



7 May 2021

Elenore Arend
Chief Executive Assistant Officer
BC Environmental Assessment Office
836 Yates Street
Victoria, BC V8W 1L8

Reference: 301292

Dear Elenore:

Re: George Massey Tunnel Replacement Project – Application for an Amendment to Environmental Assessment Certificate #T17-01

The Ministry of Transportation and Infrastructure (the Ministry) is submitting this application for an amendment to Environmental Assessment Certificate (EAC) # T17-01 for the George Massey Tunnel Replacement Project (Project), pursuant to Section 32 of the *Environmental Assessment Act 2018* (the Amendment Application).

The EAC was issued on February 8, 2017. Following issuance of the EAC, the provincial government determined that further consultation and investigation of options for the crossing element of the Project were warranted to address community and municipal concerns. On December 17, 2020, the business case for a proposed replacement of the George Massey Tunnel on Highway 99 was received by the Minister of Transportation and Infrastructure. The business case is currently under evaluation.

While the process for identifying a preferred crossing option proceeds, and recognizing the critical need to address traffic congestion and safety challenges along the Highway 99 corridor, the Ministry proposes to advance specific elements of the approved Project to address system reliability challenges and improve transit and cycling connections. To ensure that such works are completed in compliance with the EAC, the Ministry is requesting an amendment to the existing EAC to redefine the *Site Preparation In Advance Of Construction* condition to *Site Preparation And Advance Construction* and include the completion of these specific elements of the project as part of advanced works. These improvements align with both short-listed crossing options in the business case.

This letter and attached information have been prepared and organized following the BC Environmental Assessment Office (EAO)'s Environmental Assessment Certificate and Exemption Order Amendment Policy. We look forward to working with the EAO during review of this Amendment Application.

Should you have any questions or require clarification of the information provided, please do not hesitate to contact me at 604-398-5183 or Jody.Deane@gov.bc.ca.

Sincerely,

Jody Deane,
Executive Project Director,
Major Projects, Infrastructure and Properties Department

Copy to: Lauren Matthias, Project Director, Transportation Investment Corporation
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George Massey Tunnel Replacement Project

Application for an Amendment to Environmental Assessment Certificate #T17-01

May 2021

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1 INTRODUCTION

The Ministry of Transportation and Infrastructure (the Ministry) was issued Environmental Assessment Certificate (EAC) #T17-01 under the BC *Environmental Assessment Act* in February 2017. The EAC permits the Ministry to construct and operate a 10-lane bridge to replace the aging George Massey Tunnel, and to construct other highway and interchange improvements on Highway 99 in Richmond and Delta.

Construction of the bridge, as contemplated under EAC #T17-01, has not been initiated as the Ministry is engaging with local governments, Indigenous groups and key stakeholders regarding alternative options for the crossing. In advance of a decision on a preferred crossing option, and in response to ongoing traffic congestion in the Highway 99 corridor, the Ministry would like to advance specific elements of the approved Project (the Corridor Improvements). These improvements also align with both short-listed crossing options in the business case. To ensure that such works are completed in compliance with the EAC, the Ministry is requesting an administrative amendment to the existing EAC. Without an amendment, the Ministry cannot construct the elements to improve the functionality of Highway 99 in advance of the new Fraser River Crossing.

The change requested by the Ministry in the Amendment Application is to revise the definition of *Site Preparation in Advance of Construction* condition to include four specific Corridor Improvements that have already been assessed and approved under EAC #T17-01.

This Amendment Application provides the following information for the Environmental Assessment Office (EAO) per s.19 of the *Environmental Assessment Act* 2018:

- Background – Technical, consultation and engagement work undertaken since February 2017 to address efficiency and reliability issues with the existing crossing.
- Description of Requested Amendment – A description of the changes that require an amendment to the EAC.
- Required Permits – A list of other permits required for the Corridor Improvements.
- Description of Corridor Improvements – A description of the physical works and the change between the currently approved works and those proposed to be undertaken under the amended EAC.
- Engagement and Consultation – An overview of engagement and consultation activities undertaken with Indigenous groups, municipalities and key stakeholders.
- Effects Assessment – An assessment of potential effects and mitigation associated with the Corridor Improvements, including consideration of Section 25 matters.

2 BACKGROUND

The George Massey Tunnel Replacement Project (GMTRP), previously approved under EAC #T17-01 included replacing the George Massey Tunnel across the south arm of the Fraser River with a 10-lane bridge; replacing the Westminster Highway, Steveston Highway and Highway 17A interchanges; and widening Highway 99 to accommodate dedicated transit/high occupancy vehicle lanes between Bridgeport Road in Richmond and Highway 91 in Delta.

Following issuance of EAC #T17-01, the provincial government determined that further consultation and investigation of options for the crossing element of the Project were warranted to address community and municipal concerns. The Ministry initiated an *Independent Technical Review* (ITR) of the 10-lane bridge concept. Following receipt of the ITR, the Ministry is assessing alternative crossing options that better align with regional interests. This includes engaging with Indigenous groups, the Mayor's Task Force, TransLink, municipalities, key stakeholders, and the public. Engagement and technical work completed to date has led to the selection of two shortlisted options: an eight-lane bridge, or an eight-lane immersed tube tunnel. A decision on the preferred option is anticipated later in 2021. Once determined the preferred option will require an assessment by the EAO, including additional engagement with the public, stakeholders, and Indigenous groups.

While the process for identifying a preferred crossing option proceeds, and recognizing the critical need to address traffic congestion and safety challenges in the Highway 99 corridor, the Ministry proposes advancing a limited portion of the physical works, approved under EAC #T17-01. These specific works, which would address system reliability challenges and improve transit and cycling connections, are collectively referred to as the Corridor Improvements.

- Improvement 1 – Bridgeport Road Bus Connection: Transit and pedestrian and cycling improvements including a new transit-only connection from Sea Island Way and Bridgeport Road to the southbound Highway 99 on-ramp.
- Improvement 2 – Highway 99 and 17A Off-Ramp Widening: Widening of highway 99 offramps and transit and cycling improvements to the northbound Highway 99 approach to Highway 17A.
- Improvement 3 – Bus-on-shoulder transit lanes on Highway 99: Extension of northbound and southbound transit priority lanes south of Highway 17A.
- Improvement 4 – Steveston Highway Interchange: Replacement of the existing overpass structure at the Steveston Highway/Highway 99 interchange to accommodate two eastbound travel lanes and three westbound lanes with multi-use paths in both directions. Ramps will be widened, and transit stops will be improved.

These Corridor Improvements were selected by the Ministry, with input from the diverse range of interests noted above, because they align with key goals for improving transit efficiency and safety, reducing congestion, minimizing environmental impacts and property requirements, and fiscal responsibility. Regardless of the future crossing option selected, these corridor improvements are necessary to be undertaken in the near future to improve Highway 99 functionality.

The physical works for the Corridor Improvements are already approved. However, to allow them to proceed with other advance works and before confirming a preferred option for the new Fraser River Crossing, the Ministry requires an amendment to EAC #T17-01 as described in this Amendment Application.

The Ministry has communicated the intention to move forward with the Corridor Improvements with Indigenous groups, Metro Vancouver, TransLink, local municipalities, key stakeholders and the public and has considered their input in selecting these proposed improvements. The Ministry is committed to ongoing engagement with these groups as part of the EAC amendment process.

3 DESCRIPTION OF REQUESTED AMENDMENT

The request for an amendment to EAC #T17-01 includes two components:

1. Revising the definition of the existing early works clause in EAC #T17-01; and
2. Addition of two small areas to the Certified Project Corridor to accommodate the new designs at Bridgeport Road (Improvement 1) and at Steveston Interchange (Improvement 4).

3.1 REVISED DEFINITION OF EARLY WORKS

The requested amendment is to seek a revision to the definition of “early works”, as described below, to allow the construction of the four Corridor Improvements already approved under the EAC in advance of confirmation of the crossing solution. The requested amendment would allow the four Corridor Improvements to proceed in advance of implementation of EAC conditions that are dependent on the final design of the river crossing.

The Schedule B Table of Conditions for EAC #T17-01 contains a definition of activities that may proceed ahead of completion of the pre-construction requirements in EAC #T17-01. This condition was included in the original EAC to allow the Ministry to conduct specific, time-sensitive and long-duration construction works such as pre-load placement that have a strong influence on the overall project schedule.

The *Site Preparation in Advance of Construction* definition in Schedule B allows for:

“Works and activities undertaken by the [EAC] Holder to prepare the Certified Project Corridor ...Site Preparation in Advance of Construction means: land clearing, construction of new access roads, drainage works, placement of fill as preload in areas where highway widening will occur, and the management of soil or other material removed to permit fill placement.”

Undertaking early works, as the Ministry did in 2017 and 2018, required compliance with a sub-set of the EAC requirements focused on mitigating specific environmental risks associated with the early works (i.e., pre-loading), and consultation with key stakeholders regarding the planned activities (Condition 14 in the Schedule B Table of Conditions).

The Corridor Improvements (Section 6) are consistent with the improvements described in Schedule A Certified Project Description of the EAC, but are not considered as *Site Preparation in Advance of Construction* activities because they include construction of permanent infrastructure including roadways, structures, and widening of portions of the existing highway.

The Ministry proposes the following amendment to replace the definition of *Site Preparation in Advance of Construction* to permit the necessary activities (proposed changes are underlined):

“Works and activities undertaken by the Holder to prepare the Certified Project Corridor. For the purposes of this Schedule B, Site Preparation and Advance Construction means: land clearing, construction of new access roads, drainage works, placement of fill as preload in areas where highway widening will occur, and the management of soil or other material removed to permit fill placement within the Certified Project Corridor. It also includes roadway and structure construction and utility works in four priority areas of the Certified Project Corridor: Bridgeport Road bus connection; Highway 99 and 17A off-ramp widening; bus-on-shoulder transit lanes on Highway 99; and Steveston Interchange replacement. Site Preparation and Advance Construction does not include works to initiate or construct the new Fraser River crossing.”

The requested amendment would allow the Ministry to advance select components of the GMTRP while ensuring all the applicable mitigation and conditions for pre-construction works from EAC #T17-01 are implemented and complied with. The requirement to comply with all pre-construction conditions prior to commencing construction of a new Fraser River crossing would remain unchanged.

3.2 REVISION OF CERTIFIED PROJECT CORRIDOR

The Corridor Improvements also require two minor alterations to the Certified Project Corridor.

- Addition of approximately 4,500 m² for Improvement 1 within the Bridgeport Interchange to construct a bus-only connection to Highway 99 southbound and pedestrian and cycling improvements. (**Figure 1**).
- Addition of 1,000 m² of private land in the Agricultural Land Reserve (ALR) for Improvement 4 on the northeast side of the Steveston Interchange to expand Steveston Highway. On the same property there is 12,000 m² of ALR previously approved for use by the Project and that is no longer required (**Figure 4**). This represents a net reduction of 11,000 m² of ALR impacts compared to the previously approved Certified Project Corridor.

The effects of these requested changes, including an assessment of s.25 matters as per the *Environmental Assessment Act 2018*, and a record of consultation with Indigenous groups, stakeholders and the public are documented in this request.

4 SCOPE OF ASSESSMENT

The scope of the physical works associated with the design construction and operation of the four Corridor Improvements is unchanged from that described in and approved by EAC #T17-01. As such, the scope of the assessment considered in this request for a EAC amendment is limited to potential changes in the valued component assessment summarized in the EAC, as a result of:

- A change in the definition of “Site Preparation and Advance Construction” to allow for completion of the four Corridor Improvements (Section 6) before the start of construction of the crossing; and
- Addition of two small areas to the Certified Project Corridor (described in Section 9).

