

Monthly Status Report

Reporting Period
November 2021

1. Introduction

1.1 Project Overview

The Kicking Horse Canyon Project – Phase 4 (KHCP4) is located on the Trans-Canada Highway approximately 4 km east of the Highway 95 junction at Golden BC. It is the final phase of the 26 km-long Kicking Horse Canyon Project which has been incrementally improving the highway to a modern four lane standard at a 100 km/h design speed, including bridge replacements and natural hazard reduction features to improve safety and reliability. The scope of work includes:

- Widening 4 km of two lane and 0.8 km of three lane highway to four lanes
- Highway realignment to a 100 km/h design speed
- Installation of median barrier, wildlife exclusion fencing and passages
- Provision of snow avalanche and rock fall hazard reduction measures; and
- Shoulder widening for cyclists

Construction of the fourth and final phase to complete the remaining – and most difficult – 4.8 kilometres is expected to be substantially complete in winter 2023-24.

Additional information and updates about the Project can be found on the Project's website <https://www.kickinghorsecanyon.ca/>

1.2 Project Delivery

Transportation Investment Corporation, a provincial Crown corporation, is delivering and overseeing this \$601 million Project. The Project is being delivered under B.C.'s Community Benefits Agreement and the Project workforce is being provided by B.C. Infrastructure Benefits Inc. (BCIB)

The project is cost-shared, with the Government of Canada contributing \$215 million.

Kicking Horse Canyon Constructors (KHCC) was selected to design and construct the fourth and final phase of the Kicking Horse Canyon Project near Golden.

The Project is a multi-phase project to improve safety and mobility over approximately 26 kilometres of two-lane highway. Three phases of work have been completed. The fourth and final phase to transform the remaining section of about 4.8 kilometres is under construction.

1.3 Project Goals

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

- Transportation:** Improve highway safety, capacity, and reliability of the highway corridor.
- Financial:** Plan and deliver the project, that meets the approved scope, schedule and budget targets cost effectively.
- Environment:** Reduce wildlife collision rates and minimize impacts on future wildlife movements.
- Economic Development:** Support the growth of the local and regional economy by improving highway safety and reliability and assist the efficient movement of people and goods along the project corridor.
- Social and Communities:** Engage with Indigenous Communities, local communities, and key stakeholders to identify opportunities, issues and information pathways that will inform the delivery of the project.
- Deliverability:** Constructible and operable.

2. Project Update

2.1 Project Dashboard

		Objectives	Project Status	Comments
Project Delivery	Scope	Meet the approved scope.	●	<ul style="list-style-type: none"> • The project includes the widening of 4.8km of Highway 1 to a 4-lane 100km/hr. standard and is being delivered within the approved scope.
	Schedule	Delivered within the approved schedule.	●	<ul style="list-style-type: none"> • The Project is on schedule to be completed by winter 2023/2024.
	Budget	Delivered within the approved budget. Total project budget is \$601 million.	●	<ul style="list-style-type: none"> • The project spending for the month of November 2021 was \$13.6 million and total project spending to date is \$247.2 million. • Total Federal Recoveries to date are \$114.2 million. The Project is forecast to be delivered within budget.
	Safety	Take every reasonable step to ensure that our work is performed safely and in compliance with all applicable safety regulations, and in accordance with government policy.	●	<ul style="list-style-type: none"> • Workplace Occupational Health and Safety (OHS) committee is in place and active. • The Health and Safety Plan for Project work is in place which includes specific COVID-19 protocols. Lost Time Injury Frequency Rate (LTIFR) for the Project remains at 0.38. The average Injury Rate for Heavy Construction from 2011 to 2020 is 2.98 as per WorkSafeBC.

