



June 14, 2023

MEMORANDUM

Re: Updates to George Massey Crossing Project (the Highway 99 Tunnel Program) Business Case

PURPOSE

This memorandum provides an update on material changes to approved project parameters and project status of the Fraser River Tunnel Project (the Project) as part of the 2021 Business Case.

BACKGROUND

The Project is an eight-lane immersed tube tunnel (ITT) that will replace the George Massey Tunnel on Highway 99. The new ITT will include three general-purpose lanes and a dedicated transit lane in each direction. It will also provide a separated multi-use path to connect pedestrians and cyclists with active transportation routes on either side of the Fraser River. The Project includes a new eight-lane Deas Slough Bridge, related connections to the existing Highway 99 between Westminster Highway and Highway 17A, and decommissioning of the existing tunnel.

The Project will improve traffic flow through a new toll-free Fraser River crossing designed to modern standards for seismic performance and vehicle clearance. The Project is planned to be opened to traffic in 2030. Following the opening, the existing George Massey Tunnel and ancillary infrastructure will be decommissioned by the end of 2032. Approval for the Project's Business Case was announced August 18, 2021.

2021 BUSINESS CASE

The approval of the 2021 Business Case included the following Project parameters:

- the delivery of the new ITT through a Provisional Design-Build-Finance (Prov DBF) model to accelerate the construction schedule, manage key risks effectively, and maximize competitiveness in the process;
- a total Project cost estimate of \$4,147.9 million for the new ITT crossing, inclusive of planning, procurement, construction and interest during construction;
- start of construction in 2026 and opening of the new tunnel in 2030; and
- identify a number of strategies for delivering labour objectives on the Project for further approval prior to commencement of the procurement process.

In addition to the key Project parameters above, the 2021 Business Case also provided a status update on the following Project activities:

- technical works
- environment and archaeology
- engagement with Indigenous nations
- community engagement
- property, and
- utilities

UPDATES SINCE 2021 BUSINESS CASE

Key Project Parameters

Procurement Model

Since mid-2021, there has been a dramatic decline in risk tolerance by contractors in the construction market, continued significant cost escalation, ongoing supply chain challenges, and an unprecedented number of competing projects across Canada (and worldwide), as well as an increasing use of collaborative procurement models by public sector owners.

Prior to release of the Request for Qualifications, the Project team, working with the Ministry of Transportation and Infrastructure (the Ministry) and Infrastructure BC, have incorporated additional feedback from the market and will deliver the Project through a Progressive Design Build (PDB) with Target Price model. This model takes a stepped approach to selection of a Design-Builder and the execution of a Design Build Agreement (DBA).

The revised procurement process for the Project includes a Request for Qualifications (RFQ), a competitive Design Early Works Agreement Request for Proposals (DEWA RFP) and a Development Phase, which includes design and development and a concurrent Design Build Agreement Request for Proposals (DBA RFP). Upon the Province's acceptance of a DBA Proposal, the DBA will be executed, and the DBA and the construction phase will begin.

The successful DEWA RFP proponent will enter into the DEWA as the Design-Builder and participate concurrently in the DBA RFP. The early contractor involvement and collaborative DEWA phase will best mitigate risks including schedule risk in the current market. The DBA RFP is expected to require four interim design and price submittals during the collaborative DEWA phase. A final technical and financial submittal will be made following receipt and consideration of the Environmental Assessment Certificate (EAC) and associated requirements. Subject to the terms of the DBA RFP, the Province and the Design-Builder will then execute the DBA. Over the course of the DEWA phase and during the DBA RFP, the DBA will be amended through collaboration to reflect design advancement.

The DBA features a target price approach to compensation for performance. The target price is intended to include a target cost consisting of eligible direct costs, and a fixed fee comprised of overhead and profit. The target price component requires an open-book approach by the contractor. A painshare/gainshare mechanism will be applied under which the Design-Builder is at risk for the fixed fee (profit and overhead). If Project costs are lower than the target price any savings would be shared 50/50 between the Design-Builder and the Province. Similarly, if Project costs are higher than the target price any overruns would be shared 50/50 between the Design-Builder and the Province to a maximum of the Design-Builder's risk cap.

Project Budget and Schedule

The approved Project budget remains \$4,147.9 million. While it is recognized that there has been significant market volatility since the 2021 Business Case was approved, there are opportunities to work collaboratively with the selected contractor through the DEWA phase to mitigate construction risks and seek value engineering opportunities within the approved budget envelope. With respect to the Project schedule, the PDB model, and in particular early contractor involvement through the DEWA phase, supports the Business Case schedule of commencing construction in 2026 and opening the new tunnel in 2030. It is anticipated that a contractor will be selected by spring 2024 to commence the DEWA phase of the Project.

Delivery of Environmental Social and Governance Framework for Capital (ESGFC)

ESGFC on the Project will be achieved through a Project Labour Agreement (PLA), similar to the adjacent Steveston Interchange Project, which will set out employment terms and conditions for workers on the Project. The PLA will also support the provision of local jobs, apprentices and training opportunities, as well as maximized participation of groups traditionally under-represented in the construction sector. The DBA will include terms and conditions, as well as reporting and reporting measurement requirements that will demonstrate progress towards achieving ESG labour objective targets in the delivery of the Project.

