



**VANCOUVER FRASER PORT AUTHORITY
PROJECT AND ENVIRONMENTAL REVIEW
PROJECT PERMIT**

PER No.:	17-107
Tenant:	BC Ministry of Transportation and Infrastructure
Project:	Pattullo Bridge Replacement
Project Location:	New Westminster, BC
VFPA SID No.:	SUR330-06101F-001
Land Use Designation:	Industrial, Port Water, and Recreation
Permit Holder(s):	BC Ministry of Transportation and Infrastructure
Category of Review:	D
Date of Approval:	May 27, 2019
Date of Expiry:	May 31, 2026

PROJECT DESCRIPTION

OVERVIEW

BC Ministry of Transportation and Infrastructure (MOTI) is proposing the Pattullo Bridge Replacement Project to replace the existing Pattullo Bridge with a new four (4) lane bridge across the Fraser River to connect Columbia Street/East Columbia Street in New Westminister to King George Boulevard and Highway 17 in Surrey. The purpose of the Pattullo Bridge Replacement Project is to replace the existing Pattullo Bridge, which has reached the end of its feasible lifespan. The new bridge will be located immediately north and upstream of the existing bridge and the CN Rail Bridge, and will continue to link the communities of New Westminister and Surrey.

The Project is proposed as a Design Build, and the final footprint will be defined in the during the final design stage. The new bridge will have a maximum of four (4) in-river piers, in comparison to the existing bridge which has six (6) in-river piers, the final location of the proposed piers will be determined during the final design stage. The new bridge is proposed to meet current seismic and road design standards, wider lanes for vehicles, and dedicated lanes for walkers and cyclists. There is no proposed increase in traffic capacity for the new bridge. The new bridge will optimize the use of the existing road networks and travel patterns and will also include new connections to reduce traffic on local residential streets to access the river crossing. Constructing the new bridge parallel to the existing bridge also allows the existing bridge to continue operating. Following the commissioning of the new bridge, the existing bridge will be demolished and removed.

The Pattullo corridor provides transportation for important goods and trade linkages between the Roberts Bank Terminal, the Fraser River Trade Area, and adjacent communities. For the purposes of the VFPA Project and Environmental Review, the Project is defined as the construction of the in-river components of the new bridge located within VFPA jurisdiction, the new approach spans directly adjacent to the Fraser River in the City of Surrey which cross over VFPA property and the demolition and removal of the in-river portions of the existing bridge within VFPA jurisdiction and approach spans in the City of Surrey that cross over VFPA property.

The Project footprint is bordered by both industrial and recreational land uses. On the north bank the Project is bound by Brunette Fraser Regional Greenway to the east and the existing bridge to the west. The south bank of the Project is bound by industrial property to the east and by the

existing bridge and Brownsville Park to the west. On the south bank of the Fraser River, the proposed new spans will stretch over VFPA lands.

PROJECT COMPONENTS AND ACTIVITIES

Project Components and Activities comprise:

- Onshore improvements to meet seismic performance requirements for embankments and foundations;
- Construction and use of temporary construction and demolition laydown areas;
- Construction of a stormwater collection and treatment system;
- Installation of cofferdams including ground improvements and rip rap;
- Constructing in-stream and onshore foundations;
- Constructing in-stream and onshore pile caps;
- Constructing bridge towers;
- Constructing piers for approach spans and ramps;
- Constructing the cable-stayed deck;
- Constructing approach span and ramp decks;
- Installing barriers, hand rails, security fencing, suicide prevention barrier, lighting, structural health monitoring, and snow and ice management systems;
- Final paving and lane marking;
- Operational and maintenance activities associated with the new bridge; and
- Demolition of the existing bridge and existing spans connecting King George Boulevard.

New Bridge and Approaches

The Project includes:

- A new four-lane bridge over the Fraser River (the Bridge), with a multi-use path for cyclists and pedestrians on each side;
- Reconfiguration and modification of existing roads and intersections, including, but not limited to the following:
 - King George Boulevard, 112th Avenue and Bridge Road;
 - Intersection of Bridgeview Drive and King George Boulevard; and
 - Grade separation of Highway 17 and Old Yale Road;
- Connections between the multi-use pathways on the Bridge and multi-use path systems;
- A safety and security fence on all exterior sides of the Bridge;
- A fixed barrier separating the multi-use pathways for cyclists and pedestrians on the Bridge will be separated from motorized traffic;

The Bridge will have a maximum of four (4) in-river piers. All in-river piers will be located outside of the Navigation Protection Zones which are defined as a 160 metre wide Main Channel and a 60 metre wide Secondary Channel (see Figure 1 in *Pattullo Bridge Replacement Project - Navigation Requirements*, MOTI, dated April 17, 2019).

The Bridge will have a length of up to 1.2 kilometres, abutment to abutment, and a minimum vertical navigational clearance that accommodates the Navigation Protection Zone subject to the requirements of the *Navigation Protection Act*.

Demolition of the Existing Pattullo Bridge

Project components and activities associated with demolition of the existing bridge include the following:

- Demolition and removal of utilities and electrical systems located on/connected to the existing bridge and approaches and associated rights-of-way; and
- Demolition and removal of the existing bridge and existing spans connecting King George Boulevard.

Temporary Activities

The Project includes the following temporary components and activities during Construction:

- Temporary lighting to facilitate construction during winter months or night work;
- Temporary trestle to provide access to in-river construction areas;
- Temporary barging facilities to assist in the delivery of construction materials and minimize the use of regional and local roads; and
- Installation of temporary in-stream enclosures (cofferdams) that would allow foundation construction activities to be separated from the Fraser River.