The assessment will also assist in confirming specific conditions and mitigation, as per the conditions of EAC #T17-01, that are relevant to the scope of potential effects associated with the four Corridor Improvements.

The assessment scope addresses the valued components assessed during the GMTRP as listed in **Table 1**.

Table 1: Valued components (by pillar) from the GMTRP effects assessment

Pillar	Valued Components	Interaction
Environmental	Fish and fish habitat	Minor interaction – addressed in Section 9
	At-risk amphibians	Minor interaction – addressed in Section 9
	Marine mammals	No interaction
	Vegetation	Minor interaction – addressed in Section 9
	Terrestrial wildlife	Minor interaction – addressed in Section 9
Social and Economic	Land use	No change to effects conclusion
	Marine use	No interaction
	Agricultural use	Minor interaction – addressed in Section 9
	Visual quality	No change to effects conclusion
Heritage	Heritage resources	No change to effects conclusion
Health	Human health	Minor interaction – addressed in Section 9

5 REQUIRED PERMITS

In addition to an amendment to EAC #T17-01 the Ministry requires the following permits to support construction of the four Corridor Improvements:

- *Water Sustainability Act* s.11 Changes In And About Streams, amendment to permit 2005092 to revise plans for permitted watercourses and to extend expiration date;
- *Agricultural Land Commission Act* s.6 Permission for Non-Agricultural Use, amendment to conditional approval 54738 to add land not already listed but required; and
- *Fisheries Act* Request for Review, Fisheries and Oceans Canada (DFO) letter of advice for affected watercourses

In addition, the Ministry will be required to adhere to the following legislation, which may include permits, approvals, or the application of best management approaches.

- *Heritage Conservation Act*, Heritage Inspection, Investigation or Site Alteration Permits;
- *Environmental Management Act*, Contaminated Sites Regulation. Adherence to technical circular T-03/20 for management of right-of-way contamination;
- *Wildlife Act*, fish and amphibian salvage permits; and
- *Migratory Birds Convention Act*, management practices to avoid bird and nest effects

The Ministry will achieve compliance with these requirements through the application of mitigation measures detailed in management plans associated with construction. Condition #14 in Schedule B to EAC #T17-01 requires a management plan be produced by the Ministry, be reviewed by Indigenous groups and stakeholders, and be revised according to feedback, before advance construction commences.

More information on the mitigation in condition #14 can be found in Section 8.

6 DESCRIPTION OF CORRIDOR IMPROVEMENTS

The Corridor Improvements on Highway 99 that the Ministry wishes to advance are consistent with the Highway 99 works that were approved in the Schedule A Certified Project Description of EAC #T17-01. The Highway 99 Improvements and Associated Works in EAC #T17-01 include the following elements that are part of the Corridor Improvements:

- Two new public transit/HOV lanes, each up to 25 km in length, between Bridgeport Road in Richmond and south of Highway 91 in Delta;
- Integrated transit stops at the Steveston Highway and Highway 17A interchanges;
- Drainage features, including but not limited to, ditches and culverts;
- Widening of the Highway 99 interchanges at Steveston Highway and Highway 17A;
- Multi-use paths at interchanges, including the Steveston Highway and Highway 17A interchanges, to facilitate east-west access across Highway 99, access to the multi-use pathways on the bridge, and connections to local roads and bicycle paths; and
- Landscaping

Pending approval of this amendment, the Corridor Improvements are expected to begin construction in 2021, with completion of each variously expected between 2022 and 2023.

Improvement 1 – Bridgeport Road Bus Connection:

Improvements will provide a new bus-only connection between Bridgeport Road eastbound and the Sea Island Way on-ramp to Highway 99 southbound. This includes realignment and widening of the existing on-ramp, provision of an improved multi-use-path and crossing, and a new transit priority signal where the bus lane crosses Sea Island Way.

The improvements are within Ministry right-of-way (**Figure 1**). A small area (i.e., 4,500 m²) within the current highway interchange and right-of-way that is currently covered in gravel will need to be added to the Certified Project Corridor (**Figure 1**). The potential effects of this change are assessed in this amendment. The improvements are:

- Adding new and widening existing southbound Highway 99 on-ramps to provide transit priority from Bridgeport Road; and
- Adding new and improving existing multi-use paths from the east side of Highway 99 (under existing above-grade highway) to link to Patterson Road.

Improvement 2 – Highway 99 and 17A Off-Ramp Widening:

Improvements at the Highway 17A Interchange will add lanes to improve transit connections and bicycle infrastructure improvements. The improvements are within the Certified Project Corridor (**Figure 2**) as shown in Schedule A of the EAC and are described as follows:

- Highway 99 northbound off-ramp widening for approximately 400m to add a second lane for bus priority;
- Highway 99 northbound on-ramp widening for approximately 130m to add a second lane for bus/HOV priority;
- Highway 17A widening and lane reconfiguration for approximately 550m to support reconfiguration of the eastbound lanes for bus/HOV priority;
- Improvements to the Ministry's bicycle shuttle pullout on Highway 17A; and
- Improvements to cycling facilities along Highway 17A.

Improvement 3 – Bus-on-shoulder transit lanes on Highway 99:

This Corridor Improvement adds transit lanes on Highway 99 between Highway 17A and Highway 10 within the Certified Project Corridor and Ministry right of way (**Figure 3**). New transit priority lanes in both the southbound and northbound directions are collectively referred to as bus-on-shoulder lanes. The improvements are:

- Southbound transit priority bus-on-shoulder lane between the Highway 17A and the Highway 17 interchanges. This involves widening the existing shoulder for 2.5 km;
- Southbound transit priority bus-on-shoulder lane for 3.4 km between Highway 17 and Highway 10 to provide a bus-only lane on the existing road shoulder between the east side of Highway 17 (the 72nd Street underpass) and the Highway 10 off-ramp; and
- Northbound transit priority bus-on-shoulder lane from north of Highway 10 (near the Burns Drive/end of Highway 10 on-ramp) to the current start of the HOV lane on Highway 99). This involves widening the existing shoulder for 3.5 km.

Improvement 4 – Steveston Highway Interchange:

The proposed improvements at the Steveston Highway Interchange include replacement of the existing two-lane overpass structure over Highway 99 to provide three additional lanes of capacity on Steveston Highway and Multi-use path infrastructure on the overpass. In total there will be two eastbound lanes and three westbound lanes (including a left turn lane), as well as improved connections to and from the overpass for vehicles, pedestrians and cyclists. The improvements require the addition of 1,000 m² of private land in the ALR on the north side of the Steveston Interchange to expand Steveston Highway. On the same property there is 12,000 m² that is no longer required for the project.

This represents a net reduction of 11,000 m² of agricultural land that is no longer required from the previously approved Project. Specific elements include:

- Ground improvement via stone column/soil mixing and preload placement; and
- Improvements to transit facilities and transit integration between the interchange, transit stops and multi-use paths east and west of Highway 99.

Rationale for Corridor Improvements

The four Corridor Improvements were chosen to help address immediate-term priorities including reducing congestion and increasing safety and reliability in the Highway 99 corridor. The Corridor Improvements also align with both short-listed crossing options.

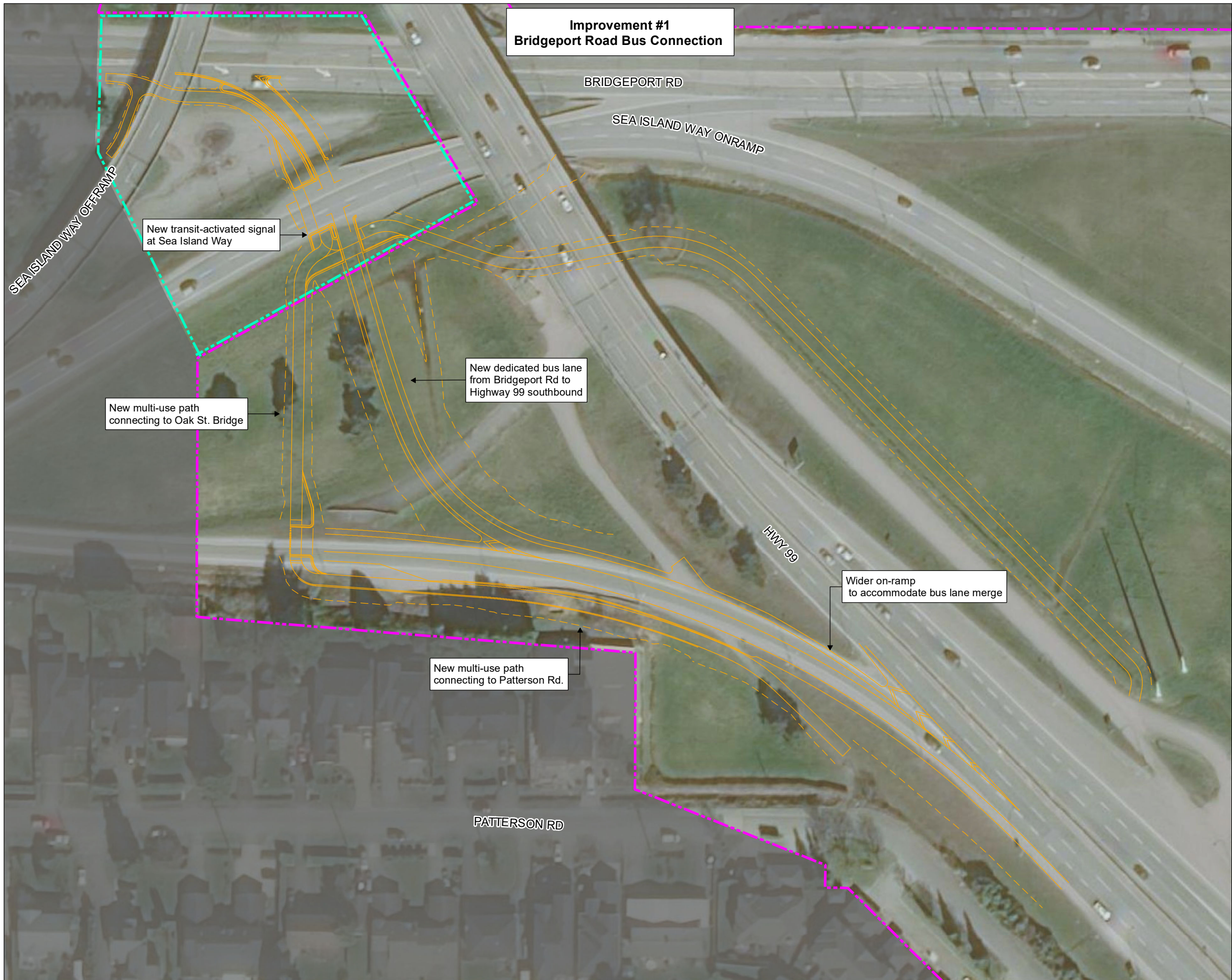
The Corridor Improvements were selected from a larger group of opportunities including those proposed by staff from the cities of Richmond and Delta. Evaluation criteria were:

- Relatively seamless integration with shortlisted George Massey Crossing options;
- Improving and optimizing existing infrastructure;
- Ability to provide significant benefits for congestion relief and transit improvements;
- Fiscal responsibility balanced with the transit and congestion-related improvements;
- Minimizing environmental impacts and consistency with the EAC; and
- Minimizing property requirements, particularly agricultural, outside the right-of-way.

The Corridor Improvements balance traffic and transit movement benefits against impacts to property and the environment. These projects were selected because they align with long-term corridor plans and provide near-term benefits with respect to improving reliability and capacity pending construction of the new Fraser River crossing.