	Quality	Implement an effective Quality Management System.	●	<ul style="list-style-type: none"> Daily quality monitoring ongoing with no major issues observed.
	Environmental	Ensure our work is performed in an environmentally responsible manner.	●	<ul style="list-style-type: none"> Ongoing submission reviews for management plans. Ongoing weekly site surveillance visits.
	Archaeology	Ensure the work is performed in a manner that meets the standards of the Heritage Conservation Act.	●	<ul style="list-style-type: none"> Archaeology investigation and systematic data recovery began in the Dart Creek FSR area.
	Operations	Implement improvements to the Alternate Route along H93/95	●	<ul style="list-style-type: none"> Traffic Management ongoing and active traffic monitoring during extended closure.
	Design and Construction	Provide design and technical oversight, coordinate and manage activities on site, and conduct compliance reviews.	●	<ul style="list-style-type: none"> Oversight of design build project work. Compliance reviews during construction. Review of KHCC design and management plans ongoing. Site surveillance and inspections by project team.
	Community Benefits	Work collaboratively with BCIB and successfully implement the Community Benefits Agreement.	●	<ul style="list-style-type: none"> Project Team is working with BCIB to meet labour requirements. BCIB labour working onsite; permits have been issued.
Partners/Stakeholders	Indigenous Groups	Continue to build and maintain a positive collaborative working relationship.	●	<ul style="list-style-type: none"> Continued collaboration and engagement with Indigenous Groups on key environmental values. Continued engagement with Indigenous Groups on contract and employment opportunities.
	Third Parties	Continue to build and maintain positive relationships and secure agreements with Project partners and other third parties.	●	<ul style="list-style-type: none"> Regular meetings with CP Rail.
	Public and Stakeholder Engagement	Continue to build and maintain positive relationships with the community and other stakeholders.	●	<ul style="list-style-type: none"> Ongoing work to enhance quality and reliability of traffic notifications. Website and social media updates including highway status calendar and stakeholder notices.

Status	Description
●	Managing critical issues, negotiating resolution; action required immediately
●	Managing some issues, negotiating resolution; action required in the near term
●	Stay the Course – no action required

3. Project Documents and Achievements to Date

Project Delivery	Project Planning and Development	<ul style="list-style-type: none"> • <u>Business Case Supplemental Memo (2019)</u> • <u>Cost Report (2019)</u> • <u>Risk Report (2019)</u> • Executed Design-Build-Finance Agreement (November 2020)
	Environmental	<ul style="list-style-type: none"> • <u>Environmental Synopsis Report (2016)</u> • <u>Various Environmental Reports (2005 – 2016)</u>
	Archaeology	<ul style="list-style-type: none"> • Heritage Inspection Permit 2019-0208 (2019) • Archaeological and Heritage Resource Management Plan (AHRMP),(August 2020) • Site Alteration Permit 2020-0297 (October 2020) and subsequent amendments
	Community Benefits	<ul style="list-style-type: none"> • <u>Community Benefits Agreement (July 2018)</u> • BCIB Health and Safety Program (March 2020) • BCIB Apprenticeship and Training Targets (March 2020) • <u>BCIB Sub-Appendix with the Kicking Horse Project Information (March 2020)</u> • BCIB – AIRCC Enabling Agreement Executed (May 2020)
	Third Parties	<ul style="list-style-type: none"> • Contribution Agreement – Government of Canada (2017)

4. November Highlights and Three Month Lookahead

4.1 Safety

Scope:	<ul style="list-style-type: none">• Establish Occupational Health and Safety (OH&S) Project delivery objectives and performance measures.• Manage Project OH&S activities and monitor performance metrics.• Ensure the Project complies with relevant WorkSafeBC regulations and government requirements.• Outline relevant health and safety management processes and activities.
Monthly Highlights:	<ul style="list-style-type: none">• Site safety inspection conducted on November 5, with no significant concerns identified.• 0 incidents were documented in the health and safety log for the month. Lost Time Injury Frequency Rate (LTIFR) for the Project is 0.38 which is less than the WorkSafeBC average of 2.98 for <u>heavy construction</u>.
Three Month Lookahead:	<ul style="list-style-type: none">• Maintain Province's Safety Management Plan for implementation as part of the Design Build Agreement (DBA) to align with KHCC, Transportation Investment Corporation (TIC), WSP and Ministry of Transportation and Infrastructure (MoTI) requirements.• Orientation and safety training for onsite personnel as required.• Conduct surveillance audits of KHCC's safety management performance.