Associated Works Not Included in Permit Scope

The following is a summary of Project components that are not located with VFPA jurisdiction and therefore are not included in the scope of the VFPA review, but are assessed through the harmonized environmental assessment process:

- Access roads to and from the new bridge and McBride Boulevard, Royal Avenue, and East Columbia Street;
- Approach spans to connect roads in New Westminster to the in-stream components of the new bridge, including a direct ramp connections from East Columbia for both southbound and northbound bridge traffic;
- Roadway tie-ins to King George Boulevard;
- Connection between the new bridge and Highway 17;
- Reconstruction of Bridge Road to allow two-way traffic access to Old Yale Road;
- Grade separation between Old Yale Road and Highway 17; and
- Landscaping in New Westminster and beyond VFPA jurisdiction in Surrey.

PROJECT AND ENVIRONMENTAL CONDITIONS

The Vancouver Fraser Port Authority (VFPA) has undertaken and completed a review of the Project in accordance with the *Canada Marine Act* and Section 5 of the Port Authorities Operations Regulations and, as applicable, Section 67 of the *Canadian Environmental Assessment Act, 2012*.

If at any time the Permit Holder fails to comply with any of the project and environmental conditions set out in the Permit below, or if VFPA determines that the Permit Holder has provided any incomplete, incorrect or misleading information in relation to the Project, VFPA may, in its sole and absolute discretion, cancel its authorization for the Project or change the project and environmental conditions to which such authorization is subject.

Pursuant to Section 29 of the Port Authorities Operations Regulations, VFPA may also cancel its authorization for the Project, or change the project and environmental conditions to which such authorization is subject, if new information is made available to VFPA at any time in relation to the potential adverse environmental and other effects of the Project.

The following are the project and environmental conditions that must be followed by the Permit Holder to mitigate potential or foreseeable adverse environmental and other effects.

All VFPA Guidelines and Record Drawing Standards referenced in this document can be located at: <https://www.portvancouver.com/development-and-permits/project-and-environmental-reviews/technical-guidelines/>.

COPY

No.	GENERAL CONDITIONS
1.	The Permit Holder must have a valid lease, licence, or access agreement for the Project site prior to accessing the Project site or commencing construction or any other physical activities on the Project site. This Permit shall in no way limit any of the Permit Holder's obligations, or VFPA's rights, under such lease, licence, or access agreement.
2.	The Permit Holder shall at all times and in all respects, comply with and abide by all applicable statutes, laws, regulations and orders from time to time in force and effect, including all applicable environmental, labour and safety laws and regulations.
3.	This Permit in no way endorses or warrants the design, engineering, or construction of the Project and no person may rely upon this Permit for any purpose other than the fact that VFPA has permitted the construction of the Project, in accordance with the terms and conditions of this Permit.
4.	The Permit Holder shall indemnify and save harmless VFPA in respect of all claims, losses, costs, fines, penalties or other liabilities, including legal fees, arising out of: (a) any bodily injury or death, property damage or any loss or damage arising out of or in any way connected with the Project; and (b) any breach by the Permit Holder of its obligations under this Permit.
5.	The Permit Holder is responsible for locating all existing site services and third-party utilities including any located underground or suspended from the existing Pattullo Bridge. The Permit Holder is responsible for repair or replacement of any damage to existing site services, utilities, bridge piers (i.e. CN Rail Bridge) to the satisfaction of VFPA, that result from construction or demolition activities, and operation of the Project.
6.	The Permit Holder shall undertake and deliver the Project to total completion in a professional, timely and diligent manner in accordance with applicable standards and specifications set out in the sections above entitled Project Description and Information Sources, including the attached plans and drawings numbered PER No. 17-107-A to F . The Permit Holder shall not carry out any other physical activities unless expressly authorized by VFPA.
7.	The Permit Holder shall cooperate fully with VFPA in respect of any review by VFPA of the Permit Holder's compliance with this Permit, including providing information and documentation in a timely manner, as required by VFPA. The Permit Holder is solely responsible for demonstrating the Permit Holder's compliance with this Permit. Accordingly, the Permit Holder shall be familiar with VFPA's compliance and enforcement program: https://www.portvancouver.com/development-and-permits/compliance/ .
8.	The Permit Holder shall review the Permit with all employees, agents, contractors, licensees and invitees working on the Project site, prior to such parties participating in any construction or other physical activities on the Project site. The Permit Holder shall be solely responsible for ensuring that all such employees, agents, contractors, licensees and invitees comply with this Permit.
9.	The Permit Holder shall make available upon request by any regulatory authority (such as a Fishery Officer) a copy of this Permit.
10.	Unless otherwise specified, the Permit Holder shall provide all plans, documents, and notices required under this Permit to the following email address: per@portvancouver.com and referencing PER No.17-107 .

