

# GEORGE MASSEY TUNNEL REPLACEMENT PROJECT

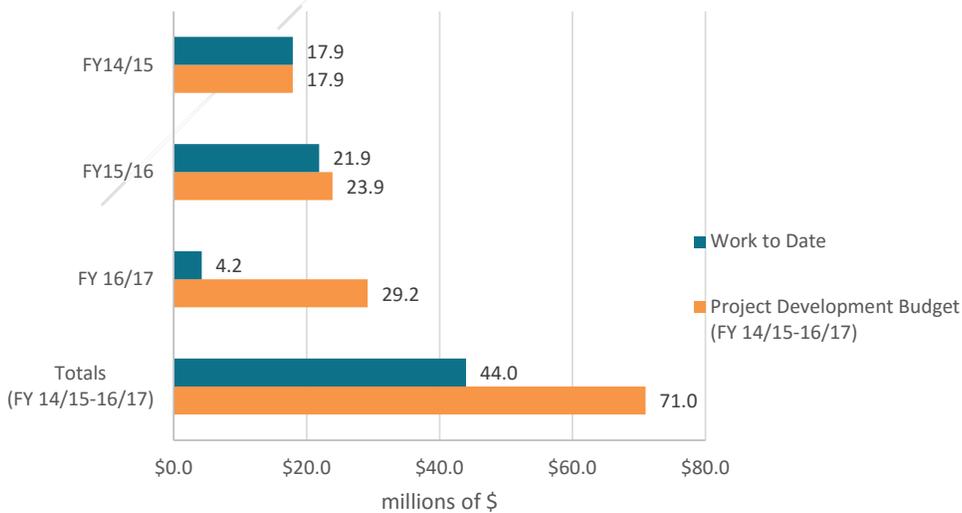
## MONTHLY STATUS REPORT JUNE 2016

FINAL

---



## PROJECT STATUS DASHBOARD

Scope	Status*															
<ul style="list-style-type: none"> <li>A Project Definition Report draft reference concept has been completed, which includes the main bridge and interchanges at Steveston Highway, Highway 17A and Westminster Highway as well as Highway 99 corridor improvements from Bridgeport Road in Richmond to Highway 91 in Delta. The reference concept incorporates a continuous dedicated transit/HOV lane between Highway 91 in Delta and Bridgeport Road in Richmond, which will also support potential future rapid transit expansion.</li> <li>The Project Definition Report was released on December 16, 2015.</li> <li>The Project scope, along with the draft reference concept, will be refined following technical studies, the environmental review and Concession Agreement development.</li> </ul>																
Schedule																
<ul style="list-style-type: none"> <li><b>Consultation:</b> Public and stakeholder consultation on the Project Definition Report has been completed; the Phase 3 - Project Definition Report Consultation Summary Report was released in March.</li> <li><b>Environment:</b> The draft EA application has been submitted to the Environmental Assessment Office and Technical Working Group for a completeness screening review. The Project Team is preparing for the Application Review Phase, including public comment period and other consultation activities. The ALC Application has been submitted to the Agricultural Land Commission for approval.</li> <li><b>Technical Studies:</b> Engineering, geotechnical and other technical studies are underway to further inform the draft reference concept and in support of the procurement process.</li> <li><b>Procurement:</b> A business case has been completed. The Request for Qualifications (RFQ) was issued this month, along with the RFQ Data Room, for registered parties.</li> <li><b>All key Project activities are proceeding on schedule.</b></li> </ul>																
Cost																
<ul style="list-style-type: none"> <li>The Project is on budget at June 30, 2016.</li> </ul>  <table border="1"> <caption>Cost Comparison (Millions of \$)</caption> <thead> <tr> <th>Fiscal Year</th> <th>Work to Date</th> <th>Project Development Budget (FY 14/15-16/17)</th> </tr> </thead> <tbody> <tr> <td>FY14/15</td> <td>17.9</td> <td>17.9</td> </tr> <tr> <td>FY15/16</td> <td>21.9</td> <td>23.9</td> </tr> <tr> <td>FY 16/17</td> <td>4.2</td> <td>29.2</td> </tr> <tr> <td>Totals (FY 14/15-16/17)</td> <td>44.0</td> <td>71.0</td> </tr> </tbody> </table>	Fiscal Year	Work to Date	Project Development Budget (FY 14/15-16/17)	FY14/15	17.9	17.9	FY15/16	21.9	23.9	FY 16/17	4.2	29.2	Totals (FY 14/15-16/17)	44.0	71.0	
Fiscal Year	Work to Date	Project Development Budget (FY 14/15-16/17)														
FY14/15	17.9	17.9														
FY15/16	21.9	23.9														
FY 16/17	4.2	29.2														
Totals (FY 14/15-16/17)	44.0	71.0														