4.2 Quality

Scope:	<ul style="list-style-type: none">• Establish quality management project objectives and performance measures.• Monitor relevant quality management performance metrics.• Manage project quality management activities.
Monthly Highlights:	<ul style="list-style-type: none">• Reviewed two (2) Non-Compliance Reports (NCR) received from KHCC, no significant issues found.
Three Month Lookahead:	<ul style="list-style-type: none">• Review KHCC quality specific management plans.• Oversee quality of KHCC work onsite.• Record and distribute daily observation reports of work on site.• Review KHCC quality records for compliance to the DBA.• Monthly audits of KHCC Quality processes.

4.3 Environmental

Scope:	<ul style="list-style-type: none">• Complete environmental reviews of KHCC's submissions.• Support communications team with stakeholder engagement.• Provide environmental support to Project as and when needed.
Monthly Highlights:	<ul style="list-style-type: none">• Reviewed and commented on KHCC submissions, permits and designs.• Site environmental surveillance and reporting including spill response review.

	<ul style="list-style-type: none"> • Collaborated with the Golden and District Rod and Gun Club and the Ktunaxa Nation Council on bighorn sheep monitoring.
Three Month Lookahead:	<ul style="list-style-type: none"> • Review and comment on KHCC’s environmental submissions. • Provide environmental support to Project. • Site environmental surveillance.

4.4 Archaeology

Scope:	<ul style="list-style-type: none"> • Managing, directing, and undertaking all archaeological work, including Archaeology Impact Assessment (AIA), Systematic Data Recovery (SDR), and archaeological monitoring. • Providing the Province and KHCC with information for the management of archaeological and heritage resources. • Responding to chance archaeological or heritage finds.
Monthly Highlights:	<ul style="list-style-type: none"> • Investigation permit issued by the Archaeology Branch. • Archaeological monitoring and data collection undertaken in the Caribou area. • Started SDR along the Dart Creek Forest Service Road (FSR) including setup of winter archaeology equipment.
Three Month Lookahead:	<ul style="list-style-type: none"> • SDR work along Dart Creek Forest Service Road. • Artifact analysis ongoing in the laboratory. • Alteration permit amendment request submissions, as required.

4.5 Operations

Scope:	<ul style="list-style-type: none"> • Develop plans for managing traffic along the Alternate Route H93/95 during full project closures. • Develop and implement plans for enhancements along Arterial Route in Golden to support Alternate Route. • Establish agreements with other jurisdictions for provision of services along the Alternate Route.
Monthly Highlights:	<ul style="list-style-type: none"> • Monitored commuter and school bus passage. • Daily construction camera imagery uploaded and displayed in Golden office. • Commuter/day pass management ongoing through the end of November. • Provided passage through site for the group “Every Child Matters” (both on their way on November 8, and on their return on November 23). • Monitored alternate route performance, including setting up temporary chain-up area in Radium.
Three Month Lookahead:	<ul style="list-style-type: none"> • Develop commuter/day pass program for 2022. • Monitor DB traffic management performance through site and into the next extended closure. • Discussions with Parks Canada to address issues they have experienced along Hwy. 93 south during extended closures.