11.	Unless otherwise specified, all plans, schedules, and other Project-related documentation that the Permit Holder is required to provide under this Permit must be to VFPA's satisfaction.	
12.	<p>The Permit Holder shall prepare and submit a self-report form to VFPA demonstrating compliance with conditions at each of the following project phases:</p> <ul style="list-style-type: none"> • Prior to construction Conditions (self-report shall be submitted a minimum of 30 business days prior to the commencement of construction, or any physical activities); • Construction Conditions (self-report shall be submitted every 6 months during construction); • Conditions Upon Completion of the new bridge (self-report shall be submitted within 60 business days of completion of construction of the new bridge); • Demolition Conditions (self-report shall be submitted every 6 months during demolition) • Conditions Upon Completion of the Demolition of the Existing bridge (self-report shall be submitted within 60 business days of completion of demolition of the existing bridge) 	
13.	The Permit Holder shall strictly comply with all enforcement actions issued by VFPA in response to the Permit Holder's failure to comply with this Permit.	
14.	VFPA shall be entitled to visit and inspect the Project Site at any time and without notice. The Permit Holder shall provide such access to VFPA, and cooperate with VFPA during the course of the visit or inspection.	
15.	The Permit Holder must maintain and retain any records associated with, or produced by, actions or activities undertaken to achieve compliance or that indicate non-compliance with project permit conditions. These records must be made available at the request of VFPA.	
16.	The Permit Holder shall immediately notify Metro Vancouver of any actual or potential damage to Metro Vancouver infrastructure (including pipelines and outfalls) at: 604-985-1478.	
17.	The Permit Holder must adhere to commitments made to Aboriginal groups and provide updates to the VFPA within 15 days of receiving a request.	
18.	All road and rail design conflicts, including with future rail expansion plans, will be resolved between the Applicant and the impacted railways during the development of final design and railway agreement(s).	
19.	All conditions in this Permit which expressly or by their nature survive expiration or termination of this Permit will remain in effect after the expiration or termination of this Permit.	
	CONDITIONS - PRIOR TO COMMENCING CONSTRUCTION OR ANY PHYSICAL ACTIVITIES	SUBMISSION TIMING (business days)
20.	The Permit Holder shall submit signed and sealed drawings for each phase of proposed works approved for construction by a professional engineer licensed to practice in the Province of British Columbia.	10 business days before commencing construction or any physical activities

21.	The Permit Holder shall provide a Project schedule to VFPA showing the anticipated start dates for all major phases of the Project as identified by VFPA. The Permit Holder shall notify VFPA of any material changes to the Project schedule and, upon request, shall provide an updated Project schedule.	20 business days before commencing construction or any physical activities
22.	The Permit Holder shall provide a draft construction notice (or multiple draft notices for phased construction) to VFPA's satisfaction in accordance with VFPA's Public Consultation Guidelines.	40 business days before commencing construction or any physical activities
23.	The Permit Holder shall submit a draft construction communications plan in accordance with VFPA's Public Consultation Guidelines. The plan shall outline how the Permit Holder will engage and communicate with the public and stakeholders from the date of permit issuance to the completion of construction. The plan shall be updated as necessary and upon request by VFPA to ensure public and stakeholders are provided with relevant information as it becomes available. The Permit Holder shall carry out the Project in accordance with the construction communications plan, and any subsequent amendments approved by VFPA.	40 business days before commencing construction or any physical activities
24.	The Permit Holder shall distribute an approved construction notice (or multiple notices for phased construction) to residents and businesses to an area to VFPA's satisfaction. The Permit Holder shall notify VFPA when such distribution has been completed.	20 business days before commencing construction or any physical activities
25.	The Permit Holder shall submit a Construction Parking and Traffic Management Plan to VFPA's satisfaction. The Permit Holder shall carry out the Project in accordance with the construction parking and traffic management plan, and any subsequent amendments approved by VFPA.	40 business days before commencing construction or any physical activities
26.	The Permit Holder must submit a Construction Staging Plan, including the following for VFPA review and approval: <ul style="list-style-type: none"> • Identification of potential construction-related hazards and risk mitigation measures from construction activities; • Identification of construction activities and staging areas; • Dates and hours of operation; • Description of activities taking place; • Equipment and staging areas (dimensions must be included);and • Special request and/or additional information. 	45 business days before commencing construction or any physical activities
27.	The Permit Holder shall submit an Archaeological Chance Find Procedure for the Project site, to VFPA's satisfaction. The Chance Find Procedure shall be shared with Aboriginal groups for review and	40 business days before commencing

	comment prior to be submitted. The Permit Holder shall carry out the Project in accordance with this Procedure, and any subsequent amendments approved by VFPA.	construction or any physical activities
28.	For any structures proposed that are reviewable under the National Building Code and National Fire Code, the Permit Holder shall apply for a VFPA Building Permit.	40 days before commencing construction of any buildings
29.	The permit holder shall submit drawings to VFPA for review and approval of the new bridge showing Navigation Envelopes (consistent with the Navigation Protection Zones identified in <i>Pattullo Bridge Replacement Project - Navigation Requirements</i> , MOTI, dated April 17, 2019). Drawings should include at minimum: <ul style="list-style-type: none"> • Height – Envelope; • Depth – Envelope; • Width – Envelope; • Pier Placement; • Scour Protection Extents; and • Navigation Lighting. 	45 business days before commencing construction or any physical activities
30.	Prior to the commencement of any vessel-related activities, the Permit Holder must contact CCG Marine Communications and Traffic Services (MCTS), (email: NAVWARN.MCTSPrinceRupert@innav.gc.ca Telephone: 250-627-3070) regarding the issuance of a Navigational Warning (NAVWARN) to advise the marine community of potential hazards associated with the Project.	As per Coast Guard requirements
31.	The Permit Holder must submit a marine construction and staging plan, including the following, for VFPA review and approval: <ul style="list-style-type: none"> • Identification of potential navigation related hazards and risk mitigation measures from construction related activities; • Staging and construction areas; • Dates and hours of operation; • Description of activities taking place; • Equipment and vessels (dimensions must be included); • Method of preferred communication with marine users; • Method of communicating updates to relevant users, as described in the Marine Communication Plan; • Proposed plan to implement and mitigate potential restrictions in navigational channels; and • Special request and/or additional information. 	45 business days before commencing in-river construction or any vessel-related activities
32.	The Permit Holder must submit a Marine Communication Plan for VFPA review and approval, including: <ul style="list-style-type: none"> • Summary of details, timelines, equipment, staging, etc; • Notice to Mariners – Regarding overall Project; • Regular NAVWARN advisories as required; • Public Notices at nearby boat launches; • Identify tug requirements and how these will be met for assisting marine users through construction area; and • Plan to communicate navigation restrictions and channel closures. 	45 business days before commencing in-river construction or any vessel-related activities