\* **Status Legend:** Green = No issues to report; Yellow = Minor issues to report; Red = Significant issues to report.

## INTRODUCTION

### Project Overview

The George Massey Tunnel is an important link in the regional and provincial transportation system, carrying an average of 80,000 vehicles each day. It connects to key gateways such as Vancouver International Airport (YVR), the Peace Arch and Pacific Canada-U.S. border crossings, BC Ferries' Tsawwassen terminal, Deltaport and the Boundary Bay Airport. It is a vital goods movement route that fuels our local, regional, provincial and national economies, and a key access point for businesses in Delta, Surrey, Richmond, and Tsawwassen First Nation.

Since the Tunnel opened in 1959, Metro Vancouver's population and economy have grown, and its population is forecast to continue to grow by more than one million people over the next 30 years. Without improvements to this crossing, economic growth and regional livability will be constrained by congestion and increasing travel times for commuters, goods movers, commercial traffic and other traffic.

With growing concerns about public safety and congestion in and near the Tunnel, in 2012, the government of B.C. commenced a study of options to address the Highway 99 corridor. After analysis and consultation, a new bridge to replace the Tunnel emerged as the most appropriate and supported solution. Construction is anticipated to begin in 2017.

### Project Goals

Based on the Ministry's mandate and results of consultation to date, six primary goals have been identified for the Project:

1. **Reduce congestion.** Improve travel times and reliability for all users.
2. **Improve safety.** This includes improving traffic and seismic safety, as well as emergency response capabilities.
3. **Support trade and commerce.** Improve access to local businesses and gateway facilities, and improve travel time reliability for goods movers and service providers.
4. **Support increased transit on the Highway 99 corridor.** Provide dedicated transit/HOV lanes on the new bridge to improve travel time reliability and add capacity for long-term transit improvements.
5. **Support options for pedestrians and cyclists.** Provide a multi-use pathway on the new bridge to connect cycling and pedestrian corridors in Richmond and Delta.
6. **Enhance the environment.** Enhance the environment under the new bridge and in the Project right-of-way on Deas Island.

### Key Milestones Achieved to Date

Key milestones achieved to date are listed by category below. The reports can be found within the Document Library of the George Massey Tunnel Replacement Project website.

<b>Consultation</b>	<ul style="list-style-type: none"> <li>• Project Definition Report</li> <li>• Completion of Phase 1, Phase 2 and Phase 3 Consultation, including summary reports</li> </ul>
<b>Environmental Review</b>	<ul style="list-style-type: none"> <li>• Baseline studies</li> <li>• Application Information Requirements</li> <li>• Draft Environmental Assessment Application (submitted for completeness review)</li> </ul>
<b>Agriculture</b>	<ul style="list-style-type: none"> <li>• ALC Application</li> </ul>
<b>Design/Engineering</b>	<ul style="list-style-type: none"> <li>• Draft reference concept for EA application</li> <li>• Project Definition Report Draft Reference Concept</li> <li>• Multiple traffic data and analysis reports</li> <li>• Multiple geotechnical studies</li> </ul>
<b>Procurement</b>	<ul style="list-style-type: none"> <li>• Business Case</li> <li>• Capital Cost Estimate Report</li> <li>• Operations, Maintenance and Rehabilitation Base Cost Estimate Report</li> <li>• Procurement Options Report</li> <li>• Risk Report</li> <li>• RFQ Issued</li> <li>• RFQ Data Room</li> </ul>