4.6 Design and Construction

Scope:	<ul style="list-style-type: none"> • Travel demand forecasting, traffic operations modelling, traffic data collection, and other related engineering services in support of the traffic management regime proposed for the Project. • Provide technical support to the Project Team during the review of contractor submittals. • Oversight of design build project work. • Compliance reviews during construction.
Monthly Highlights:	<ul style="list-style-type: none"> • Participated in KHCC submission reviews; managed design and construction issues (e.g., archaeology permits, geotechnical baseline, avalanche ditch widths). • Reviewed weekly and monthly slope survey monitoring program deliverables. • Full highway closure ended on December 1. • Sheep’s Bridge - Girder installation completed. Deck panel and parapet installation began. Diaphragm formwork at abutments continued. • Bighorn Wall – Foundation pile installation, pile cap, and cast in place wall and backfill for pavement structure continued. • Bighorn Viaduct – Foundation pile installation for eastbound (EB) lanes continued. • Bighorn Bridge – Foundation pile installation including transition piers, abutments pier cap, column, and pile cap construction continued. • Lynx Viaduct – Pile installation continued with eastbound bents first to facilitate traffic phasing. • Frenchman’s Bridge – Fence installation and access road pioneering completed with temporary crane trestle installation underway. Temporary slope stabilization and foundation pile installation continued, with foundation pile installation beginning in Dec 2021. • Elk Viaduct – Mid-slope foundation pile installation continued. • Cut 2 – Drill, blast, excavation, and haul to Dart Creek surplus disposal site continued. Cut scheduled for completion end of Dec 2021. • Cut 3 – Type D (overburden) and Type A (Rock) excavation continued. All excavated materials are being hauled to the Dart Creek surplus disposal site. Blast sizes are approaching 4,000m³ with approximately 3 blasts per week. • Cut 4 – Mechanical rock excavation in the Cut 4 area (Blackwall) continued. • Grizzly Walls / Viaduct – Foundation pile installation continued for EB lanes. • Blackwall Bridge – Access road construction and slope stabilization to east and west abutments and piers continued. Temporary crane trestles being constructed. East and west transition pier construction continued. • Caribou Fill/Wall – Access excavation and L-30 access road construction pending final design for Caribou Viaduct and Wall. • Hedgehog Wall / Viaduct – Foundation pile installation commenced.
Three Month Lookahead:	<ul style="list-style-type: none"> • Continue participation in weekly meetings with KHCC and CP. • Province review of designs and management plans as design is finalized.

	<ul style="list-style-type: none"> • Manage slope survey monitoring consultant. • Undertake site surveillance, inspections, and audits by project team, including OE Lead Engineer, OE Quality Manager, and OE Safety Advisor. • Blasting for rock cuts and installation of bridge and wall foundation piles ongoing throughout winter (weather dependant).
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4.7 Indigenous Groups

Scope:	<ul style="list-style-type: none"> • Fulfill Province’s duty to consult and accommodate identified Indigenous communities and facilitate engagement and collaboration with communities on environmental and socio-economic interests.
Monthly Highlights:	<ul style="list-style-type: none"> • Bighorn sheep monitoring performed by the Ktunaxa Nation Council (KNC) and the Golden and District Rod and Gun Club. • Project team meetings with Indigenous communities. • Continued collaboration with KHCC Indigenous Contracting and Employment Coordinator (ICEC) on employment opportunities for Indigenous groups.
Three Month Lookahead:	<ul style="list-style-type: none"> • Continue regular meetings with all identified Indigenous groups, including the Pespesellkwe, Ktunaxa, and Shuswap Indian Band. • Continue collaboration with KHCC ICEC to ensure Schedule 22 DBA requirements are met. • Continue collaboration with KHCP4 environment team to ensure Indigenous groups’ concerns are considered in the Construction Environmental Management Plan (CEMP) review. • Bighorn sheep monitoring and collaring with KNC and Golden Rod and Gun Club.