33.	<p>The Permit Holder shall establish a Marine Users Working Group for the purposes of communicating relevant in-water work activities to local marine operators.</p> <p>The Permit Holder must provide the Marine Users Working Group a copy of the Marine Construction & Staging Plan for their consideration and feedback. Any updates to the documents must be provided to the working group before and during in-water construction phases.</p>	30 business days before commencing in-river construction or any vessel-related activities
34.	<p>The Permit Holder must post and maintain notices at the beginning of each phase of in-water work, intended for recreational marine users, at the public boat launches and recreational marinas near the work site.</p>	5 days before commencing any vessel-related activities
35.	<p>The Permit Holder must retain a Qualified Professional to develop a monitoring plan referring to sites identified by VFPA in the document "PBRP – Hydraulic Model – Identification of VFPA Key Nodes – 2016 -10-20". This is required to monitor potential adverse effects to current, river bed and foreshore caused by the Project and assist in identifying potential mitigation measures if required. The plan and any amendments thereto, must be implemented throughout construction, and for up to three years following completion of demolition. The plan must be developed in consultation and approved by VFPA.</p>	45 business days before commencing construction or any physical activities
36.	<p>The Permit Holder shall provide a hydraulic model report, based on the final design which will be used to assess potential impacts that are acceptable for navigation, environment, and infrastructure, that includes:</p> <ul style="list-style-type: none"> • A spatial extent that encompasses, at a minimum, the area from the Alex Fraser Bridge in South Arm to the Port Mann Bridge in the Main Arm; downriver in the North Arm to Queensborough Highway Bridge; and downriver in Annacis Channel to Annacis Swing Bridge. • A temporal extent that includes current conditions (for validation purposes), during construction period when all piers are present, after demolition of the existing bridge, at least 1 full year post demolition. • Predictions of potential changes in river hydraulics and morphology. This includes potential changes to currents and sedimentation at sites identified by VFPA in the document "PBRP – Hydraulic Model – Identification of VFPA Key Nodes – 2016 -10-20". • An assessment of potential effects on flow split between the Fraser River South Arm, Fraser River North Arm, and Annacis Channel as per function of a series of river training structures within the vicinity of the proposed works. 	60 business days before commencing construction or any physical activities
37.	<p>The Permit Holder shall submit a Construction Environmental Management Plan to VFPA's satisfaction, available at: https://www.portvancouver.com/wp-content/uploads/2018/04/PER-Construction-Environmental-Management-Plan-CEMP-Guideline-UPDATE.pdf. The Permit Holder shall carry out the Project in accordance with the construction environmental management plan, and any subsequent amendments approved by VFPA.</p>	60 business days prior to the start of construction or any physical activities

<p>38.</p>	<p>The Permit Holder shall retain a qualified environmental professional to act as an Independent Monitor responsible for reviewing the construction environmental records and on-site construction activities for compliance with the Construction Environmental Management Plan and this Permit. The Independent Monitor shall possess the following qualifications:</p> <ul style="list-style-type: none"> • Suitable education and knowledge demonstrating that they may be reasonably relied on to provide advice within their area of expertise; • A minimum of five years of experience monitoring related types of construction activities in similar environments. <p>The Independent Monitor shall not be an employee of the Permit Holder’s organization or of a contractor/consultant retained by the Permit Holder to work on the Project in other capacities.</p>	<p>Prior to the start of construction or any physical activities</p>
<p>39.</p>	<p>The Permit Holder shall submit a proposed pier design and impact strategy to VFPA’s satisfaction.</p>	<p>60 business days before commencing construction or any physical activities</p>
<p>40.</p>	<p>The Permit Holder shall submit an Independent Monitoring Work Plan. At a minimum, the Independent Monitoring Work Plan shall describe the following:</p> <ul style="list-style-type: none"> • The role and responsibilities of the Independent Monitor, including the following provisions: <ul style="list-style-type: none"> ○ The Independent Monitor shall have unfettered access to environmental compliance documentation and the Project site at all times during construction without notice. ○ The Independent Monitor shall have the authority to direct the Permit Holder to stop a construction activity that is causing an adverse effect. ○ The Independent Monitor shall report directly to VFPA and obtain direction from VFPA on matters that arise during construction that are not described in the project permit and cannot be resolved by discussion with the Permit Holder. ○ The Independent Monitor shall concurrently submit compliance reports directly to the Permit Holder and VFPA within one week of site visits. • The frequency of site visits by the Independent Monitor, with a higher frequency of site visits to occur during in-water works as compared to those scheduled for land-based construction activities. • The manner in which notice will be given to the Permit Holder and VFPA for an activity not in compliance with permit conditions or having unforeseen adverse effects. • The name and qualifications of the Independent Monitor. 	<p>60 business days prior to the start of construction or any physical activities</p>