MATERIAL PROJECT UPDATES

The Business Case made a number of material assumptions about the Project and identified areas for additional investigation. Since August 2021, the Project team has worked to refine the understanding of the Project in advance of procurement including as set out below.

Technical Works

The Project reference concept has been advanced in conjunction with the development of the technical performance requirements for the Project. Key scope updates include the identification of the Ministry Highway 99 right-of-way on Deas Island as well as Metro Vancouver lands as a suitable site for casting of the immersed tunnel elements, assessment of a potential temporary moorage site for completed tunnel elements upstream, near Steveston Island, and defining potential connections between the tunnel multi-use path and the existing active transportation routes on the Richmond and Delta sides. Design development has also been supported by the completion of technical site investigations to inform the

design concepts. Site investigations completed since approval of the Project include a test dredge to the anticipated depths required for the new tunnel elements, as well as geotechnical investigations uplands and in-river along the new alignment.

Environment and Archaeology

An Environmental Assessment Certificate (EAC) will be required for the new tunnel. The Environmental Assessment (EA) process is underway and includes an assessment of potential environmental, social, economic, health, and cultural impacts resulting from the Project.

The Initial Project Description, Engagement Plan, and Detailed Project Description have been submitted to the BC Environmental Assessment Office (EAO). These materials are available on the EAO's EPIC website.

Engagement with Indigenous Nations

The 2021 Business Case initially identified 12 Indigenous nations with interest in the Project. Through the EA process, the EAO has identified an additional 13 Indigenous nations based on known information regarding territories as well as past and current use in the project area. The following Indigenous nations, listed alphabetically, are currently engaged on the Project:

- ǵǵǵǵ (Katzie) First Nation
- Kwantlen First Nation
- kʷikʷǻǻm (Kwikwetlem) First Nation
- Leq'á:mel First Nation
- Matsqui First Nation
- xʷmǻθkʷǻǻm (Musqueam Indian Band)
- People of the River Referrals Office on behalf of the S'ólh Temexw Stewardship Alliance
- Quw'utsun Nation (Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Spune'luxutth (Penelakut Tribe) and Stz'uminus First Nation)
- Semiahmoo First Nation
- Snuneymuxw First Nation
- Sq'éwqel (Seabird Island First Nation)
- Ts'uubaa-asatx
- WJOŁŁP (Tsartlip First Nation)
- SǻÁUTW (Tsawout First Nation)
- sǻǻǻθǻn mǻsteyǻxʷ (Tsawwassen First Nation)
- Tseycum First Nation
- sǻlilwǻtǻt (Tseil-Waututh Nation)
- Pauquachin First Nation
- Popkum First Nation
- Shxw'ow'hamel First Nation, and
- Sǻǻǻǻǻ7mesh Úxwumixw (Squamish Nation)

Communications and Engagement

The Project team has been regularly communicating and engaging with local governments, regional authorities, and federal and provincial agencies on Project planning since Business Case approval. The Project team meets with the City of Richmond and City of Delta, Metro Vancouver, Vancouver Fraser Port Authority, TransLink, Department of Fisheries and Oceans Canada, Environment and Climate Change Canada, the Agricultural Land Commission, the B.C. Ministry of Environment and Climate Change Strategy, the EAO, and the B.C. Ministry of Forests.

The Project team also meets with a range of stakeholder groups. These include marine stakeholders via the Marine Users Group and Terminal Operators Group. The team has also organized stakeholder sessions with active transportation users, accessibility and seniors' groups, local residential stratas, and business advocacy groups.

To connect directly with the public, the Project held two public open houses and two virtual information sessions with the EAO during the Early Engagement Public Comment period in spring 2022. The Project also opened a Community Office in Ladner, Delta in February 2023 to provide ongoing engagement with residents in the Project area.

Property

The Project occurs mainly on provincial Crown land in Richmond and Delta and crosses under the Fraser River South Arm within the Highway 99 right-of-way. Although most of the Project is within the existing Highway 99 right-of-way, some additional lands will be required for permanent works, and for temporary works required to stage the construction. Temporary lands are proposed in the following areas:

- Deas Island Regional Park directly east of Highway 99 right-of-way;
- either side of Highway 99 in Delta and north of Highway 17A within the Agricultural Land Reserve (ALR);
- on City of Richmond lands along Rice Mill Road;
- on ALR lands in Richmond directly east of the Highway 99 right-of-way; and
- a temporary moorage site directly upstream of Steveston Island within the Fraser River South Arm for storage of tunnel elements prior to immersion.

Temporary land requirements outside of the Highway 99 right-of-way will continue to be developed as the engineering and property requirements for the Project are further defined and will be reflected in subsequent stages of the environmental assessment process.

Utilities and Third Parties

The primary utility companies and third parties directly impacted by the Project include BC Hydro, CN rail and telecom providers. The most notable impact is the necessary relocation of BC Hydro's transmission line within the existing tunnel, which will be decommissioned as part of the Project. This relocation is being led by BC Hydro as the asset owner, and the Ministry is supporting by providing relevant design requirements to BC Hydro for assessment of transmission line crossing options. This work is being completed in accordance with the existing BC Hydro and Ministry of Transportation and Infrastructure Protocol Agreement. Refer to BC Hydro's George Massey Tunnel transmission relocation project website for additional information.