More information on the rationale for selection of the Corridor Improvements can be found in Appendix A.

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George Massey Crossing Corridor Improvements



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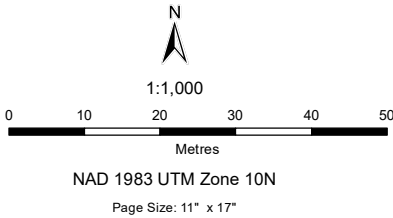
- New Road Infrastructure
- Toe of Slope
- Certified Project Corridor
- Proposed Addition to Certified Project Corridor
- Outside of Certified Project Corridor

Notes

1. All mapped features are approximate and should be used for discussion purposes only.
2. This map is not intended to be a "stand-alone" document, but a visual aid of the information contained within the referenced Report. It is intended to be used in conjunction with the scope of services and limitations described therein.
3. Reference concept design with potential for change during design build.

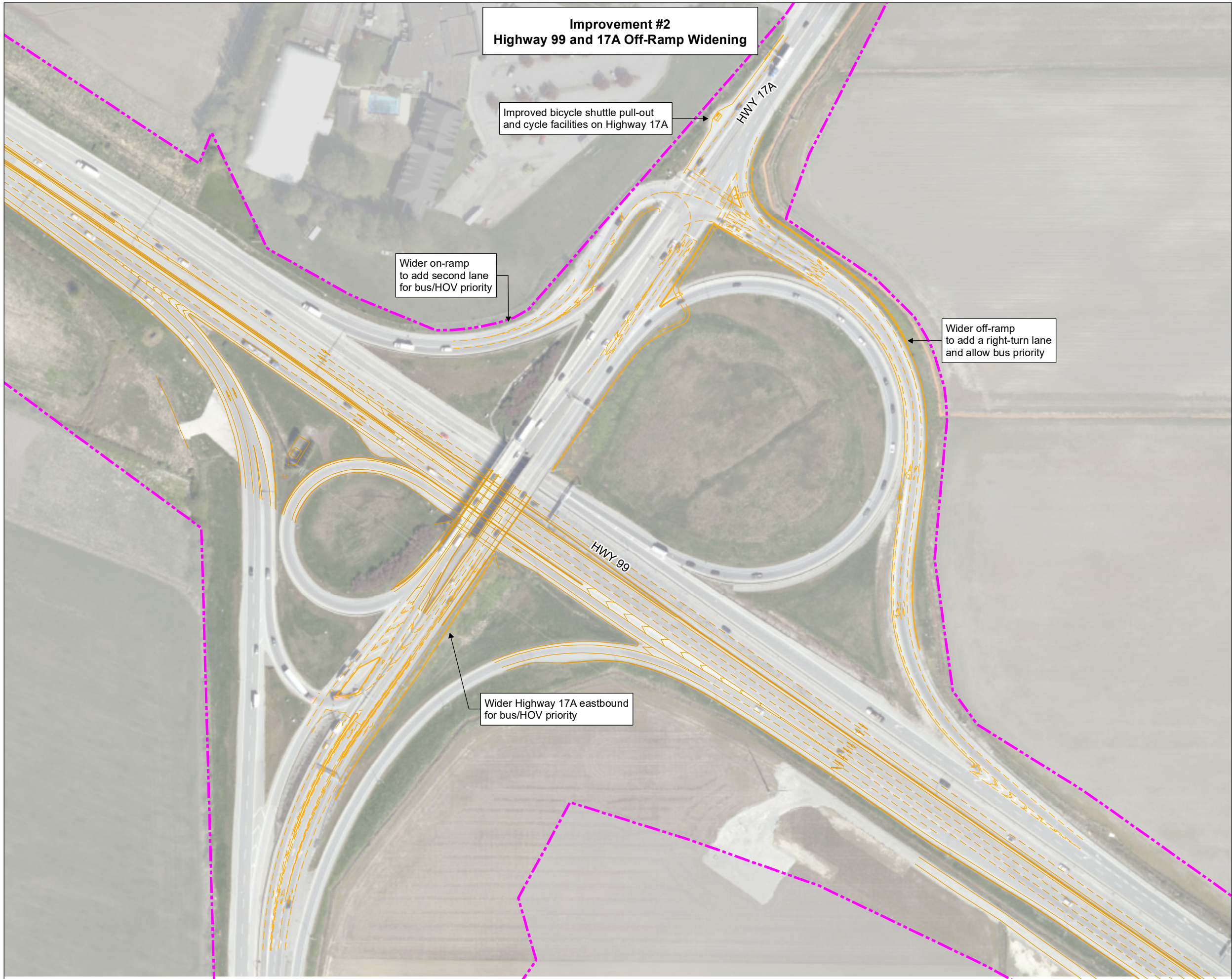
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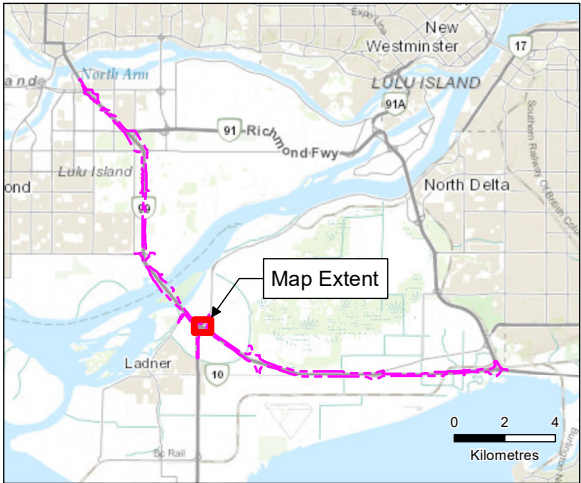


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George Massey Crossing Corridor Improvements



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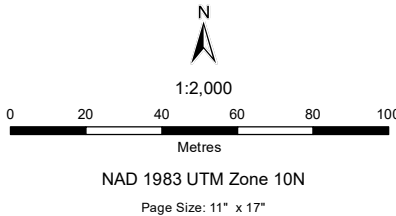
- New Road Infrastructure
- Certified Project Corridor
- Outside of Certified Project Corridor

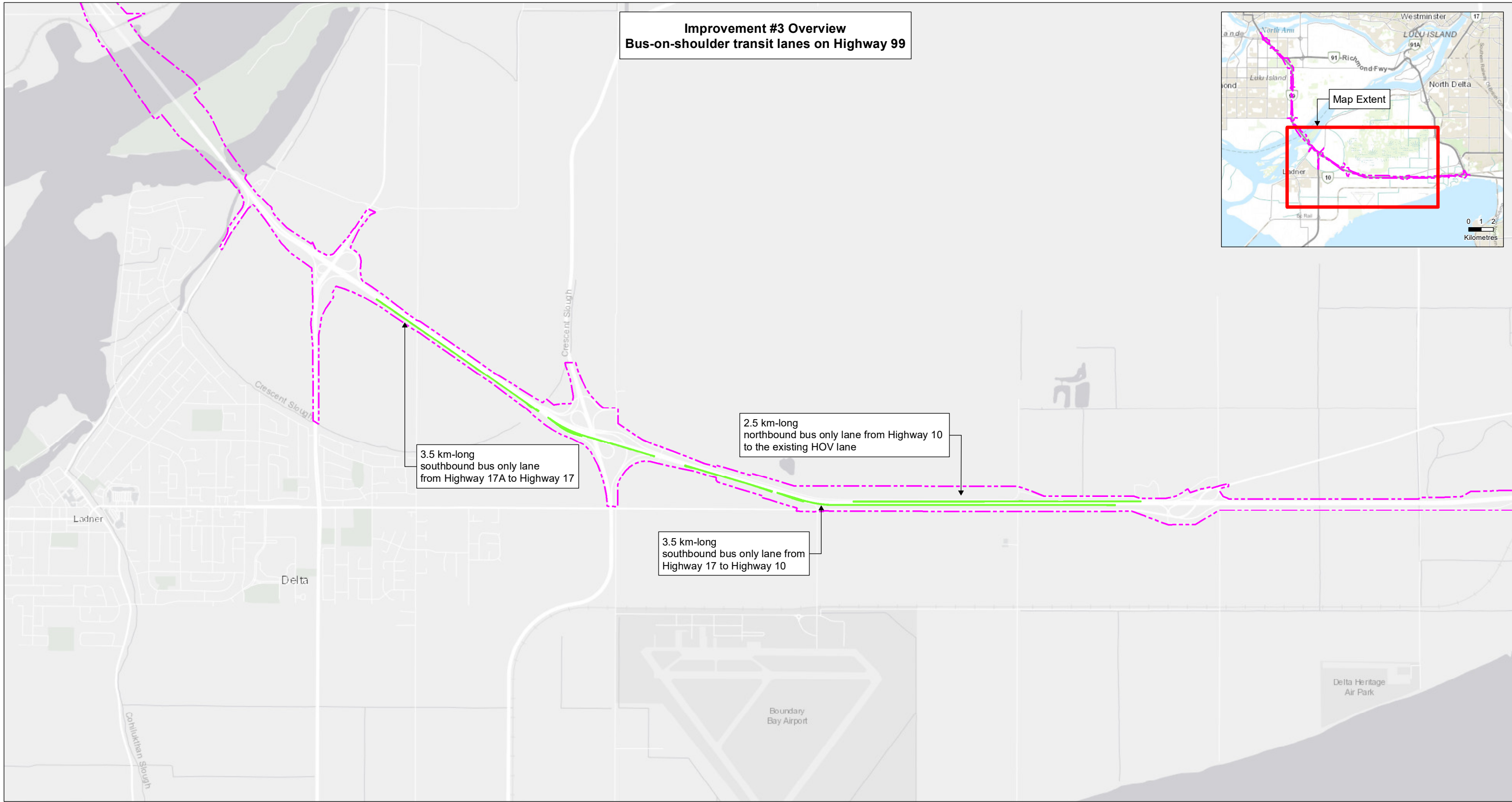
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Legend

