

GEORGE MASSEY TUNNEL REPLACEMENT PROJECT

MONTHLY STATUS REPORT FEBRUARY 2017

FINAL

FOREWORD TO MONTHLY STATUS REPORT

George Massey Tunnel Replacement Project – Project Delivery Framework

The George Massey Tunnel Replacement Project (the Project) is being delivered to the Province by Transportation Investment Corporation (“TI Corp”). TI Corp and its Project Team are committed to supporting the Ministry of Transportation and Infrastructure’s mandate to provide sound infrastructure solutions that meet the requirements for the safe and efficient movement of goods, services and people.

Leadership, Experience and Resources

The Project Team established to deliver the Project, is committed to delivering the Project on time and on budget. The Project’s leadership team, whose collective experience includes an extensive breadth of knowledge and experience in delivering P3 projects to the Province, provides guidance and direction on behalf of TI Corp. The Project Team’s comprehensive expertise includes senior advisors, senior project management and engineering professionals, and subject matter experts across all disciplines.

A Project Delivery Framework for Success

The Project is delivered within a framework that ensures adequate planning, guidance and controls are in place for all aspects of project work. Planning is based upon industry best practices; accepted principles, standards, and policies; and risk-based thinking.

The application of the international standard ISO 9001 Quality Management Systems builds the foundation for excellence, accountability and continual improvement on the Project. The Project Quality Management System is an integral component of the Project delivery framework and requires that appropriate resources are available to ensure conformance with internal project requirements, as well as contractual and legal requirements (statutory and regulatory).

The Project delivery framework is built on a systematic approach to all disciplines, combined with the application of proven and recognized standards, principles and guidelines to these areas. The following provides a sampling of how this is applied on the Project:

- All Project work is governed by the Standards of Conduct set by the Province;
- Safety planning and management of all Project activities are governed by the requirements of the Workers Compensation Act and WorkSafeBC Occupational Health and Safety Regulation;

- The Project’s commitment to developing sound partnerships with Project stakeholders, community partners, and all project-related organizations is achieved by fostering and maintaining effective and collaborative relationships, and employing best practices that draw upon international standards; including the principles and approaches outlined in the IAP2 Public Participation Spectrum and the AA1000SES Stakeholder Engagement Standard.
- Environmental protection is managed within a framework provided by ISO 14001 Environmental Management Systems, ensuring that all statutory and regulatory requirements are met;
- Project Controls are governed by numerous Provincial policies such as the Ministry of Finance Capital Asset Management Framework and the BC Government Core Policy and Procedures Manual;
- Procurement processes are based on past transportation infrastructure projects, and industry best practices such as the “First Principles” method of estimating;
- Engineering is governed by the APEGBC Act and Bylaws, quality management guidelines, industry best practices, and the application of local and international standards; and
- The direction for risk management practices on the Project is provided by the Risk Management Guideline for the BC Public Sector issued by the Province of British Columbia Risk Management Branch and Government Security Office, the companion CAN/CSA ISO 31000: Risk Management – Principles and Guidelines, and the Core Policy and Procedures Manual, Chapter 14 (CPPM 14).

Stringent reviews during planning and development ensure a rigorous system is in place to ensure all Project requirements are met. Ongoing internal reviews for each aspect of the Project are conducted to ensure accountability, integrity, and continual improvement of the Project and the Quality Management System. Internal reviews confirm compliance, documentation, progress and performance throughout the lifecycle of the Project.

PROJECT STATUS DASHBOARD

Scope

Status*

- The project scope includes:
 - A new 10-lane, clear span bridge over South Arm of Fraser River
 - Replacing the Westminster Highway, Steveston Highway and Highway 17A interchanges
 - Widening Highway 99 corridor between Bridgeport Road in Richmond to Highway 91 in Delta to accommodate dedicated transit/High Occupancy Vehicle lanes
 - Multi-use pathways for cyclists and pedestrians on the bridge with connections to walkways and cycling routes on either sides of the crossing
 - Transit enhancements:
 - 50 km of transit/HOV lanes
 - Dedicated transit ramp from Highway 99 to Bridgeport Road in Richmond
 - Integrated transit stops at Steveston Highway and Highway 17A interchanges
 - Decommissioning the George Massey Tunnel



Schedule

Status*

- **Consultation**
 - Phase 1 – Understanding the Need (2012)
 - Phase 2 – Exploring the Options (2013)
 - Phase 3 – Project Definition Report (2015/16)
- **Environment**
 - Environmental Assessment Certificate obtained on February 9, 2017.
 - Approval from the Agricultural Land Commission (ALC) obtained on February 24, 2017.
- **Technical Studies**
 - Engineering, traffic, geotechnical and other technical studies continue to further inform the reference concept in support of the procurement process.
- **Procurement**
 - A business case and Request for Qualifications evaluation has been completed. The RFP was issued to short-listed Proponents in October 2016.
- **All key Project activities are proceeding on schedule.**



Cost

Status*

- The forecast for the current fiscal year is \$22.1M; to date, \$19.5M has been spent (this includes actuals plus commitments).
- The approved capital budget for the Project is \$3.5B.