	<ul style="list-style-type: none"> The name(s), role(s) and qualifications of other individuals providing specialized expertise or designated to act as the Independent Monitor during specific construction activities or times. <p>The Permit Holder shall carry out the Project in accordance with the approved Monitoring Work Plan, and any subsequent amendments, to the satisfaction of VFPA.</p>	
41.	<p>The Permit Holder shall submit a Fish and Fish Habitat Monitoring and Mitigation Plan for the Project site, to VFPA's satisfaction. The Fish and Fish Habitat Monitoring and Mitigation Plan will include:</p> <ul style="list-style-type: none"> A description of the measures and standards that will be in place to avoid, reduce, or otherwise mitigate or offset any adverse effects on fish and fish habitat; A list of fish species at risk that have the potential to be affected by Project-related activities; Identification of, a clear definition for, and a rationale of reduced-risk work windows, including those windows for eulachon, sturgeon and salmon species, as well as for any species at risk, and identification of reduced-risk windows communicated by Indigenous Groups to the Holder, for in-river construction and demolition, and the work that will occur within these windows; Identification of, and justification for, any work that will occur outside of the reduced-risk work windows identified above, and measures to mitigate impacts of such works to fish and fish habitat; The methods and timing of when monitoring of fish presence will be undertaken to support the implementation of mitigation and monitoring to address potential effects to fish; Identification of the areas where, and periods of time when, underwater noise monitoring in the Fraser River will be conducted; A description of adaptive management measures which identifies contingencies in the event that unanticipated effects on fish are revealed during and after construction and demolition phases; A description of how Aboriginal traditional knowledge and Aboriginal traditional use information, shared with the Holder by Aboriginal Groups, has been incorporated into the plan; and A description of reporting frequency. 	40 business days before commencing construction or any physical activities
42.	<p>The Permit Holder shall submit a stormwater pollution prevention plan, written in accordance with the VFPA Guidelines - Developing Your Stormwater Pollution Prevention Plan available at: www.portvancouver.com/wp-content/uploads/2015/05/PER-Stormwater-Pollution-Prevention-Plan-Guidelines-Final-2015-07-09.pdf), to VFPA's satisfaction. The Permit Holder shall carry out the Project in accordance with the stormwater pollution prevention plan, including any subsequent amendments approved by VFPA.</p>	40 business days before commencing construction of the stormwater utility

43.	If there is potential to affect birds and/or their active nests and eggs, the Permit Holder shall conduct nest surveys. For any nests identified in surveys, a qualified environmental professional shall confirm that the nest is not occupied by a species protected at that time of year under applicable legislation. To reduce the risk of Project-related harm, the Permit Holder should avoid certain physical activities during the general bird breeding season, which falls between April 1 and July 31, or outside of this time span if occupied nests are present.	Immediately prior to activities with the potential to affect birds and/or their active nests and eggs
CONDITIONS - DURING CONSTRUCTION OR ANY PHYSICAL ACTIVITIES		
44.	The Permit Holder shall notify VFPA upon commencement of construction, or any physical activities (e.g., mobilization to the Project site).	
45.	All general construction and physical activities related to the Project shall be conducted from Monday to Saturday between the hours of 7:00 am and 8:00 pm . No construction and physical activities shall take place on Sundays or holidays. These hours shall not be modified without prior approval of VFPA. To request permission to conduct activities outside these hours, the Permit Holder must submit a written request no less than 20 business days prior to the desired start date, in keeping with VFPA Guidelines on this topic.	
46.	The Permit Holder shall notify VFPA of any complaints received from the community and stakeholders during construction and indicate how the Permit Holder has responded to such complaints.	
47.	The Permit Holder shall remove from the Project area on port lands all existing utilities that may be decommissioned by the Project, both underground and aboveground. At locations of connection to municipal work (i.e., at property lines), the abandoned utilities shall be capped.	
48.	The Permit Holder shall ensure that an appropriately qualified archaeological monitor be on the Project site at all times during ground disturbing activities with the potential to impact an identified archaeological site and intrude into native soils.	
49.	The Permit Holder shall provide opportunities for interested Aboriginal groups to participate in archaeological monitoring for all Project activities impacting an identified archaeological site and cultural resource. Notification is required at least 15 days prior to any Project activities commencing.	
50.	The Permit Holder shall submit a report summarizing opportunities for Aboriginal involvement in the construction of the Project, one year following commencement of construction, and on an annual basis thereafter until construction completion.	
51.	The Permit Holder shall submit a Cultural and Archaeological Resources Mitigation and Management Plan to mitigate potential impacts of the Project on archeological and cultural resources. The Plan must be developed by a Qualified Professional, and in consultation with Aboriginal groups.	
52.	The Permit Holder may place temporary construction trailers on the Project site while this Permit remains in effect, provided that the Permit Holder does not connect such trailers to any underground utilities without the prior written consent of VFPA which may require, at VFPA's discretion, a VFPA Building Permit.	
53.	The Permit Holder will maintain open and ongoing communications with the Marine User's Working Group as per Condition No. 33.	