### June 2016 Highlights

<b>Environment</b>	<ul style="list-style-type: none"> <li>• Submitted the draft Environmental Assessment Application to the BC Environmental Assessment Office for completeness review</li> </ul>
<b>Agriculture</b>	<ul style="list-style-type: none"> <li>• Submitted the application to the Agricultural Land Commission (ALC) for approval of works within Agricultural Land Reserve (ALR) boundaries</li> </ul>
<b>Construction</b>	<p>Pile Load Test Update:</p> <ul style="list-style-type: none"> <li>• Completed all restrrike testing on reaction piles and test pile</li> <li>• Completed cleanout and infilling of test pile</li> <li>• Completed shop fabrication work on load frame</li> </ul>
<b>Procurement</b>	<ul style="list-style-type: none"> <li>• Issued RFQ Data Room</li> <li>• Issued RFQ</li> </ul>

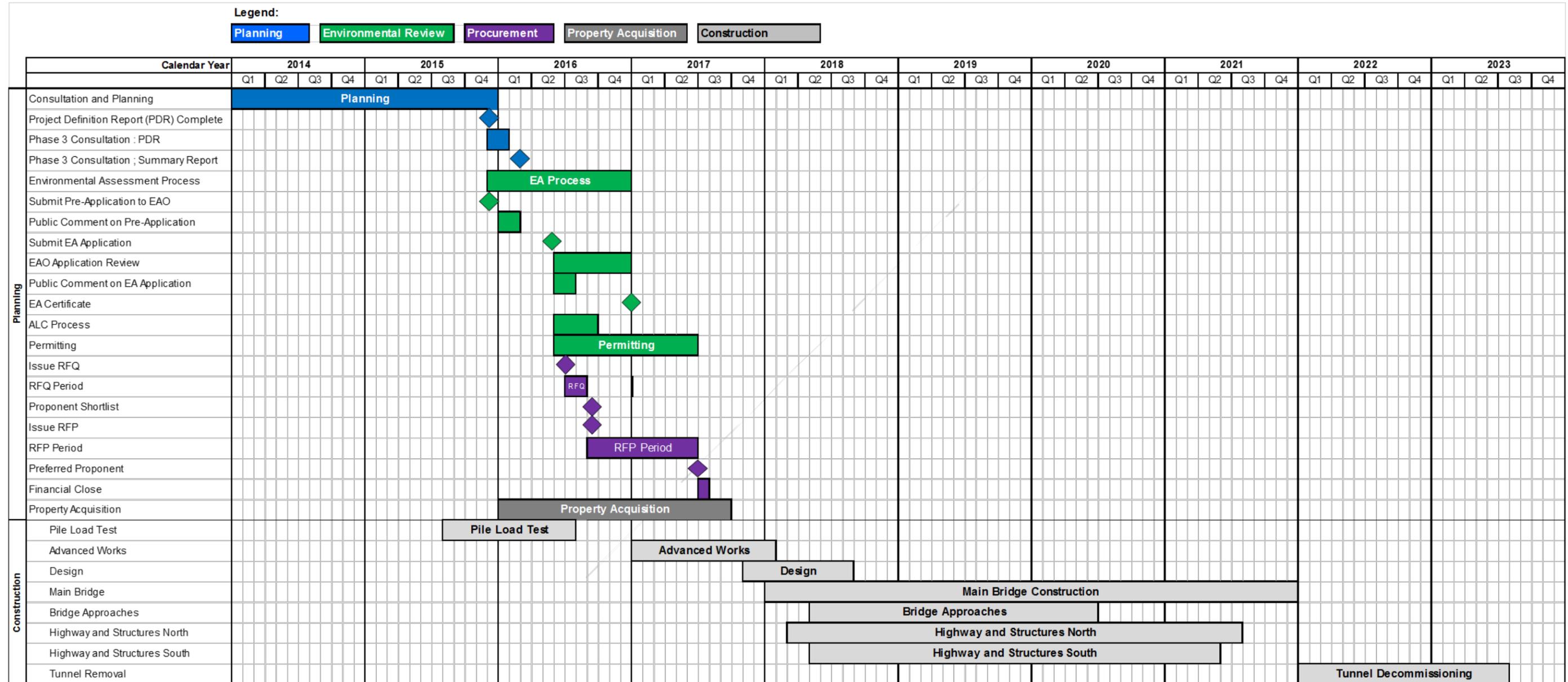
### Report Structure

The table below provides a brief description of the contents of this report.

