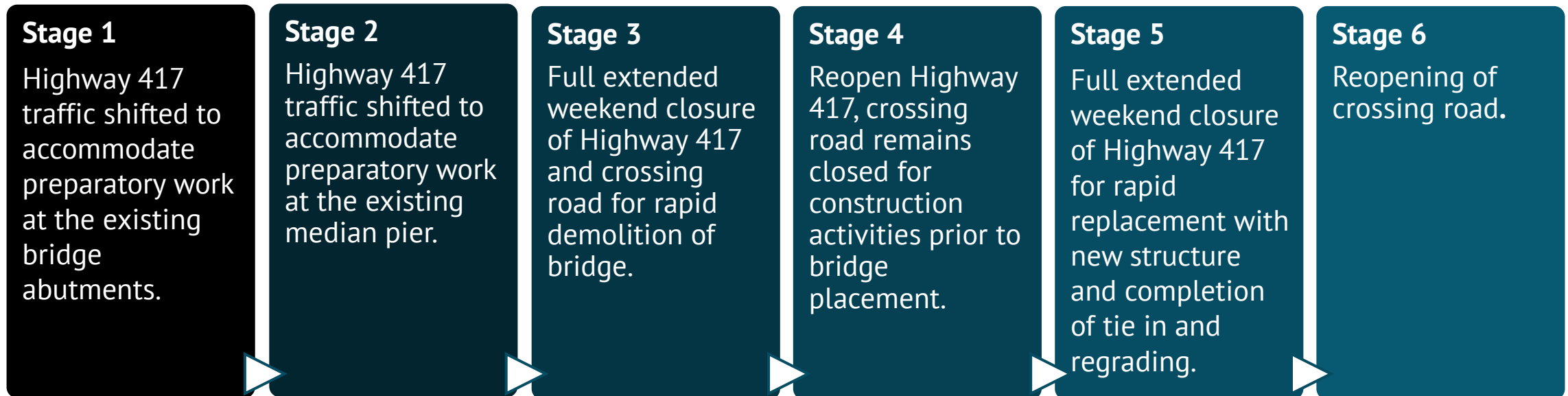
- Accommodates future Active Transportation (AT) connections to be completed by the City of Ottawa.
- Maintains existing lane configuration and ramp connections.
- Allows for future tie-ins for widened Highway 417, including new ramp configuration.

Note: The cross-section of the proposed Highway 417 widening will match existing. Widening of Highway 417 will happen in a future contract.