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

Report Structure

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

1. Introduction	<ul style="list-style-type: none">• Project overview and goals, key milestones achieved and current month highlights
2. Schedule	<ul style="list-style-type: none">• High-level Project schedule including major milestones and deliverables
3. Project Management	<ul style="list-style-type: none">• Objectives, monthly accomplishments and upcoming activities related to Safety, Quality and Project Controls
4. Project Development	<ul style="list-style-type: none">• Scope, monthly accomplishments and upcoming activities for the each of the major disciplines: Stakeholders, Environment, Agriculture, Aboriginal Groups, Procurement, Engineering, Construction and Property
5. Cost Report	<ul style="list-style-type: none">• Fiscal year cost summary
6. Risk Management	<ul style="list-style-type: none">• Key risks and mitigation strategies

1. 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 multi-use pathways 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.

Consultation	<ul style="list-style-type: none"> • Phase 1 – Understanding the Need (2012) • Phase 2 – Exploring the Options (2013) • Phase 3 – Project Definition Report (2015/16)
Environmental Review	<ul style="list-style-type: none"> • Baseline studies • Public open houses • Environmental Assessment Certificate (February 2017)
Agriculture	<ul style="list-style-type: none"> • Agricultural Land Commission (ALC) approval (February 2017)
Design/ Engineering	<ul style="list-style-type: none"> • Draft reference concept for EA application and RFP • Multiple traffic data and analysis reports (2013 to 2016) • Multiple geotechnical studies (2013 to 2017) • Pile Load Test (2016)
Procurement	<ul style="list-style-type: none"> • Business Case (2015) • Capital Cost Estimate Report • Operations, Maintenance and Rehabilitation Base Cost Estimate Report • Procurement Options Report • Risk Report • RFQ issued (2016) • Proponent shortlist • RFP issued (including draft Concession Agreement)

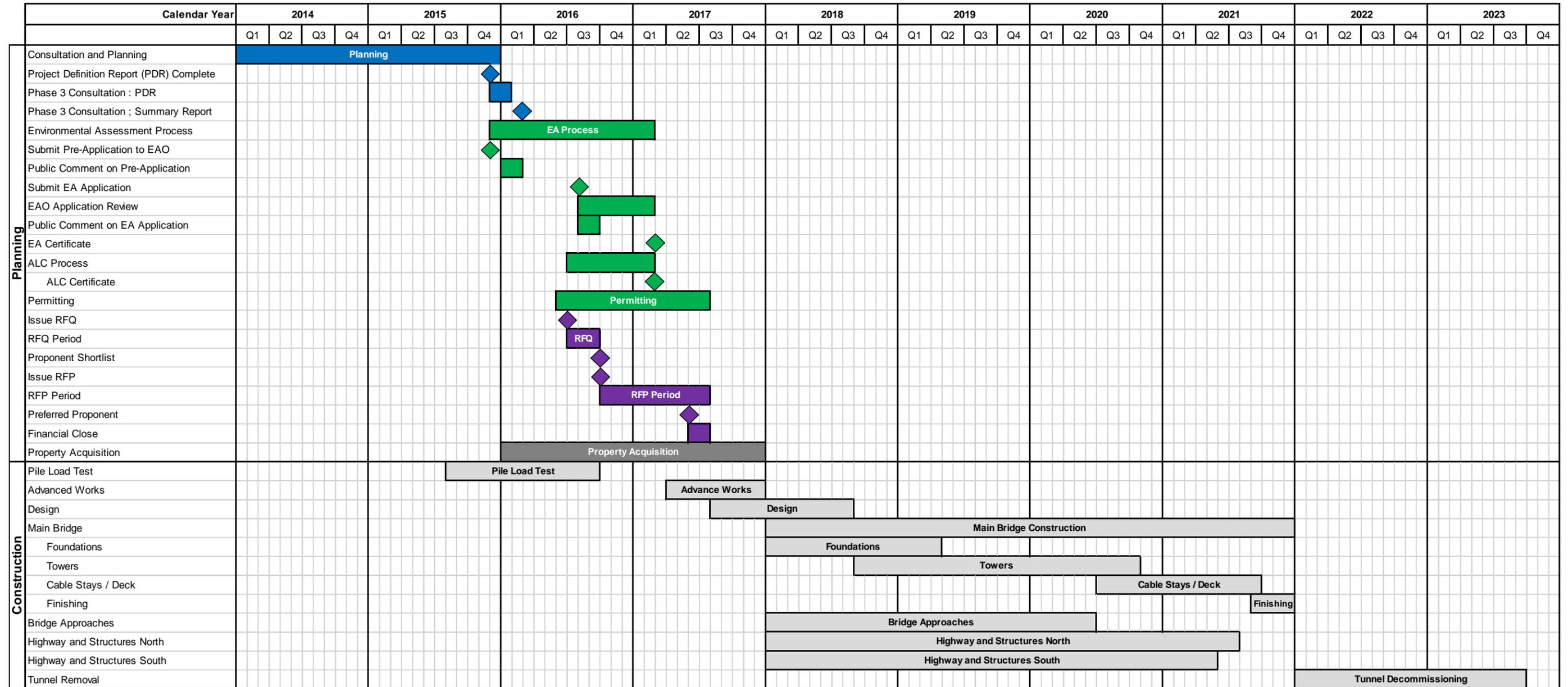
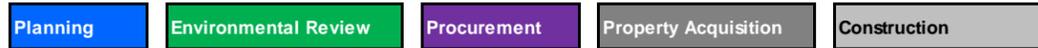
February 2017 Highlights