<b>1. Schedule</b>	<ul style="list-style-type: none"> <li>• High-level Project schedule including major milestones and deliverables</li> </ul>
<b>2. Project Management</b>	<ul style="list-style-type: none"> <li>• Objectives, monthly accomplishments and upcoming activities related to Safety, Quality and Project Controls</li> </ul>
<b>3. Project Development</b>	<ul style="list-style-type: none"> <li>• Scope, monthly accomplishments and upcoming activities for the each of the major disciplines: Stakeholders, Environment, Agriculture, Aboriginal Groups, Procurement, Engineering, Construction and Property</li> </ul>
<b>4. Cost Report</b>	<ul style="list-style-type: none"> <li>• Annual budgets and actual cost by fiscal year</li> </ul>
<b>5. Risk Management</b>	<ul style="list-style-type: none"> <li>• Key risks and mitigation strategies</li> </ul>

# 1 SCHEDULE

The following schedule depicts deliverables, milestones and associated dates and timelines for the planning phase of the Project as well as high-level construction timelines.



## 2 PROJECT MANAGEMENT

### 2.1 Safety

<b>Objectives:</b>	<ul style="list-style-type: none"> <li>• Provide clear information on health and safety responsibilities.</li> <li>• Ensure all required training is provided and evaluated.</li> <li>• Ensure a safe worksite at all times.</li> </ul>
<b>Accomplished in month:</b>	<ul style="list-style-type: none"> <li>• Conducted Occupational Health and Safety Committee meeting.</li> <li>• Conducted Project safety orientations at the Project Office.</li> <li>• Provided safety training to Project staff.</li> <li>• Conducted office safety inspections.</li> </ul>
<b>Key activities for next 3 months:</b>	<ul style="list-style-type: none"> <li>• Provide safety training to project team on a continual basis.</li> <li>• Conduct Occupational Health and Safety Committee meetings.</li> <li>• Conduct additional field safety audits for Pile Load Test Project.</li> </ul>

### 2.2 Quality

<b>Objectives:</b>	<ul style="list-style-type: none"> <li>• Ensure design services and construction works delivered to the Province are implemented within a quality standard consistent with Ministry standards and ISO 9001.</li> </ul>
<b>Accomplished in month:</b>	<ul style="list-style-type: none"> <li>• Provided Quality Management input to draft Project Agreement.</li> <li>• Reviewed Project Quality Management System and scheduled internal audits.</li> </ul> <p>For the Pile Load Test:</p> <ul style="list-style-type: none"> <li>• Ongoing quality management input as required.</li> <li>• Ongoing review and monitoring of contractor quality management activities including quality control and quality assurance activities per contractor's Quality Management Plan, and work plans for Adjacent Structures Monitoring, Pile Installation, Static Load Test and Construction Site Health, Safety and Environment Management.</li> <li>• Ongoing daily site surveillance monitoring.</li> <li>• Observed Contractor's internal quality audit.</li> </ul>
<b>Key activities for next 3 months:</b>	<ul style="list-style-type: none"> <li>• Continue quality management input and support to procurement activities as required.</li> <li>• Carry out internal audits per audit schedule.</li> </ul> <p>For the Pile Load Test:</p> <ul style="list-style-type: none"> <li>• Continue review and monitoring of contractor quality management activities including observation and review of contractor's internal and external audits.</li> <li>• Carry out activity-specific Quality Management System and surveillance audits per audit schedule. The focus will be on data collection during the Static Load Test.</li> <li>• Continue ongoing daily site surveillance monitoring.</li> </ul>

### 2.3 Project Controls

<b>Objectives:</b>	<ul style="list-style-type: none"><li>• Effectively manage the Project's contracts, scope, schedule and cost.</li></ul>
<b>Accomplished in month:</b>	<ul style="list-style-type: none"><li>• Held regular monthly Project controls meetings with all discipline leads.</li><li>• Ongoing development and updates to the Project schedule.</li></ul>
<b>Key activities for next 3 months:</b>	<ul style="list-style-type: none"><li>• Conduct monthly project controls meetings with all discipline leads.</li><li>• Monitor project schedule.</li></ul>