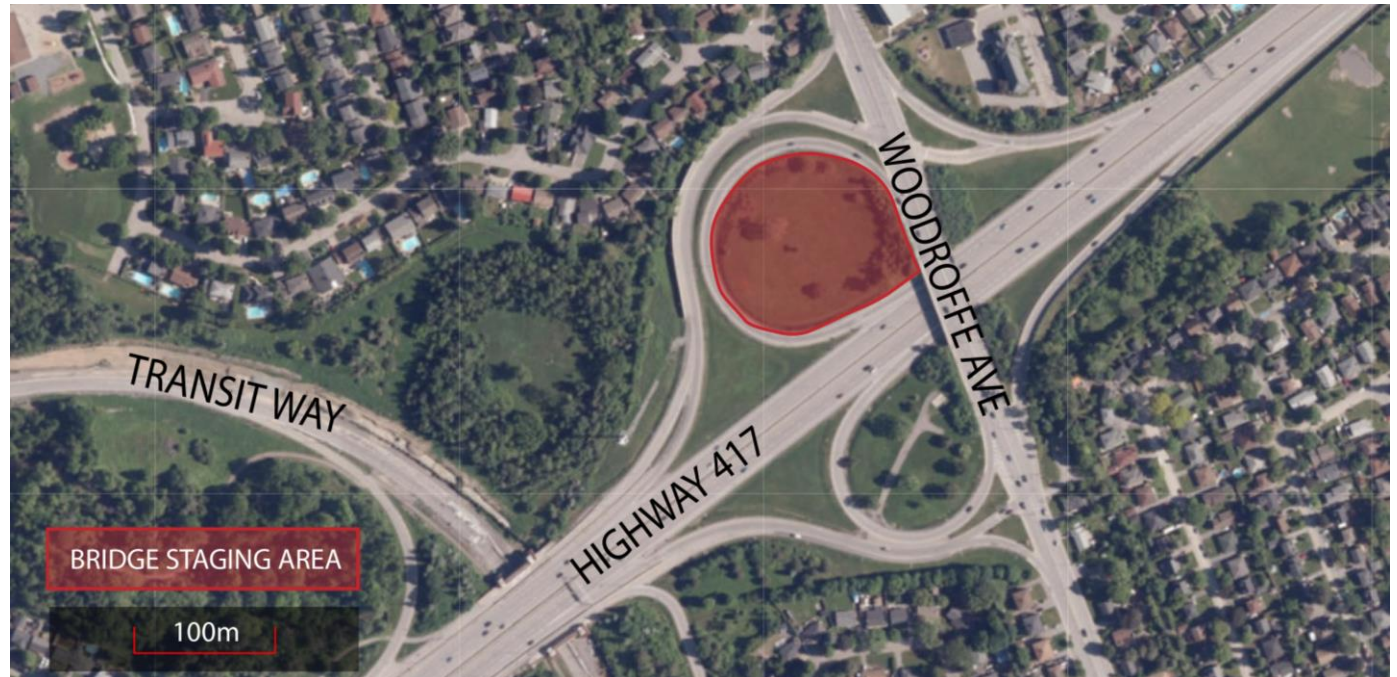
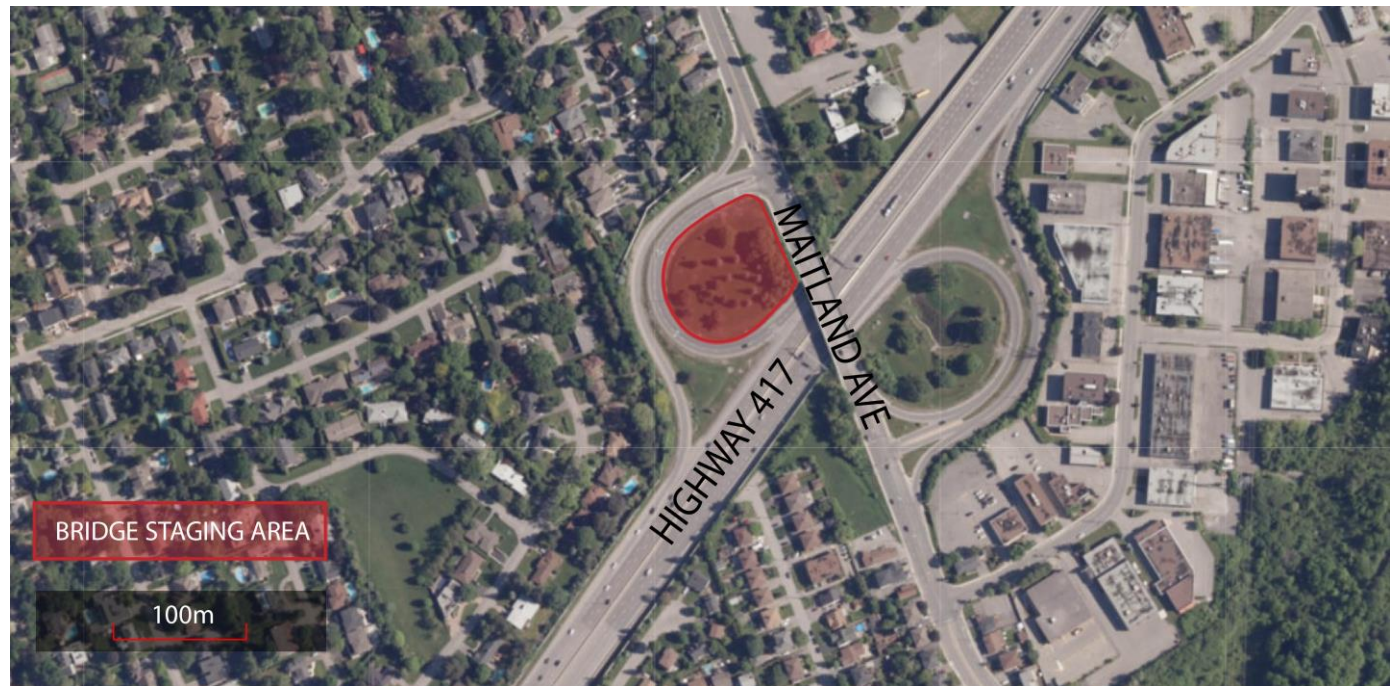
Recommended Plan - Construction Staging Sequence