- Bus-on-shoulder Transit Lanes
- Certified Project Corridor

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Scale

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Metres

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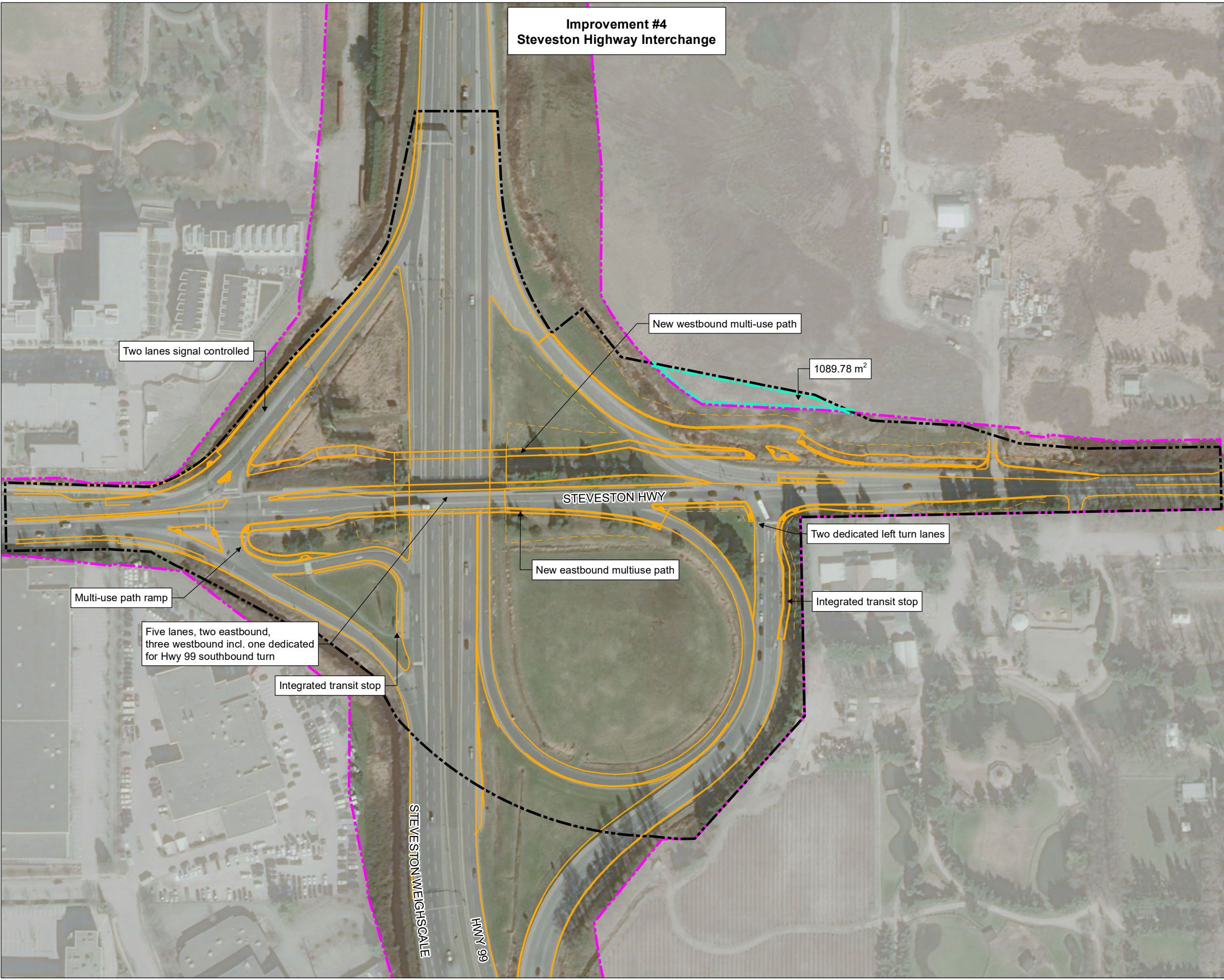
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George Massey Crossing Corridor Improvements

104820-02	Production Date: May 5, 2021	Figure 3
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Ministry of Transportation and Infrastructure

Improvement #4
Steveston Highway Interchange



George Massey Crossing Corridor Improvements



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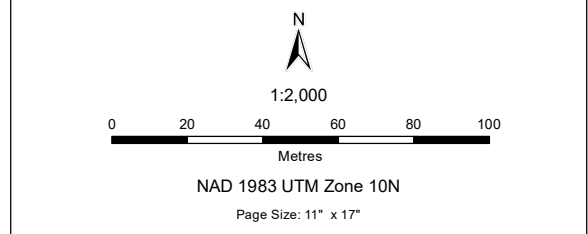
- New Road Infrastructure
- Toe of Slope
- Certified Project Corridor
- Extent of Infrastructure Footprint
- Land to Add to Certified Project Corridor
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7 ENGAGEMENT AND CONSULTATION

7.1 CONSULTATION OBJECTIVES

The Ministry's consultation objectives were designed to meet the requirements of the EAO's Environmental Assessment Certificate and Exemption Order Amendment Policy and Early Engagement Policy under the *Environmental Assessment Act, 2018*. The Ministry's EAC consultation objectives are to:

- Support transparent sharing of information early in the EAC Amendment process;
- Describe the Ministry's approach for information sharing and feedback to inform development of the Amendment Application; and
- Provide the means to engage with Indigenous groups, the public, municipalities, provincial and federal government agencies, and stakeholders such that feedback can be gathered and used to inform the Ministry's Amendment Application submission.

7.2 MUNICIPALITIES AND GOVERNMENT AGENCIES

Engagement for the Corridor Improvements is built on the ongoing George Massey Crossing Project engagement the Ministry started in 2018. The Ministry engaged with and continues to involve municipalities and government agencies in the identification and selection of priority improvements on the Highway 99 corridor.

7.2.1 Identification

The Ministry identified municipalities and government agencies based on the location of the Corridor Improvements the anticipated level of interest based on the rationale and purpose of the Corridor Improvements and responsibilities for administering legislation or regulations applicable to the Corridor Improvements. Participants of the technical working group for the GMTRP environmental assessment process and the post 2017 GMC engagement were used as the basis for identification.

7.2.2 Engagement and Consultation Methods

The Ministry initiated early engagement with local municipalities and government agencies on the proposed Amendment Application in January through March 2021. This built on prior engagement with municipalities during the design and selection phase for the corridor improvements (see **Appendix A**). The Ministry provided notification letters describing the proposed Amendment Application and the rationale requiring the amendment. On request, the Ministry also met with municipalities and government agencies to present detailed information on each of the Corridor Improvements and explain the process and approach for obtaining an amendment. These engagements were conducted in accordance with the Ministry's consultation objectives and engagement requirements of the *Environmental Assessment Act 2018*. Feedback from municipalities and government agencies was incorporated into this Application.

7.2.3 Summary of Issues and Interests

Feedback from the Ministry's engagement with municipalities and government agencies (**Table 2**) was integrated into the Amendment Application or Corridor Improvement designs. The Ministry will continue working on those issues and interests that have yet to be integrated into the Amendment Application.

Table 2: Summary of engagement with municipalities and government agencies

Date	Stakeholder	Summary of Interests
03-Feb-21	City of Delta	<ul style="list-style-type: none"> ▪ Considerations for electric vehicles; ▪ Future works with the new crossing; ▪ Regulatory process for new crossing; ▪ Timeline for Corridor Improvements; ▪ Indigenous consultation progress; ▪ Regulatory process for Corridor Improvements; and ▪ Timeline for decision on the Business Case Report.
16-Feb-21	City of Richmond	<ul style="list-style-type: none"> ▪ Impacts to transit routes; ▪ Details of new cycling improvements; ▪ Timeline for construction of the new crossing; ▪ Access to industrial lands near Steveston Interchange; ▪ Permitting requirements for Corridor Improvements; ▪ Regulatory process for the Crossing; and ▪ Establish detailed meetings for Steveston.
22-Feb-21	Fisheries and Oceans Canada	No initial comment
22-Feb-21	Environment and Climate Change Canada	No initial comment
26-Feb-21	Transport Canada	Because there are no works or activities below the high-water mark Transport Canada does not anticipate having regulatory input on the Amendment Application or needing a permit under the <i>Canadian Navigable Waters Act</i> . Pre-load activities requiring a temporary vessel mooring facility and floating pipe may be a separate authorization from the main civil works.
02-Mar-21	TransLink	No initial comment
05-Mar-21	Metro Vancouver (MV)	<ul style="list-style-type: none"> ▪ Consistency with MV Regional Greenways Strategy; ▪ Interactions with utilities; ▪ Scope of the Corridor Improvements; ▪ Scope of the Amendment Application; and ▪ Regulatory process and engagement opportunities for the Amendment Application.
11-Mar-21	Agricultural Land Commission	<ul style="list-style-type: none"> ▪ Which improvements involve ALR lands; ▪ What is the change in proposed agricultural land requirements from the existing approval; and ▪ ALR reconsideration application requirements.

Date	Stakeholder	Summary of Interests
12-Mar-21	Ministry of Forests, Lands, Natural Resource Operations and Rural Development (FLNRORD) – Regional Operations Division	<ul style="list-style-type: none"> ▪ Definition of a ditch vs stream; ▪ Timeline and regulatory process for new crossing; ▪ Timeline for construction of the new crossing; and ▪ WSA amendment application requirements.
17-Mar-21	FLNRORD– Aquatic Habitat Division	No initial comment
17-Mar-21	FLNRORD– Terrestrial Habitat Division	No initial comment
18-Mar-21	FLNRORD – Archaeology Branch	<ul style="list-style-type: none"> ▪ Previous work done for GMTRP; ▪ Timeline for <i>Heritage Conservation Act</i> (HCA) permitting and construction for Corridor Improvements; ▪ Indigenous consultation progress and next steps; and ▪ Timeline and regulatory process for the new crossing.

7.3 STAKEHOLDER ENGAGEMENT

Stakeholder engagement for the Corridor Improvements is built on the ongoing George Massey Crossing Project engagement the Ministry started in 2017. The Ministry engaged with and continues to involve business, public transit, agriculture, environmental, senior services, youth education services and cycling organizations as well as the general public.

7.3.1 Identification of Stakeholders

The Ministry identified stakeholders based on the location of the Corridor Improvements and the anticipated level of interest based on the nature of the projects applicable to the Corridor Improvements. Participants in the technical working group for the GMTRP environmental assessment process and the post 2017 GMC engagement were used as the basis for stakeholder identification.

7.3.2 Stakeholder Groups Engagement and Consultation Methods

Public engagement on the potential for Corridor Improvements began in 2020, with specific engagement on the Amendment Application starting on March 23, 2021. Public notification occurred via phone calls to stakeholders in the business, public transit, agriculture, environmental, senior services, youth education services and cycling communities that were involved in earlier phases of George Massey engagements and consultations. Email notifications with participation information were sent to the same stakeholders as a follow-up. Newspaper advertisements (Delta Optimist, Indo Canadian Times, Ming Pao, North Delta Reporter, Richmond News, Sing Tao) targeted to Richmond and Delta residents, including to non-English communicators with advertisements in traditional Chinese and Punjabi were published on March 25, 2021. The [George Massey Crossing Project website](#) was updated on March 25, 2021 and contains information on the Amendment Application and means of participating. The Ministry received three responses to the public website (Table 3) and is currently responding to these comments.

7.3.3 Summary of Stakeholder Groups' Issues and Interests

The Ministry engaged with and heard from the following stakeholders on the Amendment Application. The Ministry followed up on all questions and worked to incorporate input and feedback into the Amendment Application or Corridor Improvement designs where appropriate.

Table 3: Summary of Stakeholder Engagement

Stakeholder	Summary of Interests
BC Trucking Association	No comments received
Delta Chamber of Commerce	No comments received
Richmond Chamber of Commerce	No comments received
Greater Vancouver Board of Trade	Questions on regulatory process for new crossing. Requested to see the Province's draft EAC submission to help inform feedback.
Delta Farmer's Institute	No comments received
Richmond Farmer's Institute	Location of proposed agricultural land take
BC Cycling Coalition	Advocated for cycling improvements along Highway 99 and accommodations for cyclists during the construction phase.
HUB Cycling	Advocated for cycling improvements along Highway 99. Submitted a formal letter with specific design requests/suggestions for cycling along the corridor.
Delta Farm and Wildlife Trust	Query on hedgerow clearing needs on Highway 99 in Delta
Garden City	No comments received
Fraser Voices	No comments received
Burns Bog Conservation Society	Location of proposed agricultural land take
Delta Richmond Public Libraries	Requested materials that could be handed out or posted at locations. No comments received after poster provided.
Deltassist	Public transport safety improvements, especially for women
Richmond Chinese Community Society	No comments received
S.U.C.C.E.S.S Richmond	No comments received
Delta School District 31	No comments received
School District 38 (Richmond)	No comments received
Richmond Christian School	No comments received
B.C. Muslim School	No comments received
Richmond Jewish Day School	No comments received

7.4 INDIGENOUS ENGAGEMENT

Engagement with Indigenous groups on the proposed amendment has occurred within the context of a larger engagement on the Corridor Improvements. Indigenous groups were informed of the Ministry's intent to apply for an amendment to the EAC in summer 2020 as part of engagement on the Corridor Improvements. The Ministry sent a letter and invitation to meet with Indigenous groups with information specific to the Amendment Application in February 2021, including a description of and rationale for the proposed amendment for the Corridor Improvements. The Ministry has held several meetings with Indigenous groups to present detailed information on each of the Corridor Improvements in which the need for an amendment to permit the construction of the Corridor Improvements ahead of the new Fraser River crossing was noted. Questions and concerns were addressed as noted in this application, as has feedback from meetings and written comments.