Environment	<ul style="list-style-type: none"> • Obtained Environmental Assessment Certificate on February 9th.
Agriculture	<ul style="list-style-type: none"> • Obtained official Project approval from the Agricultural Land Commission (ALC) on February 24th.

2. SCHEDULE

The following schedule depicts deliverables, milestones and associated dates and timelines for the planning and procurement phases of the Project as well as anticipated construction timelines.

Legend:



3. PROJECT MANAGEMENT

Safety

Objectives:	<ul style="list-style-type: none">• Provide clear information on health and safety responsibilities.• Ensure all required training is provided and evaluated.• Ensure a safe worksite at all times.• Ensure that management of all Project activities is governed by the Workers Compensation Act and WorkSafeBC Occupational Health and Safety Regulation.
Accomplished in month:	<ul style="list-style-type: none">• Conducted Joint Occupational Health and Safety Committee meeting.• Conducted Project safety orientations at the Project Office.• Performed scheduled safety inspections.• Provided Construction Safety seminar to Project Team.
Key activities for next 3 months:	<ul style="list-style-type: none">• Provide ongoing safety training to Project Team.• Conduct Joint Occupational Health and Safety Committee meetings.

Quality

Objectives:	<ul style="list-style-type: none">• Ensure design services and construction works delivered to the Province are implemented within a quality standard consistent with Ministry standards and ISO 9001.• Ensure internal processes are conducted per Project quality requirements, consistent with Ministry standards and ISO 9001.
Accomplished in month:	<ul style="list-style-type: none">• Ongoing review and revision of Project Quality Management Plan.• Reviewed internal Quality Management System training requirements.
Key activities for next 3 months:	<ul style="list-style-type: none">• Continue quality management input and support to procurement activities.• Provide quality management input and support to site preparation works.• Ongoing review of internal processes.• Develop and deliver quality management training to Project Team.

Project Controls

Objectives:	<ul style="list-style-type: none">• Effectively manage the Project’s contracts, scope, schedule and cost.• Minimize potential negative impacts of any changes to the Project.• Ensure an efficient system for document control and records management.• Ensure project controls are governed by provincial policies such as the Ministry of Finance Capital Asset Management Framework and the Core Policy and Procedures Manual.
Accomplished in month:	<ul style="list-style-type: none">• Held regular monthly project controls meetings with discipline leads.• Ongoing development and updates to the Project schedule.
Key activities for next 3 months:	<ul style="list-style-type: none">• Conduct monthly project controls meetings with discipline leads.• Monitor project schedule.