54.	<p>During any vessel-related activities, the Permit Holder shall:</p> <ul style="list-style-type: none"> • Position vessels and equipment associated with the Project in such a manner so as not to obstruct line of sight to navigational aids or markers; • Exhibit the appropriate lights and day shapes at all times; • Monitor the VHF channel used for MCTS communications in the respective area at all times and participate as necessary; • Be familiar with vessel movements in areas affected by the Project. • Plan and execute the Project in a manner that will not impede navigation or interfere with vessel operations; and, • During night hours, unless working 24 hours per day, ensure that the rig and associated equipment is moored outside the navigation channel and lit in accordance with all applicable regulations, any variations must be referred to the marine working users group and approved by VFPA.
55.	<p>The Permit Holder shall ensure an assist tug, of adequate size and power is available to render assistance, if requested, to any passing vessels and/or barges that are passing the Project site during all phases of in-water works. Details of how to request the use of the assist tug, must be referred to the Marine Users Working Group and included in the Marine Communication Plan.</p>
56.	<p>The Permit Holder shall continue to monitor and report changes to VFPA regarding potential adverse effects to current, river bed and foreshore as a result of the Project, referencing the identification of "VFPA Key Nodes – 2016 -10-20". VFPA in cooperation with the Permit Holder shall determine what changes constitute an adverse effect.</p>
57.	<p>The Permit Holder, or their contractor, shall engage a qualified environmental professional to monitor construction activities in order to ensure that the works are carried out in compliance with this Permit. Monitoring events shall take place as required by the environmental monitor, the Construction Environmental Management Plan, or VFPA, provided that monitoring will be full time when works are underway that have the potential to adversely affect fish or fish habitat.</p>
58.	<p>The Permit Holder shall provide monthly environmental monitoring reports to VFPA as specified in the Construction Environmental Management Plan or more frequently if VFPA requires. In addition, a summary report for the whole monitoring period shall be forwarded to VFPA within 30 days of the conclusion of the monitoring period.</p>
	<p style="text-align: center;">SUBMISSION TIMING (Business Days)</p>
59.	<p>The Permit Holder shall notify VFPA upon completion of the Project.</p>
60.	<p>The Permit Holder shall provide record drawings in accordance with VFPA's Record Drawing Standards, in both AutoCAD and Adobe (PDF) format to VFPA, including a Project site plan that clearly identifies the location of works. The record drawings will show navigational envelope clearances and navigation light placement.</p>
61.	<p>Upon completion of work the Permit Holder shall provide a Hydrographic survey to VFPA. The survey must meet Canadian Hydrographic Service (CHS) "Standards for Hydrographic Surveys". In particular, Surveys must meet "Special Order Survey with Type C1</p>

	Coverage". This typically requires either multibeam or multi-transducer survey equipment.	
62.	The Permit Holder shall continue hydrographic surveys and monitoring of VFPA Key Nodes "PBRP – Hydraulic Model – Identification of VFPA Key Nodes – 2016 -10-20" annually (Post Freshet), and submit a report annually for up to 3 years following the completion of demolition, as per Condition No. 35.	Annually for up to 3 years post completion of demolition
	CONDITIONS – PRIOR TO DEMOLITION OF EXISTING BRIDGE	SUBMISSION TIMING (Business Days)
63.	The Permit Holder shall submit signed and sealed drawings for proposed works approved for demolition by a professional engineer licensed to practice in the Province of British Columbia.	10 business days before commencing demolition or any physical activities
64.	The Permit Holder shall completely remove all of the piers from the existing bridge. However, if the Permit Holder submits an analysis supporting a rationale to retain portions of the existing bridge piers for riverbed stability, VFPA will consider allowing portions of the piers to be retained. The retained portions of the existing bridge piers must be removed to 14.32 metres below Geodetic Datum as per <i>Pattullo Bridge Replacement Project - Navigation Requirements</i> , MOTI, dated April 17, 2019.	45 business days before commencing demolition or any physical activities
65.	The Permit Holder shall provide a Project demolition schedule to VFPA showing the anticipated start dates for all major phases of the Project as identified by VFPA. The Permit Holder shall notify VFPA of any material changes to the Project schedule and, upon request, shall provide an updated Project schedule.	20 business days before commencing demolition or any physical activities
66.	The Permit Holder shall submit a demolition environmental management plan to VFPA's satisfaction. The Permit Holder shall carry out the Project in accordance with the Demolition Environmental Management Plan, and any subsequent amendments approved by VFPA.	60 business days prior to the start of demolition or any physical activities
67.	The Permit Holder shall provide a draft demolition notice to VFPA's satisfaction in accordance with VFPA's Public Consultation Guidelines.	40 business days before commencing construction or any physical activities
68.	The Permit Holder shall submit a draft Demolition Communications Plan in accordance with VFPA's Public Consultation Guidelines. The plan shall outline how the Permit Holder will engage and communicate with the public and stakeholders from the date of permit issuance to the completion of demolition. The plan shall be updated as necessary and upon request by VFPA to ensure public and stakeholders are provided with relevant information as it becomes available. The Permit Holder	40 business days before commencing construction or any physical activities

	shall carry out the Project in accordance with the demolition communications plan, and any subsequent amendments approved by VFPA.	
69.	The Permit Holder shall distribute an approved demolition notice to residents and businesses to an area to VFPA's satisfaction. The Permit Holder shall notify VFPA when such distribution has been completed.	20 business days before commencing construction or any physical activities
70.	The Permit Holder must submit a Demolition Staging Plan, including the following for VFPA review and approval: <ul style="list-style-type: none"> • Identification of potential demolition-related hazards and risk mitigation measures from demolition activities; • Identification of land-based staging during demolition; • Dates and hours of operation; • Description of activities taking place; • Equipment staging areas (dimensions must be included); and • Special request and/or additional information. 	45 business days before commencing demolition or any physical activities
71.	The Permit Holder shall submit a demolition parking and traffic management plan to VFPA's satisfaction. The Permit Holder shall carry out the Project in accordance with the construction parking and traffic management plan, and any subsequent amendments approved by VFPA.	40 business days before commencing construction or any physical activities
72.	The Permit Holder shall submit an Archaeological Chance Find Procedure for the Project site, to VFPA's satisfaction. The Chance Find Procedure shall be shared with Aboriginal groups for review and comment prior to being submitted. The Permit Holder shall carry out the Project in accordance with this Procedure, and any subsequent amendments approved by VFPA.	40 business days before commencing construction or any physical activities
73.	The Permit Holder must post and maintain notices at the beginning of each phase of in-water work, intended for recreational marine users, at the public boat launches and recreational marinas near the work site.	5 days before commencing any vessel-related activities
74.	If there is potential to affect birds and/or their active nests and eggs, the Permit Holder shall conduct nest surveys. For any nests identified in surveys, a qualified environmental professional shall confirm that the nest is not occupied by a species protected at that time of year under applicable legislation. To reduce the risk of Project-related harm, the Permit Holder should avoid certain physical activities during the general bird breeding season, which falls between April 1 and July 31, or outside of this time span if occupied nests are present.	Immediately prior to activities with the potential to affect birds and/or their active nests and eggs
75.	The Permit Holder must submit a Demolition Marine Communication Plan for VFPA review and approval, including: <ul style="list-style-type: none"> • Summary of details, timelines, equipment, staging, etc; • Notice to Mariners – Regarding overall Project; • Regular NAVWARN advisories as required; 	45 business days before commencing