### 3 PROJECT DEVELOPMENT

#### 3.1 Stakeholders

<b>Scope:</b>	<ul style="list-style-type: none"> <li>• Management of phased and ongoing public and stakeholder consultation, community relations and Project communications.</li> </ul>
<b>Accomplished in month:</b>	<ul style="list-style-type: none"> <li>• Drafted content and graphics for EA Application Review Public Comment Period</li> </ul> <p><i>Meetings were held with the following stakeholder groups:</i></p> <p>Government</p> <ul style="list-style-type: none"> <li>• BC Environmental Assessment Office</li> <li>• Metro Vancouver</li> <li>• City of Richmond</li> <li>• Corporation of Delta</li> <li>• Translink</li> <li>• MLAs</li> <li>• Transport Canada</li> </ul> <p>Business Association</p> <ul style="list-style-type: none"> <li>• Vancouver Board of Trade</li> <li>• Richmond Chamber of Commerce</li> <li>• Delta Chamber of Commerce</li> </ul> <p>Other</p> <ul style="list-style-type: none"> <li>• BC Hydro</li> <li>• Agricultural Land Commission</li> <li>• Vancouver Fraser Port Authority</li> <li>• BC Road Builders</li> <li>• Commercial Marine Users</li> </ul>
<b>Key activities for next 3 months:</b>	<ul style="list-style-type: none"> <li>• Continued stakeholder engagement.</li> <li>• Business and community group presentations on request.</li> </ul>

### 3.2 Environment

<b>Scope:</b>	<ul style="list-style-type: none"> <li>• Development of the Environmental Assessment (EA) Application as well as management of the Project monitoring and permitting process.</li> </ul>
<b>Accomplished in month:</b>	<ul style="list-style-type: none"> <li>• Conducted additional consultation with Technical Working Group members on the draft EA Application.</li> <li>• Addressed comments from the technical working group on the draft EA Application as part of the screening review process</li> <li>• Finalized the draft EA Application and submitted for completeness review by the Environmental Assessment Office (EAO) and technical working group.</li> </ul>
<b>Key activities for next 3 months:</b>	<ul style="list-style-type: none"> <li>• Finalize the EA Application based on comments received from the EAO and Technical Working Group, for an expected submission in July 2016.</li> <li>• Prepare for the Application Review Phase, including: <ul style="list-style-type: none"> <li>○ Participation in Public Comment Period for the EA Application</li> <li>○ Participation in public open houses in Delta and Richmond</li> <li>○ Participation in the Technical Working Group meeting</li> </ul> </li> <li>• Prepare permitting applications required for construction, particularly the submission of the Water Sustainability Act permit application.</li> </ul>

### 3.3 Agriculture

<b>Scope:</b>	<ul style="list-style-type: none"> <li>• Identify and work with farmers and other agricultural stakeholders potentially affected by the Project.</li> <li>• Prepare and submit the application to the Agricultural Land Commission (ALC).</li> </ul>
<b>Accomplished in month:</b>	<ul style="list-style-type: none"> <li>• Met with staff of the Agricultural Land Commission (ALC).</li> <li>• Met with Agricultural Land Reserve (ALR) property owners and operators.</li> <li>• Finalized the application to the ALC for approval of works within ALR boundaries.</li> <li>• Submitted the ALC Application on June 23<sup>rd</sup>.</li> <li>• Delivered ALC Application notifications to all directly affected property owners.</li> <li>• Delivered hard copy binders of the ALC Application to the City of Richmond, the Corporation of Delta, the Delta Farmers' Institute (DFI) and the Richmond Farmers' Institute (RFI).</li> <li>• Continued agricultural ditch mapping and drainage system analysis.</li> </ul>
<b>Key activities for next 3 months:</b>	<ul style="list-style-type: none"> <li>• Ongoing meetings with farmers and stakeholders including the City of Richmond, the Corporation of Delta, the Ministry of Agriculture, the RFI and the DFI.</li> <li>• Conduct on-site tour of Project with the ALC.</li> <li>• Finalize assessment of existing highway ditch drainage/irrigation system.</li> <li>• Continue to liaise with ALR property owners and operators.</li> </ul>