In support of the EAO's Indigenous engagement on this application, the Ministry will continue to engage with interested Indigenous groups following submission of the Amendment Application. Additional meetings and advance copies of the application have been requested by and supplied to Indigenous groups and further comments are expected following submission of this Amendment Application.

7.4.1 Identification of Indigenous Groups

The Ministry identified Indigenous groups (**Table 4**) based on the Section 11 Order for the GMTRP, the Provincial Consultative Area Database, and through experience on adjacent infrastructure projects.

Table 4: Identified Indigenous Groups

Indigenous Groups as per GMTRP Section 11 Order	
Cowichan Tribes	Lyackson First Nation
Halalt First Nation	Musqueam Indian Band
Katzie First Nation	Penelakut Tribe
Kwantlen First Nation	Stz'uminus First Nation
Ts'uubaa-asatx (Lake Cowichan) First Nation	Squamish First Nation
Semiahmoo First Nation	Tsawwassen First Nation
Tsleil-Waututh Nation	People of the River Referral Office
Additional Indigenous groups as per the Provincial Consultation Areas Database	
Sto:lo tribal council	Seabird Island Band
Shxw'ow'hamel First Nation	
Indigenous groups that the Ministry has knowledge of asserted interest	
Snuneymuxw First Nation	

7.4.2 Indigenous Engagement and Consultation Methods

Letters and maps describing this EAC Amendment Application were sent to all Indigenous groups in February 2021. Follow-up information packages that included a summary of the Application, and other supporting materials were sent on April 12, 2021. The letters invited each Indigenous group to provide comments and noted the Ministry's willingness to meet to discuss this Application, and notified Indigenous groups that the Ministry is willing to provide capacity support to assist with their review. In coordination with the EAO, the Ministry will continue to engage with all Indigenous groups that wish to participate as the Amendment Application process continues. A consultation record of engagement with Indigenous groups will be provided to the EAO upon request.

In addition to the noted engagement specific to this Amendment Application, the Ministry will continue to engage Indigenous groups on the Corridor Improvements. In addition to sharing information and hosting meetings, the Ministry intends to support opportunities for Indigenous groups to complete assessments of novel impacts presented by the projects on their interests, incorporate traditional knowledge and perspectives, and reach capacity support agreements specific to the Corridor Improvements.

7.4.3 Summary of Indigenous Issues and Interests

To date, the Ministry has received written responses from Tsleil-Waututh Nation and Ts'uubaa-asatx (Lake Cowichan) First Nation on the draft Application. The Ministry is actively answering questions and sharing additional information with Musqueam Indian Band, Tsawwassen First Nation, Semiahmoo First Nation, Squamish First Nation and Lyackson First Nation. People of the River Referral Office has "deferred referral" to other Nations that are being consulted. Information sharing continues with other identified Indigenous groups and additional meetings are expected. General issues and interests have been noted regarding the Corridor Improvements, the amendment review process, and the original engagement on EAC #T17-01. These issues and interests include:

- Volume of referrals and capacity to participate;
- Applicability of EAC #T17-01 conditions to Site Preparation and Advanced Construction including a request for the inclusion of additional conditions;
- Intent and content of the assessment of Section 25 Matters and how this assessment can take into account any areas of assessment that were not considered in the original application and approval;
- Opportunities for Indigenous construction monitoring;
- Impacts to fishing, hunting and gathering opportunities;
- Impacts to fish and fish habitat;
- Impacts to archaeology;
- Importance of ensuring Indigenous involvement in archaeology;
- Impacts to agricultural lands;
- Invasive plant management;
- Revegetation of areas with culturally significant/harvestable plants;
- Opportunities for cultural recognition;
- Importance of habitat enhancement/offsetting;

- Cumulative effects;
- Ensuring economic opportunities during implementation of the project;
- Potential impacts to Species at Risk;
- Concerns regarding pedestrian, emergency vehicle safety, and general traffic safety;
- Concerns with traffic congestion and traffic volumes;
- Impacts of COVID-19 on ability to consult at an appropriate level;
- Clear criteria regarding habitat offsetting and how it will be calculated;
- Impacts of increased stormwater related to increased area of paved surfaces; and
- Storage and disposal of excavated soils.

7.4.4 Planned Engagement and Consultation

The Ministry will continue to undertake engagement activities on the Amendment Application according to guidance provided by EAO's Environmental Assessment Certificate and Exemption Order Amendment Policy throughout the remainder of the review process. This includes continuing to engage and meet with Indigenous groups that wish to participate as the review process continues, answering any questions and providing information and updates as required.

8 MITIGATION

The Ministry considers the changes to the Project as requested in this Amendment Application are relatively minor. Mitigation for site preparation and advance works are already required by several conditions of EAC #T17-01, which have been identified below. This section outlines the mitigation that the Ministry is currently required to implement for advance works, and the additional mitigation that the Ministry proposes to implement for the Corridor Improvements. All mitigation listed below has been drawn from EAC #T17-01, Schedule B.

8.1 REQUIRED MITIGATION

The Ministry is required to meet the following conditions in association with site preparation and advanced works. The proposed mitigation to address the potential effects of this amendment (i.e., for Site Preparation and Advance Construction) will be adopted in their entirety as per Schedule B to EAC #T17-01. A list of the conditions with a summary of the contents and purpose follows:

#3. Consultation. The Ministry will conduct consultation as required for the review of contents of plans, programs or other documents associated with the Corridor Improvements.

#5. Project Status Notification: The Ministry must notify EAO, City of Richmond, City of Delta, and Indigenous groups, in writing, 30 days prior to commencing advance construction.

#9. Independent Environmental Monitor (IEM): The Ministry must retain the services of a Qualified Professional to act as an IEM throughout advance construction. The IEM will:

- a) Observe and record for, and report to EAO on compliance with the Certificate; and
- b) Provide information to EAO and Indigenous groups;

A terms of engagement for the IEM must be developed in consultation with City of Richmond, City of Delta, FLNRORD, Metro Vancouver and Aboriginal nations.

#14. Site Preparation in Advance of Construction: The Ministry must retain a Qualified Professional to develop an environmental management plan for addressing environmental effects. The plan must be developed in consultation with City of Richmond, City of Delta, ECCC, FLNRORD, Metro Vancouver, and Indigenous groups.

The plan must identify measures to address:

- a) Human-wildlife conflict
- b) Waste management
- c) Invasive plant management
- d) Revegetation
- e) Site restoration
- f) Erosion and sediment control
- g) Storage and handling of hydrocarbons, including spill prevention and response
- h) Accidents and malfunctions
- i) Air quality
- j) Water quality
- k) Drainage and stormwater management
- l) Fish and fish habitat
- m) Wildlife
- n) Vegetation and invasive species
- o) Noise

8.2 ADDITIONAL MITIGATION

In addition to the required mitigation for site preparation and advanced works as listed in the four conditions listed above (Section 8.1) the Ministry proposes to include elements of seven other conditions from Schedule B of EAC #T17-01. The Ministry believes these additional conditions designed for the construction phase of the Project will be effective in addressing the potential effects of the Corridor Improvements as part of the proposed redefinition of Site Preparation and Advanced Construction (**Table 5**). The Ministry proposes to include these additional conditions, as they apply to the Corridor Improvements, into the environmental management plan required of Condition #14, which would be renamed Site Preparation and Advanced Construction. This additional mitigation is required for the construction period of the GMTRP, and was accepted by the EAO Assessment Report as effective in avoiding or controlling potential effects on valued components. The Ministry believes this additional mitigation will be similarly effective when applied to the Corridor Improvements advanced as part of early works.

Table 5: Additional EAC conditions applicable to the Corridor Improvements

Topic	EAC condition #	EAC condition added to Site Preparation and Advance Construction
Compliance Reporting and Verification	Condition #4	The Ministry must submit a report to EAO on the status of compliance with this Certificate, with respect to Site Preparation and Advance Construction, at the following times: a) At least 30 days prior to the start of Site Preparation and Advance Construction; b) On or before January 31 in each year after the start of Site Preparation and Advance Construction;
Involvement of Indigenous groups in Construction Monitoring	Condition # 11	The Ministry must, to the satisfaction of EAO, offer opportunities for members of Indigenous groups to participate in monitoring activities during Construction. The Holder must communicate these opportunities to Indigenous groups at least 60 days prior to the start of Construction.
Agriculture	Geographically relevant parts of condition #21	Planning for mitigating adverse effects to agriculture, including consultation on the approach(es). There may be agriculture effects as a result of the Steveston Interchange Corridor Improvement and the Ministry will implement a plan with mitigation for topsoil management, ditch monitoring (post-construction) and management of utility disruptions.
Traffic	Condition #29	For management of traffic, pedestrians, transit and cycling (e.g., diversions) and maintenance of access including for emergency vehicles during construction of the Corridor Improvements. The Ministry will develop a plan and consult with listed participants on the measures to manage traffic issues as noted above.
Archaeology/Heritage Resources	Condition #30	For mitigation of impacts on archaeology and heritage resources in accordance with the <i>Heritage Conservation Act</i> . The Ministry will develop and consult on a management and mitigation plan for archaeological and heritage impacts including employee training and a chance find procedure.
Indigenous Engagement Reports	Condition #32	The Ministry will continue to engage Indigenous groups to the satisfaction of EAO from the date of issuance of the EAC and throughout the implementation of monitoring and follow-up programs. The engagement will demonstrate the Ministry's efforts to address information shared and recommendations made by Indigenous groups in the plans, programs, and other documents, with the objective of mitigating adverse effects of the Project on Indigenous groups.
Public Communications and Engagement	Condition #33	For continued engagement with the public via the project website (https://engage.gov.bc.ca/masseytunnel/) and reporting on progress and safety during construction.

9 EFFECTS ASSESSMENT

The potential effects of the revised definition of Site Preparation and Advance Construction and additions to the Certified Project Corridor on valued components and Indigenous interests are assessed in this section. The assessment considers the similarity of the Corridor Improvements with the Project that is already approved in EAC #T17-01, the proposed mitigation (Section 8) and field assessments of the additions to the Certified Project Corridor. Also included in this Section is a summary of considerations of Section 25 assessment matters as required under the *Environmental Assessment Act 2018* (see Appendix B for more details).

9.1 REDEFINITION OF EARLY WORKS

The conclusion of no significant adverse effects on valued components reached in the GMTRP effects assessment is not anticipated to change because of revising the definition of early works in Schedule B of EAC #T17-01. To reach this conclusion we considered: (i) the consistency between the Corridor Improvements and the project that was approved in EAC #T17-01, and (ii) the application of previously agreed mitigation that addresses effects on valued components during construction.

The Corridor Improvements as proposed are consistent with the relevant elements and components of the GMTRP as described, assessed, and approved in EAC #T17-01. The project as described in the Certified Project Description, includes the following works:

- Two new public transit/HOV lanes, each up to 25 km in length, between Bridgeport Road in Richmond and south of Highway 91 in Delta, i.e., transit priority lanes between highways 17 and 10;
- Integrated transit stops at the Steveston Highway and Highway 17A interchanges;
- Replacement of Highway 99 interchanges at Steveston Highway and Highway 17A; and
- Multi-use paths at interchanges, including the Steveston Highway and Highway 17A interchanges, to facilitate east-west access across Highway 99, access to the multi-use pathways on the bridge, and connections to local roads and bicycle paths.