	<ul style="list-style-type: none"> Public Notices at nearby boat launches; How tug requirements will be met for assisting marine users through construction area; and Proposed plan to communicate navigation restrictions and channel closures. 	demolition or any physical activities
76.	<p>The Permit Holder shall continue the Marine Users Working Group, for the purposes of communicating relevant in-water work activities to local marine operators.</p> <p>The Permit Holder must consider feedback from and provide relevant updates to the group, specifically concerning the Marine Demolition and Staging Plan or equivalent, both before and during in-water demolition phases.</p>	As per Condition No. 33
77.	<p>Prior to the commencement of any vessel-related activities, the Permit Holder must contact CCG Marine Communications and Traffic Services (MCTS), (email: NAVWARN.MCTSPRinceRupert@innav.gc.ca Telephone: 250-627-3070) regarding the issuance of a Navigational Warning (NAVWARN) to advise the marine community of potential hazards associated with the Project.</p>	As per Coast Guard requirements
78.	<p>The Permit Holder must submit a Marine Demolition and Staging Plan, including the following, for VFPA review and approval:</p> <ul style="list-style-type: none"> Identification of potential navigation related hazards and risk mitigation measures from demolition related activities; Staging and demolition areas; Dates and hours of operation; Description of activities taking place; Equipment and vessels (dimensions must be included); Method of preferred communication with marine users; Method of communicating updates to relevant users; Proposed plan on potential restrictions and navigational channels; and Special requests and/or additional information. 	45 business days before commencing demolition or any physical activities
79.	<p>The Permit Holder shall retain a qualified environmental professional to act as an Independent Monitor responsible for reviewing the construction environmental records and on-site construction activities for compliance with the Demolition Environmental Management Plan and this Permit. The Independent Monitor shall possess the following qualifications:</p> <ul style="list-style-type: none"> Suitable education and knowledge demonstrating that they may be reasonably relied on to provide advice within their area of expertise; A minimum of five years of experience monitoring related types of demolition activities in similar environments. <p>The Independent Monitor shall not be an employee of the Permit Holder's organization or of a contractor/consultant retained by the Permit Holder to work on the Project in other capacities.</p>	45 business days before commencing demolition or any physical activities
80.	<p>The Permit Holder shall submit an Independent Monitoring Work Plan for the demolition phase. At a minimum, the Demolition Monitoring Work Plan shall describe the following:</p> <ul style="list-style-type: none"> The role and responsibilities of the Independent Monitor, 	45 business days before commencing demolition or any physical activities

	<p>including the following provisions:</p> <ul style="list-style-type: none"> ○ The Independent Monitor shall have unfettered access to environmental compliance documentation and the Project site at all times during demolition without notice. ○ The Independent Monitor shall have the authority to direct the Permit Holder to stop a demolition activity that is causing an adverse effect. ○ The Independent Monitor shall report directly to VFPA and obtain direction from VFPA on matters that arise during demolition that are not described in the project permit and cannot be resolved by discussion with the Permit Holder. ○ The Independent Monitor shall concurrently submit compliance reports directly to the Permit Holder and VFPA within one week of site visits. <ul style="list-style-type: none"> ● The frequency of site visits by the Independent Monitor, with a higher frequency of site visits to occur during in-water works as compared to those scheduled for land-based demolition activities. ● The manner in which notice will be given to the Permit Holder and VFPA for an activity not in compliance with permit conditions or having unforeseen adverse effects. ● The name and qualifications of the Independent Monitor. ● The name(s), role(s) and qualifications of other individuals providing specialized expertise or designated to act as the Independent Monitor during specific construction activities or times. <p>The Permit Holder shall carry out the Project in accordance with the approved Monitoring Work Plan, and any subsequent amendments, to the satisfaction of VFPA.</p>	
CONDITIONS - DURING DEMOLITION OR ANY PHYSICAL ACTIVITIES		
81.	The Permit Holder shall notify VFPA upon commencement of demolition, or any physical activities (e.g., mobilization to the Project site).	
82.	All general demolition and physical activities related to the Project shall be conducted from Monday to Saturday between the hours of 7:00 am and 8:00 pm . No demolition and physical activities shall take place on Sundays or holidays. These hours shall not be modified without prior approval of VFPA. To request permission to conduct activities outside these hours, the Permit Holder must submit a written request no less than 20 business days prior to the desired start date, in keeping with VFPA Guidelines on this topic.	
83.	<p>During any vessel-related demolition activities, the Permit Holder shall:</p> <ul style="list-style-type: none"> ● Position vessels and equipment associated with the Project in such a manner so as not to obstruct line of sight to navigational aids or markers; ● Exhibit the appropriate lights and day shapes at all times; ● Monitor the VHF channel used for MCTS communications in the respective area at all times and participate as necessary; ● Be familiar with vessel movements in areas affected by the Project. 	