At each site, the bridges will be demolished in place and new bridges, constructed offsite in the construction staging areas, will be installed using rapid replacement techniques over multiple extended weekend closures (up to 48 hours each) of Highway 417. Advance work to facilitate each bridge replacement will be required prior to the rapid replacement operation. Both full and partial closure of Maitland Avenue and Woodroffe Avenue will be required in the period leading up to and after the rapid replacement operation. It is anticipated that at each site the ramps will be closed for 6 to 8 weeks and the crossing road will be closed for 4 to 5 weeks.

A summary of the Recommended Construction Staging Sequence is shown below:



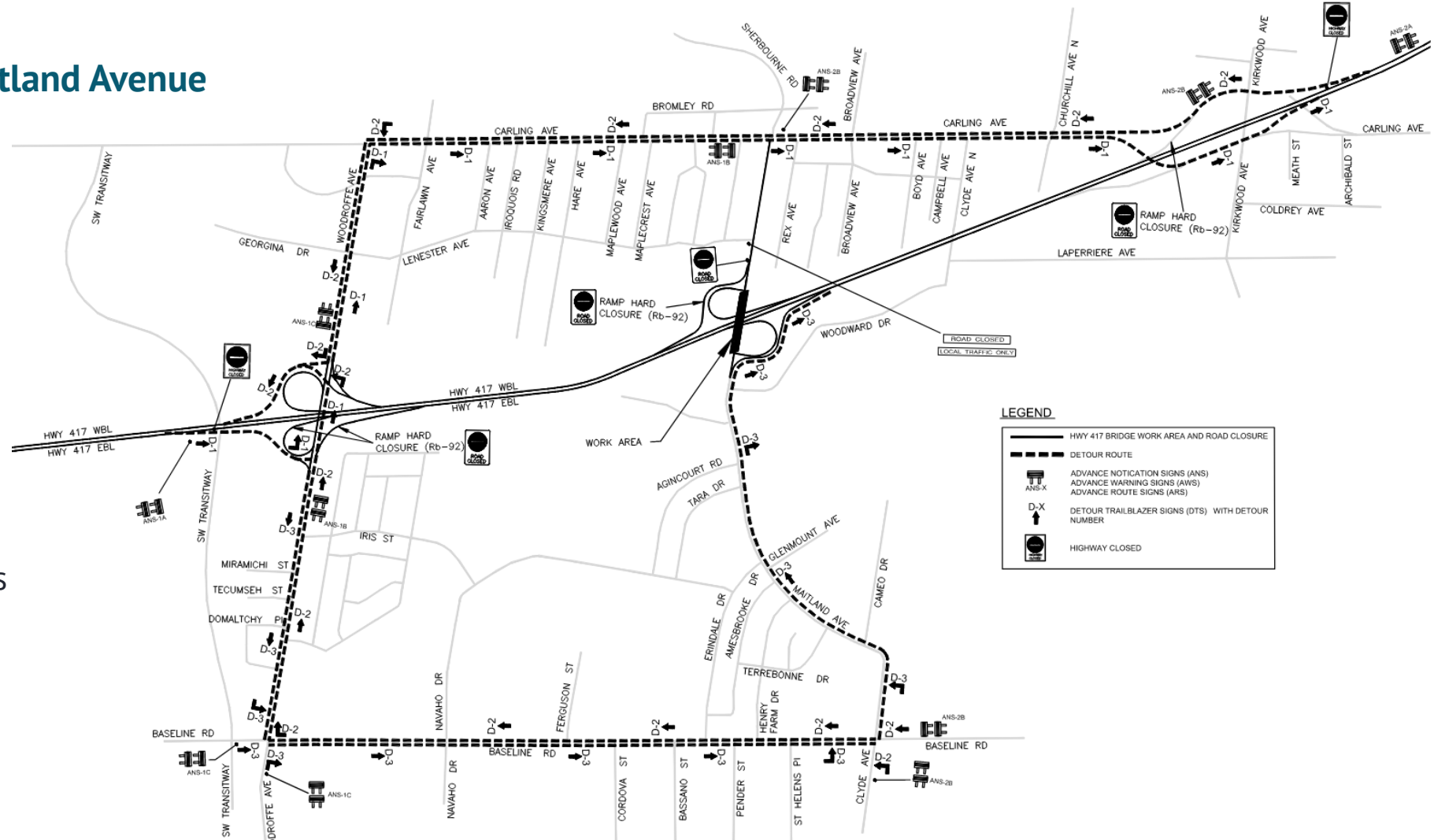
Recommended Plan - Construction Staging Areas