### 3.4 Aboriginal Groups

<b>Scope:</b>	<ul style="list-style-type: none"> <li>• Consultation and engagement with Aboriginal Groups.</li> </ul>
<b>Accomplished in month:</b>	<ul style="list-style-type: none"> <li>• Conducted nine EA Application and Project update meetings with Aboriginal Groups.</li> <li>• Supported Aboriginal Groups in their review and comment on draft documents required for the environmental assessment (EA) process.</li> <li>• Integrated EAO and Aboriginal input into the draft Aboriginal Consultation portion (Part C) of the EA application and other relevant sections/documents. Prepared individual Aboriginal Group summaries of Part C content as appendices to the Application.</li> <li>• Received input on draft Aboriginal Consultation Report 2 from Aboriginal Groups.</li> <li>• Responded to questions and information needs of Aboriginal Groups through the Ministry's ongoing consultation program.</li> </ul>
<b>Key activities for next 3 months:</b>	<ul style="list-style-type: none"> <li>• Finalize the Aboriginal Consultation Report 2 based on input received from Aboriginal Groups and submit to the Environmental Assessment Office (EAO).</li> <li>• Respond formally to comments received from Aboriginal Groups on draft documents provided for review</li> <li>• Continue consultation with Aboriginal Groups including meetings, community meetings and other activities in accordance with each group's Aboriginal Consultation Plan.</li> <li>• Revise each Aboriginal Group's Aboriginal Consultation Plan as required.</li> <li>• Incorporate input from Aboriginal Groups on the draft Effects Assessment (Part B) and Aboriginal Consultation (Part C) sections of the EA Application.</li> <li>• Respond to outstanding questions and information needs of Aboriginal Groups through the EAO-led working group process and through the Ministry's consultation program.</li> </ul>

### 3.5 Procurement

<b>Scope:</b>	<ul style="list-style-type: none"> <li>• Development of a business case, Request for Qualifications (RFQ), Request for Proposals (RFP) and subsequent evaluation of submissions.</li> </ul>
<b>Accomplished in month:</b>	<ul style="list-style-type: none"> <li>• Finalized and issued the RFQ document and RFQ data room.</li> <li>• Ongoing planning of the RFQ evaluation process including evaluation logistics and resources.</li> <li>• Developed Project introductory meeting materials.</li> <li>• Advanced the RFQ Evaluation Materials.</li> <li>• Ongoing development of the draft Concession Agreement with further advancement of technical specifications.</li> </ul>
<b>Key activities for next 3 months:</b>	<ul style="list-style-type: none"> <li>• Continue developing the RFP data room.</li> <li>• Finalize RFQ evaluation materials.</li> <li>• Evaluate RFQ submissions.</li> <li>• Finalize drafting of Instructions to Proponents (RFP: Volume 1) and draft Concession Agreement (RFP: Volume 2).</li> </ul>

### 3.6 Engineering

<b>Scope:</b>	<ul style="list-style-type: none"> <li>• Development of a reference concept, technical requirements/specifications and related technical studies for the Project.</li> <li>• Travel demand forecasting, traffic operations modelling, traffic data collection, and other related services in support of the Project.</li> </ul>
<b>Accomplished in month:</b>	<ul style="list-style-type: none"> <li>• Achieved 90% completion of highway reference concept.</li> <li>• Achieved 90% completion of structures reference concept.</li> <li>• Continued to develop design for highway drainage.</li> <li>• Provided ongoing technical support on the Pile Load Test.</li> <li>• Provided technical support to EA process, procurement and stakeholder consultation.</li> <li>• Completed draft design of cycling and pedestrian trails.</li> <li>• Continued to develop landscaping requirements and concepts.</li> <li>• Completed bridge model.</li> </ul>
<b>Key activities for next 3 months:</b>	<ul style="list-style-type: none"> <li>• Complete draft reference concept and cost estimate based on the results of the environmental review and additional public consultation.</li> <li>• Finalize reference concept for cycling and pedestrian trail design.</li> <li>• Complete construction staging analysis and constructability assessment for RFP.</li> <li>• Provide technical support for procurement including participating in RFQ evaluations and drafting of technical schedules for RFP.</li> </ul>