	<ul style="list-style-type: none"> Plan and execute the Project in a manner that will not impede navigation or interfere with vessel operations; and, During night hours, unless working 24 hours per day, ensure that the rig and associated equipment is moored outside the navigation channel and lit in accordance with all applicable regulations, any variations must be referred to the marine working users group and approved by VFPA.
84.	The Permit Holder will maintain open and ongoing communications with the marine working users group as per Condition No. 33, No. 53, and No. 76.
85.	The Permit Holder shall ensure an assist tug, of adequate size and power is available to render assistance, if requested, to any passing vessels and/or barges that are passing the Project site during all phases of in-water works. Details of how to request the use of the assist tug, must be referred to the marine users working group and included in the marine communication plan.
86.	The Permit Holder shall remove from the Project area on port lands all existing utilities that may be decommissioned by the Project, both underground and aboveground. At locations of connection to municipal work (i.e., at property lines), the abandoned utilities shall be capped.
87.	The Permit Holder shall notify VFPA of any complaints received from the community and stakeholders during construction and indicate how the Permit Holder has responded to such complaints.
88.	The Permit Holder shall ensure that an appropriately qualified archaeological monitor be on the Project site at all times during ground disturbing activities with the potential to impact an identified archaeological site and intrude into native soils.
89.	The Permit Holder shall provide opportunities for interested Aboriginal groups to participate in archaeological monitoring for all Project activities impacting an identified archaeological site and cultural resource. Notification is required at least 15 days prior to any demolition activities commencing.
90.	The Permit Holder shall submit a report summarizing opportunities for Aboriginal involvement in the demolition of the existing bridge, one year following commencement of demolition activities, and on an annual basis thereafter until project completion.
91.	The Permit Holder shall submit a Cultural and Archaeological Resources Mitigation and Management Plan to mitigate potential impacts of the Project on archeological and cultural resources. The Plan must be developed by a Qualified Professional, and in consultation with Aboriginal groups.
92.	The Permit Holder shall continue to monitor and report changes to VFPA regarding potential adverse effects to current, river bed and foreshore as a result of the Project, referencing the identification of "VFPA Key Nodes – 2016 -10-20". VFPA in cooperation with the Permit Holder shall determine what changes constitute an adverse effect.
93.	The Permit Holder, or their contractor, shall engage a qualified environmental professional to monitor the Project in order to ensure that the works are carried out in compliance with this Permit. Monitoring events shall take place as required by the environmental monitor, the Demolition Environmental Management Plan, or VFPA, provided that monitoring will be full time when works are underway that have the potential to adversely affect fish or fish habitat.

94.	The Permit Holder shall provide environmental monitoring reports to VFPA as specified in the Demolition Environmental Management Plan or more frequently if VFPA requires. In addition, a summary report for the whole monitoring period shall be forwarded to VFPA within 30 days of the conclusion of the monitoring period.	
CONDITIONS - UPON COMPLETION OF DEMOLITION OF EXISTING BRIDGE		SUBMISSION TIMING (Business Days)
95.	Upon completion of demolition work the Permit Holder shall provide a Hydrographic survey to VFPA. The survey must meet Canadian Hydrographic Service (CHS) "Standards for Hydrographic Surveys" In particular, Surveys must meet "Special Order Survey with Type C1 Coverage". This typically requires either multibeam or multi-transducer survey equipment.	Within 30 business days of completion
96.	The Permit Holder shall commit to continue hydrographic surveys and monitoring of VFPA Key Nodes "PBRP – Hydraulic Model – Identification of VFPA Key Nodes – 2016 -10-20" and submit reports annually (Post Freshet) for up to 3 years post Project completion of demolition, as per Condition No. 35.	Annually for up to 3 years post demolition
97.	The Permit Holder shall notify VFPA upon completion of the Project.	Within 30 business days of completion of demolition
98.	The Permit Holder shall provide record drawings in accordance with VFPA's Record Drawing Standards, in both AutoCAD and Adobe (PDF) format to VFPA, including a Project site plan that clearly identifies the location of works. The record drawings will show navigational envelope clearances and the footprint of any portions of the existing bridge that are to be retained for riverbed stability.	Within 40 business days of completion of demolition
VFPA reserves the right to rescind or revise these conditions at any time that new information warranting this action is made available to VFPA.		
LENGTH OF PERMIT VALIDITY		
The Project must commence within 2 years from the end of the month from the permit date (the Commencement Date) and be completed no later than 7 years from the end of the month of the permit date (the Expiry Date).		
AMENDMENTS		
<ul style="list-style-type: none"> • Details of any material proposed changes to the Project, including days and hours when construction and any physical activities will be conducted, must be submitted to VFPA for consideration of an amendment to this Permit. • For an extension to the Commencement Date, the Permit Holder must apply to VFPA in writing no later than 30 days prior to that date. • For an extension to the Expiry Date, the Permit Holder must apply in writing to VFPA no later than 30 days prior to that date. <p>Failure to apply for an extension as required may, at the sole discretion of VFPA, result in termination of this Permit.</p>		

PROJECT AND ENVIRONMENTAL REVIEW DECISION

Project Permit PER No. 17-107 is approved by:

ORIGINAL COPY SIGNED

PETER XOTTA
VICE PRESIDENT, PLANNING & OPERATIONS
CHAIR OF PROJECT AND ENVIRONMENTAL
REVIEW COMMITTEE

May 27, 2019

DATE OF APPROVAL

CONTACT INFORMATION

Vancouver Fraser Port Authority (VFPA)
100 The Pointe, 999 Canada Place,
Vancouver BC V6C 3T4 Canada

Project & Environmental Review
Tel.: 604-665-9047
Fax: 1-866-284-4271
Email: PER@portvancouver.com
Website: www.portvancouver.com