Recommended Plan - Detour Routes

Highway 417 Closure at Maitland Avenue

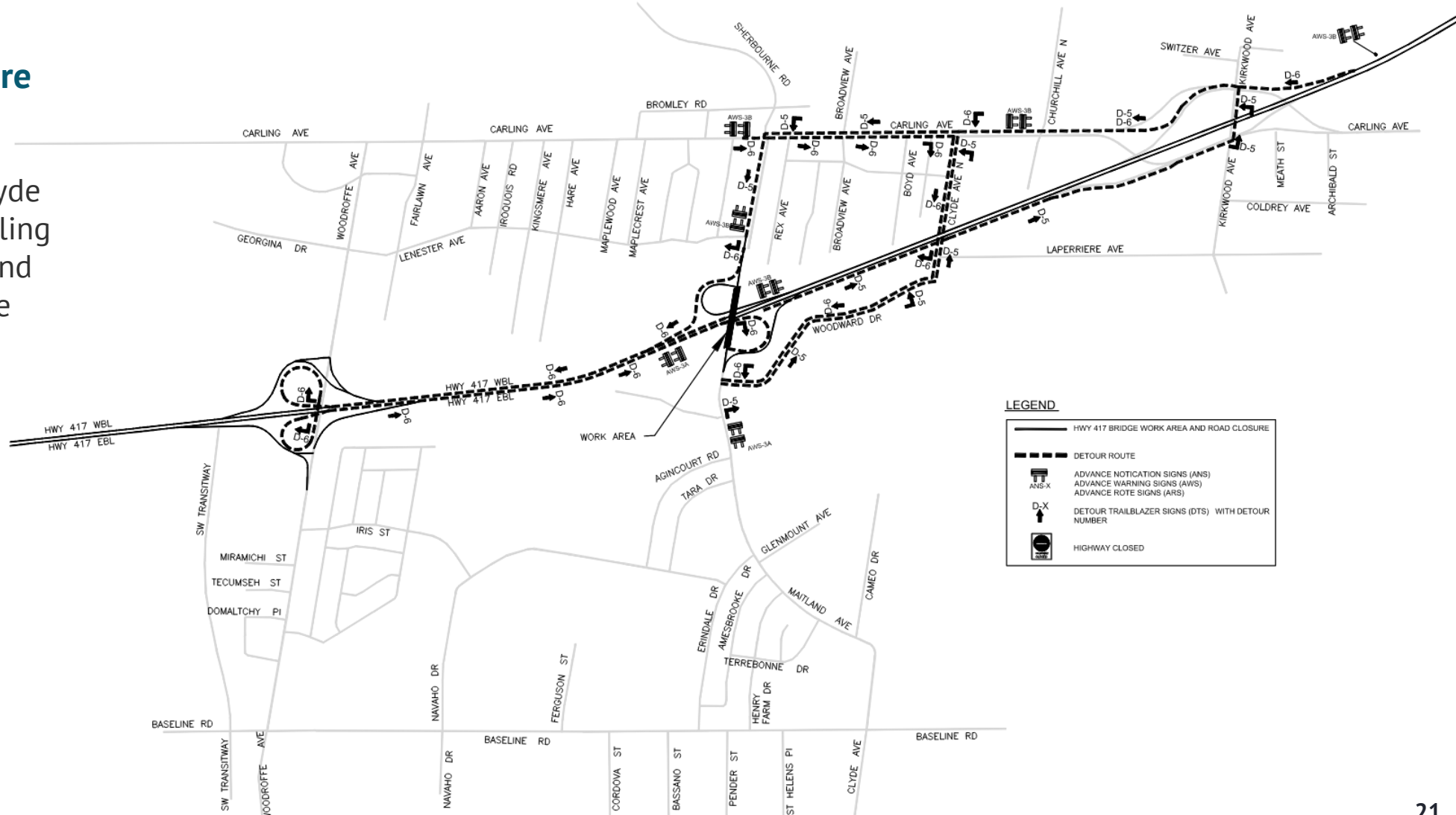
- Eastbound detour will exit the highway at Woodroffe Avenue and head South to Baseline Road, then use Maitland Avenue to access the highway via the South-East ramp.
- Westbound traffic will exit the highway at Carling Avenue and turn left onto Woodroffe Avenue and access the Highway.