4. PROJECT DEVELOPMENT

Stakeholders

Scope:	<ul style="list-style-type: none"> • Management of phased and ongoing public and stakeholder consultation, community relations and Project communications, employing best practices that draw upon international standards, including the principles and approaches outlined in the IAP2 Public Participation Spectrum and the AA1000SES Stakeholder Engagement Standard.
Key milestones achieved to date:	<ul style="list-style-type: none"> • Phase 1 Consultation – Understanding the Need (2012) • Phase 2 Consultation – Exploring the Options (2013) • Phase 3 Consultation – Project Definition Report (2015/16)
Accomplished in month:	<ul style="list-style-type: none"> • Presentation to Ladner Business Association. <p><i>Meetings were held with the following stakeholder groups:</i></p> <p>Government</p> <ul style="list-style-type: none"> ○ City of Richmond ○ Corporation of Delta ○ BC Environmental Assessment Office ○ Ministry of Forests, Lands and Natural Resources ○ Metro Vancouver ○ BC Ambulance ○ BC Hydro ○ Department of Fisheries and Oceans <p>Other</p> <ul style="list-style-type: none"> ○ Ladner Business Association ○ Delta Community Outreach ○ First responders groups including Delta Police Department, Delta Fire & Emergency Services, Deas Island RCMP, Richmond Fire-Rescue, Richmond RCMP and BC Ambulance
Key activities for next 3 months:	<ul style="list-style-type: none"> • Continued community and stakeholder engagement. • Business and community group presentations on request.

Environment

Scope:	<ul style="list-style-type: none">• Obtain Environmental Assessment (EA) Certificate.• Conduct project monitoring in accordance with conditions of the Environmental Assessment Certificate.• Manage the permitting process.• Ensure environmental protection is managed within the framework provided by ISO 14001 Environmental Management Systems.
Key milestones achieved to date:	<ul style="list-style-type: none">• Baseline studies• Public open houses• Environmental Assessment Certificate (February 2017)
Accomplished in month:	<ul style="list-style-type: none">• Obtained Environmental Assessment Certificate on February 9th.• Continued consultation with stakeholders on permit applications and the Environmental Management Plan.• Continued to support the Ministry of Forests Lands and Natural Resources (FLNRO) in review and referrals of permit applications.• Reviewed and prepared responses to comments from the Environmental Assessment Office on the Environmental Management Plan, and revised the Plan accordingly.• Reviewed and prepared responses to comments from the Working Group on permit applications.
Key activities for next 3 months:	<ul style="list-style-type: none">• Finalize Environmental Management Plan prior to start of site preparation works.• Obtain approvals from FLNRO for permit applications under the Water Sustainability Act.• Prepare environmental plans and undertake environmental monitoring and auditing in association with site preparation works.

Agriculture

Scope:	<ul style="list-style-type: none">• Identify and work with farmers and other agricultural stakeholders potentially affected by the Project.• Obtain official Project approval from the Agricultural Land Commission (ALC).• Prepare appropriate plans to mitigate potential agricultural effects and to enhance agricultural land use.
Key milestones achieved to date:	<ul style="list-style-type: none">• ALC approval (February 2017)
Accomplished in month:	<ul style="list-style-type: none">• Responded to ALC staff regarding the ALC application.• Obtained Project approval from the Agricultural Land Commission (ALC) on February 24th.
Key activities for next 3 months:	<ul style="list-style-type: none">• Prepare agricultural plans, including monitoring programs, to meet Environmental Assessment Certificate and ALC Project approval conditions.• Meet with Agricultural Land Reserve property owners and operators to review project status and to work on mitigation and enhancement strategies including drainage improvements.• Prepare plans for disposition of right-of-way to be made available for agriculture, including reclamation plans for existing highway right-of-way parcels to be made available for agriculture.• Review progress on meeting Project approval conditions with the ALC and the EAO.

Aboriginal Groups

Scope:	<ul style="list-style-type: none">• Consultation and engagement with Aboriginal Groups.
Accomplished in month:	<ul style="list-style-type: none">• Conducted permit application, Department of Fisheries and Oceans authorization, Environmental Management Plan and Project update meetings with 11 Aboriginal Groups.• Continued to consult Aboriginal Groups in relation to two Water Sustainability Act (WSA) Permits, the draft Environmental Management Plan, DFO authorization and Independent Environmental Monitor Terms of Engagement.• Continued to engage Aboriginal Groups in relation to Project opportunities and benefits.
Key activities for next 3 months:	<ul style="list-style-type: none">• Undertake engagement with Aboriginal Groups including meetings, community meetings and other activities in accordance with each group’s Aboriginal Consultation Plan.• Continue discussions with Aboriginal Groups regarding Project-related opportunities and benefits.• Continue to obtain and consider Aboriginal Groups’ input on key documents such as permit applications, DFO authorization, the draft Environmental Management Plan and Table of Conditions.• Finalize consultation required for the WSA permit applications.