The GMTRP Application for the Environmental Assessment Certificate (s1.1.6) also includes the following components that further confirm consistency of the Corridor Improvements with the approved Project:

- Provide a dedicated transit connection to Highway 99 along Bridgeport Road and Sea Island Way to connect to the transit/HOV lanes on Highway 99; and
- Replace the Highway 17A interchange to accommodate all existing traffic movements.

Because the design and operation of the four Corridor Improvement projects is largely unchanged from that assessed in and approved by EAC #T17-01, the conclusions previously reached in the EAO Assessment Report remain accurate. No change to Section 3 of the Certified Project Description is needed.

In combination the required mitigation for early works (Section 8.1) and elements of seven other mitigation conditions (Section 8.2), all from Schedule B of EAC #T17-01, will be effective at avoiding or controlling potential effects of the redefined early works activities on valued components. The mitigation that will be applied to the Corridor Improvements includes all the relevant construction period elements that EAC #T17-01 considered necessary to address effects on the valued components. There have been no ecological, administrative or other changes in the Certified Project Corridor since GMTRP approval that alter the effects assessment conclusions or that limit the efficacy of mitigation measures.

The Corridor Improvements are materially the same as those previously assessed. With the application of previously agreed upon construction period mitigation required in the Table of Conditions (Schedule B to EAC #T17-01), no change to the earlier conclusion of no significant adverse effects on valued components is expected due to redefining the Site Preparation and Advance Construction clause.

9.2 CORRIDOR IMPROVEMENT CHANGES

Two small areas that were not previously considered necessary and were not approved in Schedule A of EAC #T17-01 need to be added to the Certified Project Corridor. These are:

- Improvement 1 – Bridgeport Road Bus Connection: Addition of approximately 4,500 m² of existing Ministry right-of-way within the Bridgeport Interchange to construct a bus-only connection to Highway 99 southbound and pedestrian and cycling improvements (**Figure 1**).
- Improvement 4 – Steveston Highway Interchange: Addition of 1,000 m² of private land in the ALR on the north side of the Steveston Interchange to expand Steveston Highway.

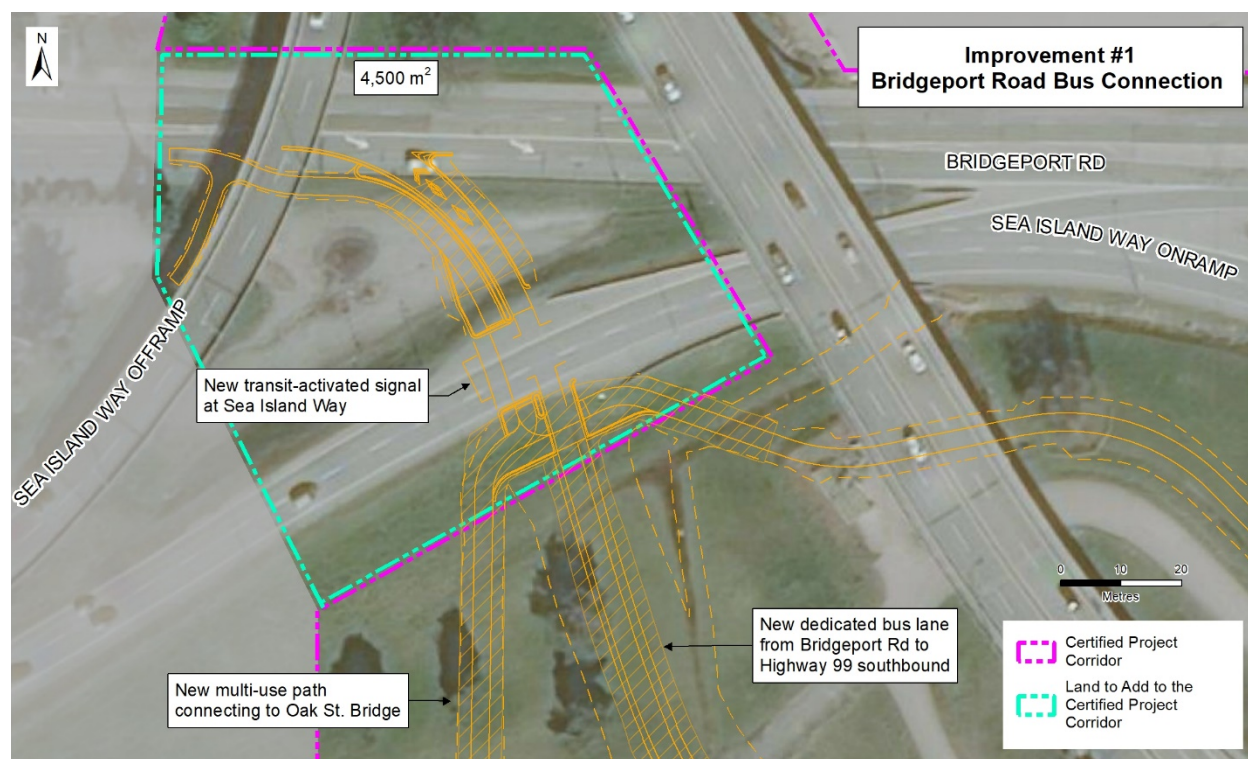
9.3 BRIDGEPORT FOOTPRINT REFINEMENTS

At Bridgeport (**Figure 5**) the required addition to the Certified Project Corridor is existing roadways and a gravel covered area in the Ministry's highway right-of-way in the interchange. The parking lot has been in use since at least 2000, and is surrounded by roads, with Sea Island Way to the west and south, Bridgeport Road to the north and Highway 99 to the east. Development as part of the Corridor Improvements is consistent with the land use designation as general urban (Metro Vancouver) and with the regional greenway (cycling) network. Field surveys to support the assessment were conducted.

There are two ditches (Bridgeport Road north and south), with similar characteristics to the surrounding area and with no records of fish presence or native amphibians. The nearest watercourse with confirmed (2014) fish presence, three-spined stickleback (*Gasterosteus aculeatus*), was approximately 575 m to the southeast. There are no habitats of value for wildlife. Raccoon (*Procyon lotor*), a common species of urban habitats, tracks were observed nearby beneath the Highway 99 overpass.

The ecological values in this area are similar to those assessed in the other parts of the Bridgeport area during the GMTRP. There is no interaction with watercourses (fish and fish habitat). The impacts on other valued components (socio-economic, health and heritage pillars) are similar to those for the adjacent areas within the Certified Project Description. No change to the GMTRP effects assessment conclusions, including no requirement for additional mitigation, is expected.

Figure 5: Bridgeport Interchange addition (green) to the Certified Project Corridor (pink).



9.4 STEVESTON FOOTPRINT REFINEMENTS

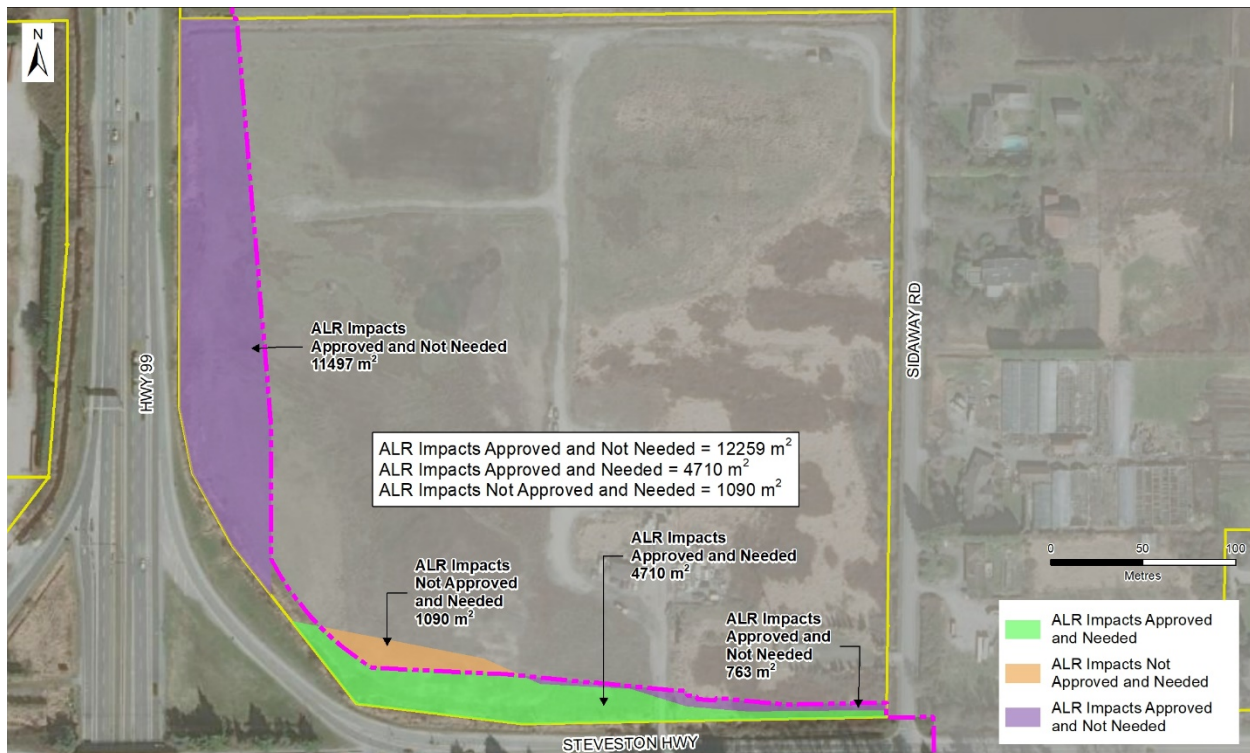
At the Steveston Highway Interchange, the additional area to be added to the Certified Project Description is on private land parcel 55 (PID 013-069-241) which is in the ALR (**Figure 6**). The Agricultural Land Commission (ALC) was involved in the GMTRP effects assessment, and after approval of EAC #T17-01 the ALC issued approval-in-principle for non-agricultural uses on parcel 55. For the Corridor Improvement at Steveston Interchange, the Ministry proposes the following changes to the Certified Project Corridor and the ALC approval in principle on parcel 55:

- Addition of 1,090 m² of parcel 55 that was not previously approved for use on the GMTRP; and
- Relinquishment of 12,260 m of parcel 55 that was previously approved for the GMTRP footprint. This is a net reduction of 11,000 m² of agricultural land impacts over that of the previously approved Project.

The GMTRP effects assessment found that the proposed project-related impacts on parcel 55 were not likely to significantly affect the potential for agricultural use on this relatively large property. The revised total footprint will affect 5,800 m² on parcel 55, about one third of the previously approved footprint impacts (16,575 m²). In support of this finding the following indicators of agricultural effects were examined and assessed:

- i. **ALR land** – Changes in ALR land impacts on parcel 55 are focussed in the southwest and do not affect land that is currently in active agricultural use. The changes as a result of the Corridor Improvement at Steveston include a reduction in ALR land effects than was previously approved. Compensation for ALR losses is still necessary, but will be less than previously expected.
- ii. **Irrigation and drainage** – The changes reduce impacts on irrigation and drainage infrastructure associated with parcel 55. Only one of the two previously impacted drainage ditches is now affected. Effects to ditch around the south edge of the parcel will be mitigated in accordance with Ministry standards and with consideration for BC Agricultural Drainage Criteria for water quality and storm event management.
- iii. **Farm infrastructure and operations** – Effects to farm infrastructure and operations are still on the periphery of parcel 55 and do change the effects on infrastructure or fencing - allowing continued use for agriculture on the slightly smaller parcel 55.