Recommended Plan - Detour Routes

Maitland Avenue Closure

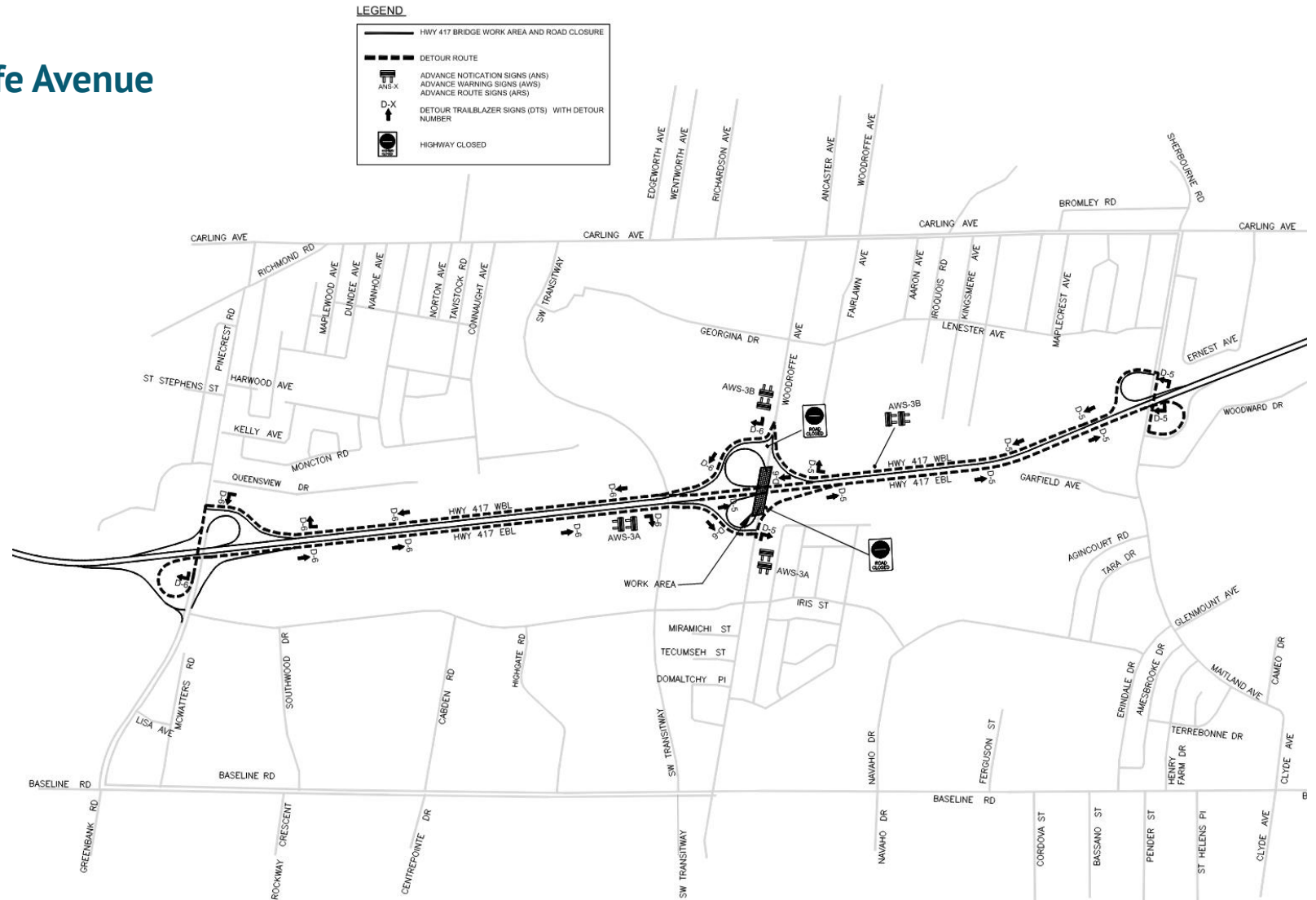
- Local traffic to cross Highway 417 using Clyde Avenue. Access via Carling Avenue to the North and Woodward Drive to the South.
- Pedestrian and cyclist detour to match.



