

May 19, 2020

Holdom Overpass

Technical fact sheet

Project overview

The Holdom Overpass aims to mitigate the impacts of growing rail and port trade traffic in Burnaby, BC. When complete, the project will improve safety and community access by creating more reliable travel times and better emergency response options, while improving the fluidity of rail operations in Burnaby to North Vancouver. Information contained within this fact sheet is current as of the date noted and the reader should be aware that the port authority's approach to the project or information within the fact sheet may have evolved since this date. Updated technical documents will be issued as part of the procurement activities. The project is further described on the website, which contains general project information: www.portvancouver.com/holdomoverpass

Figure 1 – Project location



Note: The Holdom Overpass is one component of the Burnaby Rail Corridor Improvements Project. The Thornton Tunnel ventilation improvements and additional track components are being led separately by CN Rail and are anticipated to be complete by end of 2020.

The project is funded by the Government of Canada, the Vancouver Fraser Port Authority (port authority) and Canadian National Railway (CN). The project value for the Holdom Avenue overpass component is estimated to be approximately \$130–\$160M. The port authority is leading design and construction of the Holdom Avenue overpass component which will be owned and maintained by the City of Burnaby. CN is delivering the Thornton Tunnel ventilation improvements and construction of an additional siding track, both of which are excluded from the Holdom Overpass project.

General arrangement drawings for the Holdom Avenue overpass component of the Burnaby Rail Corridor Improvements Project are provided as Attachment 1.

Figure 2 – Project rendering



Procurement strategy and timeline

- The proposed form of contract is anticipated to be Design-Build, with an open request for qualifications (RFQ) and a request for proposals (RFP) to three selected proponents. Delivery model selection will not be finalized until the start of procurement.

Milestone	Target Date (subject to change)
RFQ Issuance	Q1 2021
RFQ Close	Q1 2021
RFP Issuance	Q2 2021
RFP Close	Q3 2021
Notice of Award / Selection of Preferred Proponent	Q4 2021
Construction Start	Q1 2022
Construction Completion	Q2 2024

Advance works

- BC Hydro transmission lines run parallel to and on the south side of the railway tracks. Raising these lines will be required to accommodate the new overpass. The port authority is working with BC Hydro to raise the transmissions lines prior to design-build contractor mobilization.

Technical challenges and risks

- **Environmental issues** – The Holdom Overpass involves crossings of Still Creek and two of its tributaries, Beecher Creek and Sunken Engine Creek. Still Creek and Beecher Creek are known to be salmon producing streams and Sunken Engine Creek is likely occupied by fish on a seasonal basis. No critical habitat is known to exist for species at risk, but Pacific Water Shrew and the Western Painted Turtle are potentially present. No known archaeological sites have been identified but further archaeological investigation studies are planned for the project area.
- **Long lead permits** – The port authority expects that a Department of Fisheries and Oceans (DFO) Section 35(2) Authorization and a BC Ministry of Forests, Lands and Natural Resources Operations and Rural Development (FLNRORD) Water Sustainability Act (WSA) Approval will be required for part of the project area. Opportunities for habitat offsets in this heavily developed area are very limited. Given approval durations for both permits, the port authority plans to fully develop project designs in these areas and obtain permits prior to issuance of the design-build contract.
- **Geotechnical conditions** – Large long-term settlement in filled areas and deformations associated with seismic hazards are the main risks to be considered near the creek. The very soft materials typically provide extremely poor foundation capacities, exhibiting high compressibility with low undrained shear strength. Slope stability issues during fill placement or excavation of sites with underlying peat and soft clay layers require careful site preparation and construction techniques. Large lateral deformations and settlements induced by construction activities require continuous monitoring and maintenance. Ongoing settlements in the Still Creek area have been observed and reported in the technical literature. Pile foundations would likely need to extend into the glacial till. The presence of boulders or large particles is not likely but should not be discounted, particularly in the organic layers (where undecomposed timber logs may be present) or the glacial till (where boulders may exist). Attachment 2 provides details of the extent of the ground investigation to be carried out for the project prior to RFP.
- **CN Rail** – The proposed structure will cross the BNSF-owned, CN-leased main rail lines in the New Westminster Subdivision, east of the existing Douglas Road at-grade crossing. Currently there are two running tracks in the rail corridor, and third siding track will be installed by CN before construction of the overpass. There are currently approximately 30 train crossings per day at the Douglas Road crossing and train volumes are expected to increase. Very limited track closures will be permitted, however the availability of closures will be agreed with CN Rail and defined within the RFP documents.
- **Traffic management** – The port authority is developing a design agreement with the City of Burnaby and a construction agreement will be developed for inclusion in the design-build RFP documents. These documents are anticipated to include requirements related to traffic management and congestion. The contractor will be expected to minimize the impact on the local road network and congestion and the impact on local residents and businesses should be kept to an absolute minimum during construction.
- **Properties** – Property acquisition will be required to accommodate the north and south approaches to the overpass and the connections to the local road network. The port authority proposes to identify and secure temporary lands for the design build contractor for laydown and access. Commercial property costs are high in this location and land is at a premium, so the port authority will keep temporary land provision to the minimum required to facilitate contractor access and laydown.
- **Utilities** – The contractor will be responsible for temporarily diverting utilities during construction. There are numerous utilities within the existing roadways, which shall be diverted or protected by the contractor during construction.
- **Design reviews** – The port authority, the City of Burnaby and the rail companies will all have significant roles in reviewing and accepting contractor's designs. The resulting review process will likely be more complex, and lengthy than for a design-build project with only one or two parties reviewing submissions. The contractor schedule should allow for additional complexity in the review process and additional time in the schedule for design reviews.