Figure 6: Steveston Interchange parcel 55 addition (orange) to the Certified Project Corridor.
Private ALR land that was previously assessed and approved under EAC#T17-01 and is no longer required for the project (purple) and is required (green) is also shown.



9.5 SECTION 25 ASSESSMENT MATTERS

Section 25 matters must be assessed under the *Environmental Assessment Act 2018*. The following is a summary of the detailed assessment presented in **Appendix B**.

- (1) The effects on Indigenous groups and rights affirmed by Section 35 of the *Constitution Act*.

The Corridor Improvements to be advanced ahead of the new crossing have not materially changed since the assessment conducted for EAC #T17-01. That assessment concluded that consultation with Indigenous groups identified and addressed issues with practical mitigation that avoids direct and indirect significant effects. From the EAO Assessment Report s.15: “The potential for adverse effects on the Aboriginal rights and title of Aboriginal Groups has been avoided, minimized or otherwise accommodated to an acceptable level.”

- (2) Assessments of the Section 25 matters listed in **Table 6** are given in detail in **Appendix B**.

Table 6: Section 25 assessment matters

Stakeholder	Summary of Interests
a) Positive and negative effects	No change to GMTRP effects conclusion
b) Risks and uncertainties	No change to GMTRP effects conclusion
c) Malfunctions or accidents	No change to GMTRP effects conclusion
d) Disproportionate effects on the community	No change to GMTRP effects conclusion
e) Effects on biophysical factors	No change to GMTRP effects conclusion
f) Effects on current and future generations	No change to GMTRP effects conclusion
g) Consistency with land use plans	No change to GMTRP effects conclusion
h) Greenhouse gas emissions	No change to GMTRP effects conclusion
i) Alternative means	No change to GMTRP effects conclusion
j) Changes caused by the environment	No change to GMTRP effects conclusion

9.6 EFFECTS ASSESSMENT SUMMARY

Taking into account the mitigation proposed to control effects and noting that there are no material changes to the Corridor Improvement components of the GMTRP, the conclusions reached in issuing EAC #T17-01 remain relevant. This includes the assessment of Section 25 matters (**Appendix B**) and the assessment of effects for the redefinition of advanced works and the two identified areas proposed to be added to the Certified Project Corridor (**Table 7**).

Table 7: Summary of changes to conclusions from the GMTRP effects assessment

Pillar	Valued Component	Effects Assessment of Proposed Amendments
Environmental	Fish and fish habitat	No change to effects conclusion in EAC #T17-01
	At-risk amphibians	No change to effects conclusion in EAC #T17-01
	Marine mammals	No interaction
	Vegetation	No change to effects conclusion in EAC #T17-01
	Terrestrial wildlife	No change to effects conclusion in EAC #T17-01
Socio-economic	Land use	No change to effects conclusion in EAC #T17-01
	Marine use	No interaction
	Agricultural use	No change to effects conclusion in EAC #T17-01
	Visual quality	No change to effects conclusion in EAC #T17-01
Heritage	Heritage resources	No change to effects conclusion in EAC #T17-01
Health	Human health	No change to effects conclusion in EAC #T17-01

10 CONCLUSION

The amendment sought by the Ministry is a change to the definition of the *Site Preparation in Advance of Construction* condition to allow for advance construction of four key, previously assessed, and approved Corridor Improvements at specific locations on Highway 99. The amendment would allow for the construction of permanent infrastructure including roadways, structures, and existing highway widening ahead of the new crossing design being determined. The Ministry's proposed redefinition would be titled; "*Site Preparation and Advance Construction*."

This amendment would allow construction of elements of the GMTRP that are necessary to improve the functionality of the Highway 99 corridor, and that otherwise cannot be advanced as the full suite of pre-construction conditions required of the Ministry for completion of any component of the GMTRP cannot be achieved without a design for the new Fraser River crossing component. These improvements align with both short-listed crossing options in the business case.

Without an amendment, the Ministry is unable to advance these Corridor Improvement components and improve overall safety and transit, traffic, pedestrian and cycling service levels ahead of the crossing solution. The Ministry is consulting with Indigenous groups and the region about the new crossing concept that will be advanced, and when that decision is made, the crossing will also be subject to review.

The Ministry is also requesting revisions to the Certified Project Corridor in Schedule A of EAC #T17-01, pertaining to property in two locations; 4,500 m² in the Ministry right-of-way at the Bridgeport Interchange to provide for a bus-only on-ramp to Highway 99 and 1,000 m² of private land in the ALR at the Steveston Interchange. Approximately 12,000 m² of private land in the same parcel is no longer required; this land, previously approved for use as part of the project, will be relinquished by the Ministry (this represents a net reduction of 11,000 m²).

The elements of the GMTRP that will be delivered under the Corridor Improvements have not materially changed since the assessment conducted for the GMTRP and the conclusions of that assessment remain relevant. Mitigation remains relevant and practical, and the assessment of effects that resulted in approval of EAC #T17-01 is considered unchanged.

We trust the information contained in this Amendment Application outlines the modest changes in the already approved project that are required to advance priority works in the Highway 99 corridor. We look forward to hearing from you and would welcome further discussion. Please us know if you have any questions or require additional information.

APPENDIX - A – RATIONALE FOR CORRIDOR IMPROVEMENTS

The four Corridor Improvements were chosen because they help address immediate-term priorities including reducing congestion and increasing safety and reliability in the Highway 99 corridor. In addition, all four Corridor Improvements align with both of the short-listed alternative crossing options.

The selection of the Corridor Improvements has been supported by, and aligned with, consultation that the Ministry has undertaken on the broader GMC project beginning in December 2018 when the ITR indicated that the Province should engage with Indigenous groups and the region to identify a crossing solution that better aligns with regional interests. Building on the recommendations of the ITR, the engagement included a comprehensive process to explore and document the following:

- Project, Principles, Goals and Objectives (Jan – Apr 2019) – Develop and achieve regional consensus on Project principles, goals and objectives.
- Options Analysis (May 2019 – Spring 2020) – Consult with the region to identify and shortlist potential crossing options and conduct a multiple accounts evaluation assessment of the shortlisted options to select a preferred option.

The four projects that are included in the Corridor Improvements were selected from a larger group of opportunities including those proposed by staff from the cities of Richmond and Delta. The alternatives included the addition of new transit priority lanes, park and ride facilities, and improvements to interchanges at Steveston Highway and Highway 17 and Highway 17A.

The Ministry studied the alternatives put forward, testing them for efficacy at addressing congestion-related issues and adding transit infrastructure. The results were reported to the municipalities and final selection decisions on a shortlist of the alternatives were made at a workshop on 15 August 2020. The criteria used to make decisions on the options that would be advanced were:

- Relatively seamless integration with shortlisted George Massey Crossing options;
- Improving and optimizing existing infrastructure;
- Ability to provide significant benefits to congestion relief and transit improvements;
- Fiscal responsibility balanced with the transit and congestion-related improvements;
- Minimizing environmental impacts and consistency with EAC #T17-01; and
- Minimizing property requirements, particularly agricultural, outside the right-of-way.

The four Corridor Improvements that were selected provide the best balance of traffic and transit movement benefits against impacts to property and the environment. These projects were selected because they align with long-term corridor plans and provide the maximum benefit for improving reliability and capacity in the near-term and within the available funding.

The issues and challenges along Highway 99 north and south of the existing George Massey Tunnel are well known and have been at the center of studies and discussions for many years.

Mobility and reliability are the biggest challenge on the Highway 99 corridor. During weekday peak periods, delays, congestion, and vehicle queuing consistently impact this section of Highway 99.

Congestion related conditions affect transit mobility especially where there are no transit priority lanes. For transit users, this means longer trip times as transit operators modify schedules to account for worst case scenarios. To address congestion, transit operators require more vehicles to maintain the same frequency of service. Both modifications result in increased operational and capital costs, but without the corresponding benefits of improved travel times that normally result from these types of investments.

Safety along the Highway 99 corridor show that the recorded collision frequencies and rates are higher in comparison to 2011 to 2015 provincial averages. On average, more than one collision occurs around the George Massey Tunnel each day, and most are classified as 'rear-end' incidents. These patterns are typical for highways where there are substantial changes in speeds under both regular conditions and as a result of incidents, and where there is increased vehicle queueing during peak periods.

The benefits of each corridor improvement project are described below.

Improvement 1 – Bridgeport Road Bus Connection:

- Improved travel speeds for transit during peak periods and on weekends.
- Improved travel time reliability for transit operator and customers.

Improvement 2 – Highway 99 and 17A Off-Ramp Widening:

- Reduced vehicle queues and delays and improved reliability for priority vehicles such as transit and high occupancy and electric vehicles (HOV/EV).
- Reduced vehicle queues and delays and improved reliability for transit and HOV/EV vehicles.

Improvement 3 – Bus-on-shoulder transit lanes on Highway 99:

- Modest improvement to bus speeds and reliability during peak periods.
- Extends the existing transit priority lanes south of the tunnel.
- Improved speed and reliability for transit during incidents.

Improvement 4 – Steveston Highway Interchange:

- Addresses current and forecast 2050 mobility and vehicle queuing needs for Highway 99 traffic at Steveston and east-west traffic across Richmond on Steveston Highway.
- Improved and integrated transit stops, pedestrian and cycling amenities and access.
- Improved mobility without changes to the tunnel and support for forecast traffic growth that is projected to occur with future increased Fraser River crossing capacity.
- Enhanced Steveston Interchange performance.

APPENDIX - B – ASSESSMENT OF SECTION 25 MATTERS

Section 25 assessment matters must be assessed under the *Environmental Assessment Act 2018*. This appendix provides an assessment of each of the Section 25 matters and shows that there is no variance between the conclusions reached during the GMTRP environmental assessment and the conclusions that would be reached based on the project as revised by this proposed Amendment Application.

- (1) The effects of a project on Indigenous groups and rights recognized and affirmed by Section 35 of the *Constitution Act, 1982*.

This Amendment Application requests a redefinition of advance works and the addition of two small areas to the Certified Project Corridor, which if approved would allow for the advanced delivery of four priority GMTRP Corridor Improvement components that have already been assessed and approved. The Corridor Improvements that would be advanced have not materially changed since the assessment conducted for the GMTRP. That assessment concluded that consultation with Indigenous groups was conducted to identify and address issues with practical mitigation that avoids direct and indirect significant effects (*EAO Assessment Report* s.15). The EAO concluded that “The potential for adverse effects on the Aboriginal rights and title of Aboriginal Groups has been avoided, minimized or otherwise accommodated to an acceptable level.”

- (2) The following matters were considered:

- (a) ***positive and negative direct and indirect effects of the reviewable project, including environmental, economic, social, cultural and health effects and adverse cumulative effects***

The conclusions reached in the GMTRP on the positive and negative direct and indirect effects to relevant valued components remains valid regardless of the Amendment Application. Advancing the Corridor Improvements ahead of the other components provides for priority upgrades to address the current and growing safety and congestion challenges, meets forecast population and employment growth, and ensures Highway 99 continues to serve regional, provincial, and national transportation needs. The Highway 99 corridor is an important link in the regional and provincial transportation system, carrying an average of 80,000 vehicles each day. It is a vital goods movement route for national, provincial, and regional economies, is a major access route for businesses in cities of Richmond, Delta Surrey and Vancouver and is a vital transit corridor.