Procurement

Scope:	<ul style="list-style-type: none">• Development of a business case, Request for Qualifications (RFQ), Request for Proposals (RFP) and subsequent evaluation of submissions.
Key milestones achieved to date:	<ul style="list-style-type: none">• Business Case (2015)• Capital Cost Estimate Report• Operations, Maintenance and Rehabilitation Base Cost Estimate Report• Procurement Options Report• Risk Report• RFQ issued (2016)• Proponent shortlist• RFP issued (including draft Concession Agreement)
Accomplished in month:	<ul style="list-style-type: none">• Ongoing updates to RFP data room materials.• Responded to Requests for Information from Proponents.• Conducted topic meetings with Proponents.• Issued RFP addenda and Definitive Concession Agreement to Proponents.
Key activities for next 3 months:	<ul style="list-style-type: none">• Continue the competitive selection process with the 3 shortlisted Proponents, including topic meetings.• Ongoing development of responses to Requests for Information from Proponents.• Ongoing updates to data room materials.• Prepare for and conduct evaluation of technical and financial proposal submissions from Proponents.

Engineering

Scope:	<ul style="list-style-type: none"> • Development of a reference concept, technical requirements/specifications and related technical studies for the Project. • Traffic operations modelling, traffic data collection, and other related engineering services in support of the Project. • Technical input to the procurement and environmental processes. • Compliance reviews of work by Concessionaire.
Key milestones achieved to date:	<ul style="list-style-type: none"> • Draft reference concept for EA application and RFP • Multiple traffic data and analysis reports • Multiple geotechnical studies • Pile Load Test
Accomplished in month:	<ul style="list-style-type: none"> • Provided technical and management support to procurement process. • Provided technical support to Environmental Assessment process. • Completed geotechnical investigations. • Ongoing traffic data collection and analysis.
Key activities for next 3 months:	<ul style="list-style-type: none"> • Ongoing support to procurement process including Proponent meetings and responding to questions from Proponents. • Review technical proposal submissions. • Ongoing support related to implementation of the conditions of the Environmental Assessment Certificate. • Complete traffic data collection report.

Construction

Scope:	<ul style="list-style-type: none"> • The overall planning, coordination and implementation of construction activities.
Accomplished in month:	<ul style="list-style-type: none"> • Completed draft project closeout report for Pile Load Test. • Completed tendering process for site preparation works.
Key activities for next 3 months:	<ul style="list-style-type: none"> • Finalize project closeout report for Pile Load Test. • Award site preparation contracts. • Begin site preparation construction.

Property

Scope:	<ul style="list-style-type: none">• Review of properties along the Project corridor and development of a property acquisition strategy.• The acquisition of land rights required to deliver the Project.• A total of 36 properties have been identified for acquisition, the majority of which are partial acquisitions of agricultural land.
Accomplished in month:	<ul style="list-style-type: none">• Received three appraisals and began preparation of five offers to owners.• Finalized right-of-way required in select areas.• Continued negotiations with owners.• Completed legal surveys on eight properties.
Key activities for next 3 months:	<ul style="list-style-type: none">• Continue property negotiations with owners to secure final agreements or agreements in principle.• Meet with affected stakeholders and discuss settlement.• Update appraisal reports on select properties.• Finalize appraisal reports on select properties.• Conduct legal surveys on remaining properties.

5. COST REPORT

Cost control activities are designed to meet government requirements. The Project Team adheres to the following policies relating to cost management:

- Ministry of Finance Capital Asset Management Framework (CAMF) (2002);
- Ministry of Finance Core Policy and Procedures Manual (2015);
- Auditor General Act;
- Financial Administration Act;
- Balanced Budget and Ministerial Accountability Act;
- Supply Act;
- Auditor General Act; and
- Budget Transparency and Accountability Act

The forecast for the current fiscal year is \$22.1M; to date, \$19.5M has been spent (this includes actuals plus commitments). The approved capital project budget is \$3.5 billion.

6. RISK MANAGEMENT

The following reference documents form the guiding framework, principles and policies used on the Project to manage risk:

- Core Policy and Procedure Manual, Chapter 14 (CPPM 14) (2015)
- Risk Management Guideline for the BC Public Sector (2012)
- CAN/CSA ISO 31000: Risk Management – Principles and Guidelines (2010)

Project plans detail how the Project implements risk management at the operational level, while abiding by enterprise-level protocols and other considerations:

- The Project Team has developed a Risk Management Plan that details the standard risk management processes and practices implemented on the Project.
- 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.