### 3.7 Construction

<b>Scope:</b>	<ul style="list-style-type: none"> <li>• The overall planning, coordination and implementation of construction activities.</li> <li>• Current construction works include: Pile Load Test (Geotechnical Investigations).</li> </ul>
<b>Accomplished in month:</b>	<p>Pile Load Test Update:</p> <ul style="list-style-type: none"> <li>• Completed all restrrike testing on reaction piles and test pile.</li> <li>• Completed cleanout and infilling of test pile.</li> <li>• Completed shop fabrication work on load frame.</li> </ul>
<b>Key activities for next 3 months:</b>	<ul style="list-style-type: none"> <li>• Complete assembly of load frame on site.</li> <li>• Install remaining instrumentation required for static load test.</li> <li>• Perform static load test and gather all related data.</li> <li>• Complete final technical report.</li> </ul>

### 3.8 Property

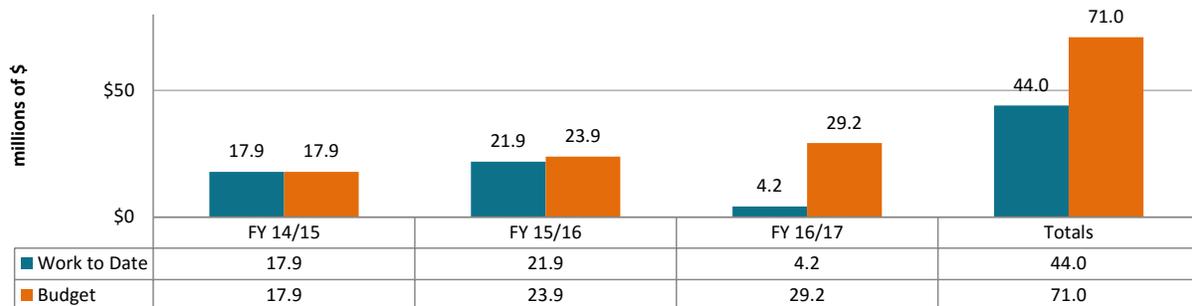
<b>Scope:</b>	<ul style="list-style-type: none"> <li>• Review of properties along the Project corridor and development of a property acquisition plan.</li> <li>• The acquisition of land required to deliver the Project.</li> <li>• A total of 36 properties have been identified for acquisition, the majority of which are partial acquisitions.</li> </ul>
<b>Accomplished in month:</b>	<ul style="list-style-type: none"> <li>• Finalized one appraisal report and delivered to owner for review.</li> </ul>
<b>Key activities for next 3 months:</b>	<ul style="list-style-type: none"> <li>• Continue property negotiations with owners to secure final agreements or agreements in principle.</li> <li>• Finalize property acquisition plans on remaining properties.</li> <li>• Conduct legal surveys on selected properties.</li> <li>• Provide support for procurement document development.</li> </ul>

## 4 COST REPORT

### 4.1 Project Cost Estimate

Capital costs are estimated to be \$3.5 billion. The detailed cost estimate will be refined and finalized after completion of the Pile Load Test and the Environmental Assessment public comment period.

### 4.2 Planning Phase Financials



## 5 RISK MANAGEMENT

The Project team has developed a risk register for the Project, including risk mitigation strategies. The risk register is reviewed on a regular basis and will evolve as project development progresses.

Soft soil conditions have been identified as a risk. The ministry is undertaking additional geotechnical investigations (Pile Load Test project) to test soil conditions and confirm foundation requirements for the bridge.

## 6 APPENDIX A – PROJECT PHOTOS



*Bridge model – on display at Richmond Project Office*

**GEORGE MASSEY TUNNEL  
REPLACEMENT PROJECT**

Monthly Status Report – June 2016



*Highway 17A Interchange model – on display at Richmond Project Office*



*Steveston Interchange model – on display at Richmond Project Office*