Recommended Plan - Detour Routes

Highway 417 Closure at Woodroffe Avenue

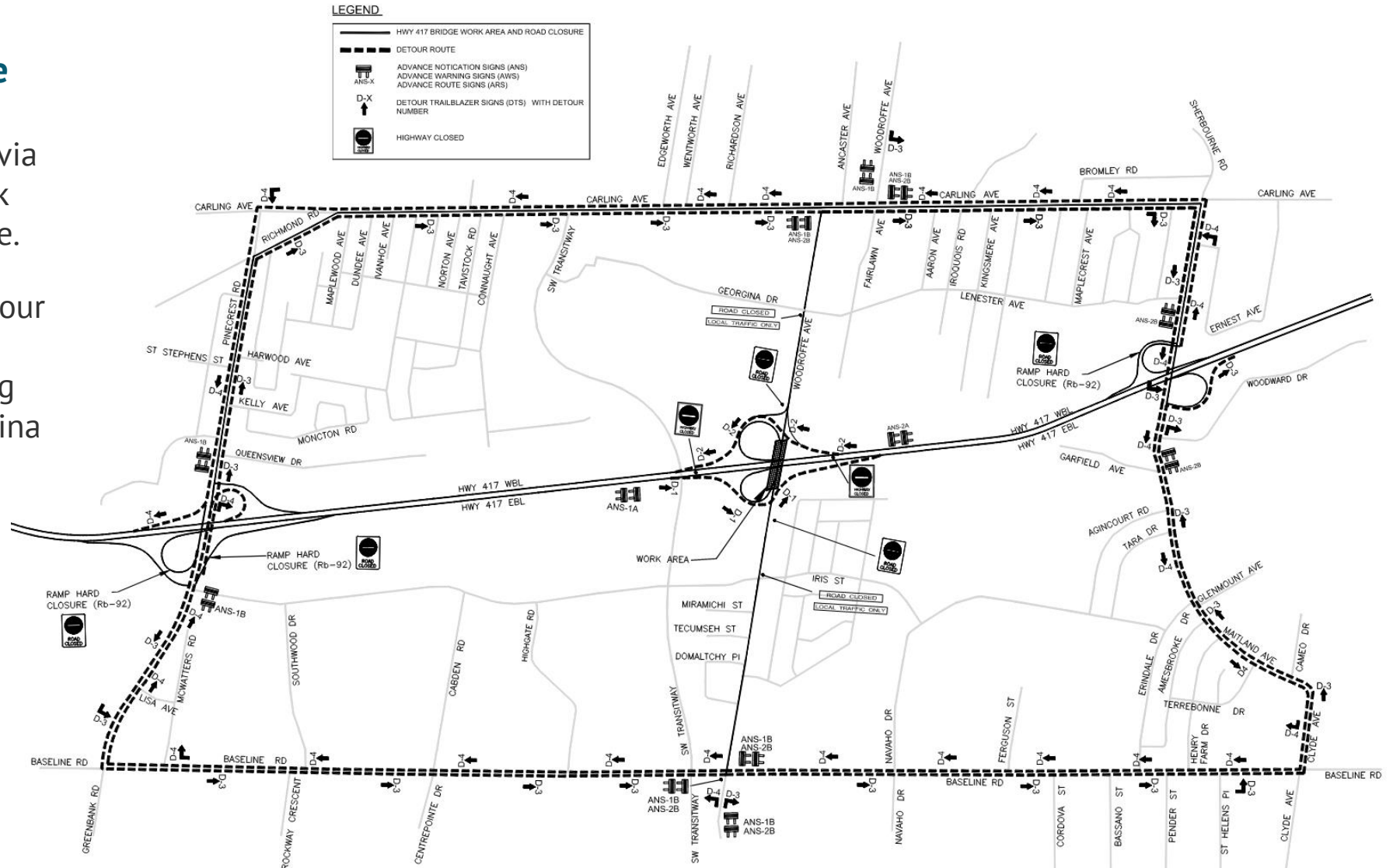
- Eastbound traffic will exit the highway at the existing eastbound off-ramp and then get back on the highway using the eastbound on-ramp ("ramp surfing").
- Westbound traffic will use the existing westbound off-ramp and then get back on the highway using the westbound on-ramp ("ramp-surfing").