The *EAO Assessment Report* contains information on the positive effects / benefits (s.8.2) and the negative effects and mitigation to address those. The amendment to advance the Corridor Improvements ahead of the new Fraser River crossing provides some of the benefits to the community earlier than if the Corridor Improvements were delivered at the same time as the crossing.

(b) ***risks and uncertainties associated with those effects, including the results of any interaction between effects***

The effects assessments conducted for the GMTRP were summarized and reported in the [EAO Assessment Report](#) as having high confidence. The proposed amendment to permit the Corridor Improvements does not alter the GMTRP conclusions on risks and uncertainties as the project described in the Certified Project Description (EAC #T17-01 Schedule A) has only changed where two small areas, both with no additional effects, will be added to the Certified Project Corridor (Section 8).

(c) ***risks of malfunctions or accidents***

The conclusions on the risks of malfunctions or accidents reached in the [EAO Assessment Report](#) (s.8.2) remain valid because the Corridor Improvements are very similar to those used as the basis of the assessment. Relevant mitigation to minimize the risks of accidents or malfunctions as listed in the Table of Conditions will be implemented as part of the proposed Corridor Improvements as follows:

- Working with municipalities during design to identify and minimize risks to the integrity of utilities
- Designing highway infrastructure to provincial and national engineering standards
- Providing environmental management plans that describe the means by which accidents and malfunctions will be addressed (identified, minimized and contingency measures), EAC #T17-01 Schedule B Condition #13

(d) ***disproportionate effects on distinct human populations, including populations identified by gender***

The [EAO Assessment Report](#) (s.15.3) identified the following benefits and requirements. The amendment to permit the Corridor Improvements will not materially change these summarized conclusions, and the Ministry remains committed to the noted mitigation.

- The Ministry has provided and will continue to provide economic benefits to support capacity-building opportunities specific to Indigenous groups prior to and during the construction phase of the Project. These opportunities include:
- Providing capacity funding to support meaningful participation in consultation activities with the Ministry and in the regulatory process.
- Identifying training and capacity building partnerships or other arrangements for potentially affected Schedule B Aboriginal Groups and local communities that will increase opportunities for participation.
- Encouraging and supporting the use of Indigenous and local businesses by encouraging suppliers and subcontractors to adopt local procurement. (as per condition #11 in Schedule B of the EAC.
- The Ministry is committed capacity-building initiatives to support contracting and business development opportunities tailored to each Indigenous group

More reliable transit opportunities benefit financially disadvantaged members of the community. The Corridor Improvement projects specifically focus on upgrades to transit priority lanes and transit stops which collectively make Highway 99 transit routes more reliable and facilitate future transit expansion. Improved transit was a key area of interest during public consultation for the broader project in spring 2020.

The Ministry specifically advertised this amendment to members of the community who through language or age are not typically part of major project consultation, see Section 6.

(e) ***effects on biophysical factors that support ecosystem function***

The Corridor Improvements are largely located in areas with considerable existing highway infrastructure, therefore the natural ecosystem and the biophysical processes that support them are minimal. Highway 99 is an existing arterial route with a long history of use, and adjacent to the highway are intensively managed and developed road margins and agricultural areas with little natural ecological values and limited ecosystem functions. As per EAO guidance the following relevant ecosystem functions were considered:

Habitats supporting ecosystem function. There are no unique or critical habitats that support ecosystem function or are of special value for the flow of water, nutrients, energy and biota. The GMTRP Corridor Improvements are on existing highway (paved) or on adjacent gravel and grass verges and interchange interstitial spaces. Highway ditches convey water and provide rudimentary primary treatment of highway runoff, and will be reinstated in new locations to provide equivalent or better conditions than current ditches. A *Water Sustainability Act* authorization is held by the Ministry to permit implementation.

Habitat Patches. The Corridor Improvements will be located immediately adjacent to Highway 99 and associated on- and off-ramps with very limited habitat. The amendment to permit the Corridor Improvements does not alter the GMTRP conclusions on effects to species movement including migration, or habitat isolation or fragmentation.

Grass verges south of the Highway 17/99 interchange are used by barn owl (*Tyto alba*) for foraging. The effects of Corridor Improvements on barn owl foraging was examined during the GMTRP effects assessment, concluding that collision impacts will not increase because traffic increases are modest in relation to the existing high volumes and the current effects. Foraging in road verges is a high-risk activity for barn owl and such areas are considered habitat sinks that are unsuitable in the long-term. While opinions on the value of these areas to barn owl varies, such areas in their current state are not high-value habitat.

Natural Disturbance Regime. The Highway 99 corridor is intensively used and managed. Regular natural disturbance regimes resulting from Fraser River flooding, wildfire, windstorm or storm surges no longer have a strong influence on the area due to anthropogenic manipulations and mitigation. The Corridor Improvements do not alter the GMTRP

conclusions. Climate change scenarios have been considered in the design of the Corridor Improvements and GMTRP - see item j.

Structural Complexity. There are no specific features in the Corridor Improvements footprint that are important for the life stages of a species or could affect the structural complexity of an ecosystem.

Hydrologic Patterns. Hydrologic patterns will not be altered by the Corridor Improvements.

Nutrient Cycling and Purification Services. The Corridor Improvements do not alter the GMTRP conclusions on inputs to, or change in, the flow of nutrients. Vehicle emission projections in the GMTRP are expected to be similar or less as a result of reduced congestion related idling, and the shift to lower emission transportation modes that result from transit improvements and trends toward lower emissions vehicles.

Biotic Interactions. The Corridor Improvements do not alter the GMTRP conclusions on predator-prey relationships and invasive species. Invasive species management is required as per the Ministry's *Best Practices Guide for Managing Invasive Plants on Roadways*.

Population Dynamics and Genetic Diversity. The Corridor Improvements do not alter the GMTRP conclusions on population dynamics or genetic diversity. Effects on the widespread and relatively common wildlife species of the corridor were comprehensively examined in the GMTRP effects assessment process.

(f) ***effects on current and future generations***

The effects on current generations were assessed in the GMTRP Application. Many of the GMTRP assessments were also future-looking; examining how the project interacted with the environment in the future (e.g., air quality, cumulative effects assessments).

This amendment to permit the Corridor Improvements does not change the benefits and adverse residual effects analyses relevant to current and future generations. Advancing priority Corridor Improvements that were previously assessed and approved continues to protect the environment because the commitments remain relevant. The costs and benefits of the project are distributed across populations and time, but specifically the Corridor Improvements benefit all modes of transportation (bicycle, walking, transit, car, truck) and increases safety and saves time. The project is aligned with the Regional Growth Strategy, particularly for transit.

(g) ***consistency with any land-use plan of the government or an Indigenous groups if the plan is relevant to the assessment***

The requested amendments to allow advanced construction of the Corridor Improvements do not change the consistency of the project with land use plans. The majority of the land required for the project is highway right-of-way, and is currently used or held for future use as

a highway. The following land use plans show consistency of the overall project including the Corridor Improvements with land use plans:

- Metro Vancouver Regional Growth Strategy:

Goal 3.3 (transportation infrastructure that reduces energy consumption and greenhouse gas emissions and improves air quality),

Goal 5.1 (encourage transit, multiple-occupancy vehicles, cycling and walking)

- TransLink Regional Transportation Strategy (2013):

Action 1.3 Invest in the road network to improve safety, local access and goods movement (an action under the strategy “Invest Strategically to Maintain and Grow the Transportation System”

The TransLink South of the Fraser Area Transport Plan (2018) identifies the replacement of the George Massey Tunnel to provide opportunities for new and improved transit connections at the intersections of Hwy 99 and Hwy 17A and Steveston Hwy, expanded bus only lanes, and a new pedestrian and cycling connection between Richmond and Delta. The Corridor Improvements are consistent with this goal.

- City of Delta OCP:

2.9.9 (Work with Provincial transportation agencies to study alternatives to address local traffic congestion).

2.9.14 Improve transit service between ... neighbouring municipalities and to downtown Vancouver.

2.9.15 ... develop transit priority measures in Delta to improve the reliability of transit services.

2.9.19 Work with the appropriate agencies to ensure all new or upgraded major road facilities include separated cycle/walkways.

2.9.21 Improve cycling linkages between communities within Delta and regionally.

2.9.32 Support ... initiatives to encourage more efficient use of the transportation system

- City of Richmond:

8.1 (3d) support ... improvements along Highway 99, including an upgraded interchange at Steveston Highway, to enhance local circulation and connectivity, increase safety and improve goods movement,

8.1 (3g) limit the expansion of capacity for single-occupant private vehicles at all regional and provincial bridges/highways and give priority to transit, trucks and high-occupancy vehicles.

There are no known assessments conducted under s.35 or s.73 of the *Environmental Assessment Act 2018* that are relevant to the Corridor Improvements.

(h) ***greenhouse gas emissions, including the potential effects on the province being able to meet its targets under the Greenhouse Gas Reduction Targets Act [now Climate Change Accountability Act]***

Greenhouse gas emissions as a result of the GMTRP were evaluated and reported in the effects assessment. Future (2031) scenarios with the GMTRP completed as approved by EAC#T17-01 resulted in 7,700 tonnes per year fewer emissions of CO₂, CH₄, N₂O, black carbon and CO_{2e} than the future situation without the project in place. The reduction in GHG results from less idling-related emissions from traffic in the corridor, and improvements in vehicle technology. This analysis for the entire GMTRP shows greater benefits than can be attributed to the Corridor Improvements alone. However, the purpose of the Corridor Improvements is to reduce congestion and make transit use more efficient and safer. Completion of the Corridor Improvements will result in a portion of the GHG improvements reported for GMTRP.

Public engagement activities conducted by the Ministry show support for transit and cycling initiatives in the Highway 99 corridor, in part because they support a reduction in GHG emissions. The Corridor Improvements provide many transit, pedestrian and cycling infrastructure improvements.

(i) ***alternative means of carrying out the project that are technically and economically feasible, including through the use of the best available technologies, and the potential effects, risks and uncertainties of those alternatives***

An analysis of alternative means of delivering the GMTRP was conducted (see [EAO Assessment Report](#), s.2.4). Since approval of EAC #T17-01 the ministry has continued to work with the Metro Vancouver Mayors' Task Force, Indigenous groups, TransLink, local municipalities and key stakeholders to develop and evaluate crossing options. The Corridor Improvements integrate with whichever of the crossing options is eventually selected, and in the meantime will provide much-needed upgrades to traffic and transit mobility and safety.

The Corridor Improvements were subjected to an alternative assessment (multiple accounts evaluation) to select the improvements that best balanced the effects with benefits and met project goals. This evaluation is summarized in the rationale section of this Amendment Application (**Section 6** and **Appendix A**).

The Ministry has advanced the assessment of alternatives for the overall project since issuance of EAC #T17-01. The Corridor Improvements align with the options that are under consideration.

(j) ***potential changes to the reviewable project that may be caused by the environment***

The conclusions reached in the [EAO Assessment Report](#) (s.8.3) on the basis of implementation of mitigation as listed in the Table of Conditions suggest that the risks of effects of the environment on the project can be managed. These risks are unchanged as a result of the advancement of the Corridor Improvements ahead of the new crossing. Mitigation to reduce the potential impacts of extreme climate events will be implemented as part of the proposed Corridor Improvements as follows:

- the projects will be designed and implemented according to current seismic standards, which for this project include ground densification activities and other design measures to meet “Lifeline Structure” standards (1:2,475-year return period seismic event).
- Construction Environmental Management Plans will include the requirement for identification of utilities, and contingency measures to address accidental interactions.