Recommended Plan - Detour Routes

Woodroffe Avenue Closure

- Access to the 417 will be via Pinecrest Road/Greenbank Road and Maitland Avenue.
- Pedestrian and cyclist detour will use Iris Street, the Pinecrest Creek path along the Transitway, and Georgina Drive.



Anticipated Environmental Impacts & Mitigation Measures



ANTICIPATED ENVIRONMENTAL IMPACTS & MITIGATION MEASURES

Environment	Element	Anticipated Impacts	Proposed Mitigation Measures
Natural	Vegetation	Vegetation clearing/removals within staging areas.	<ul style="list-style-type: none"> Restore exposed surfaces to existing conditions or better as soon as possible following construction.
Natural	Wildlife	Disturbance to urban tolerant wildlife and migratory birds during construction.	<ul style="list-style-type: none"> Vegetation clearing shall be done outside of April 1st to August 31st to avoid impacts to nesting migratory birds. Before operating heavy equipment, scan around the equipment to ensure wildlife are not within the vicinity.
Cultural	Archaeology	There is potential for deeply buried deposits to occur within the construction staging areas that could be uncovered during construction.	<ul style="list-style-type: none"> Monitor areas during construction. Should deeply buried archeological materials be encountered, all work shall stop, and a professionally licensed archeologist shall be consulted.
Social	Property	Temporary property impacts are required for construction.	<ul style="list-style-type: none"> Temporary easements will be in place prior to construction.
Social	Noise and Air Quality	Noise and air quality nuisance from construction equipment and vehicles during construction.	<ul style="list-style-type: none"> Maintain equipment in good operating condition. Restrict idling of equipment to the minimum necessary to perform the work. Implement dust suppression measures to contain dust.
Transportation	Traffic Operations	Lane reductions and road closures during construction, including full closures of Highway 417 and crossing roads during rapid demolition and rapid replacement of the bridges.	<ul style="list-style-type: none"> Prepare and implement a Traffic Management Plan, including planned detour routes. Implement temporary and advance signage and notifications to provide notice of upcoming closures and identify detour routes.

Next Steps



NEXT STEPS

Contract 1:

1. Submit feedback on the PIC material through the [Contact Us](#) function on the Project Website by **June 5, 2024**.
2. After reviewing comments received, the Project Team will finalize the Recommended Detail Design Plans.
3. Once the Detail Design Plans are finalized, the Project Team will complete the Design and Construction Report (DCR) and 5-Year TESR Review.
4. The DCR will be submitted for a 30-day public comment period in Summer 2024.

Contract 2:

- An online PIC will be held as the design progresses further.

THANK YOU!

Thank you for participating in this online PIC.

Please provide feedback on the PIC materials through the [Contact Us](#) function on the Project Website by **June 5, 2024**. Comments or questions regarding the project can be submitted via [this link](#) at any time throughout the study.

If you have any questions, please contact one of the following Project Team members:

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