4.8 Third Parties

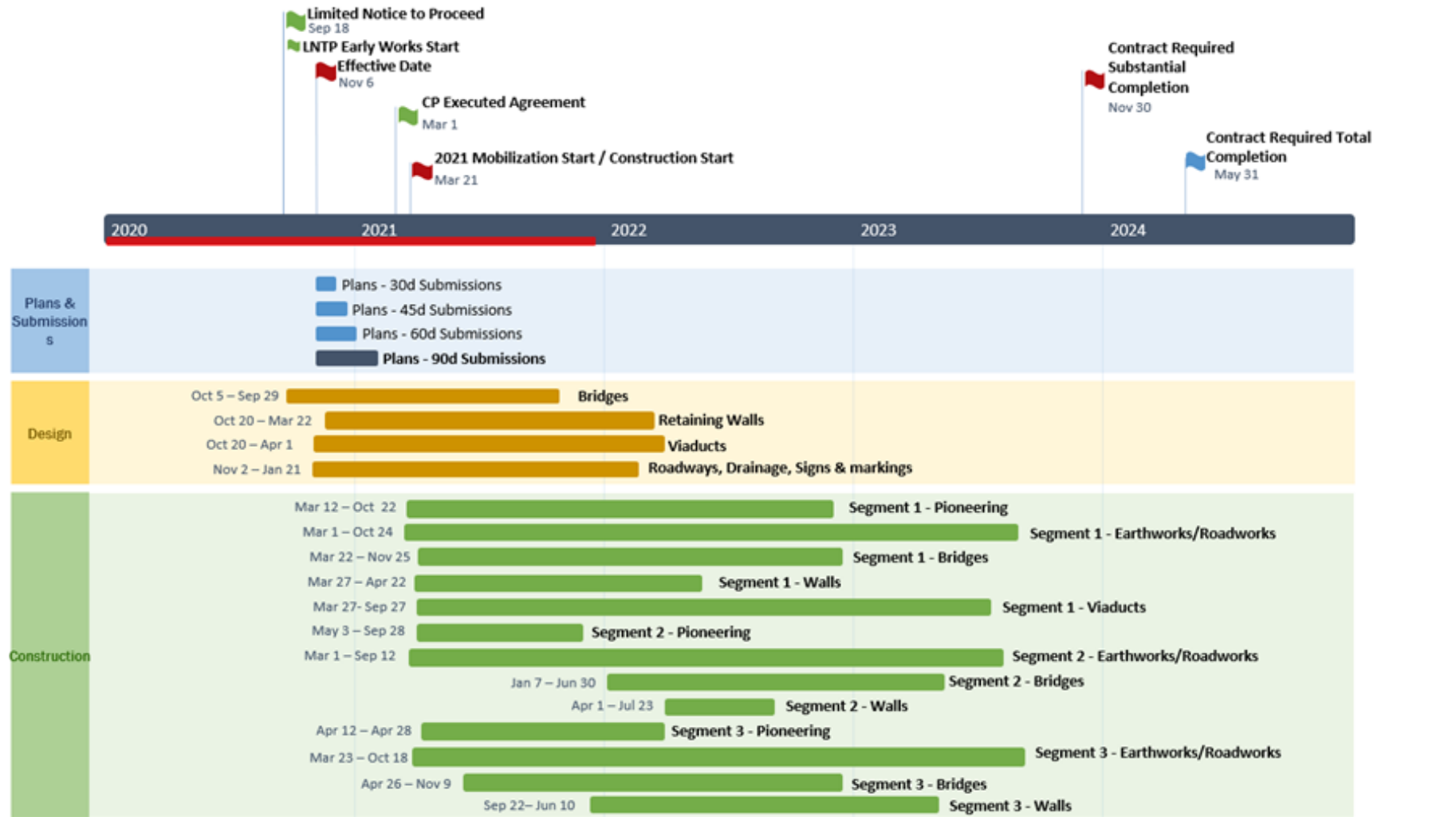
Scope:	<ul style="list-style-type: none"> • Develop utilities and rail agreements as required. • Secure local and regional government approvals as required.
Monthly Highlights:	<ul style="list-style-type: none"> • No significant utilities activities during reporting period. • Regular meetings with CP Rail.
Three Month Lookahead:	<ul style="list-style-type: none"> • Continue implementation of Protocol Agreement. • Review of KHCC utilities designs ongoing. • Finalize the phase 1a costs and Letter of Authority for BC Hydro and KHCC. • Review final design for phase 2 temporary utility relocation. • Coordinate blasting with CP; blasting ongoing Cut 2 and Cut 3, first blast above CP (Cut #1) expected April 2022. • Resolution of CP request to increase size of track-level culverts.

4.9 Public and Stakeholder Engagement

Scope:	<ul style="list-style-type: none">• Manage ongoing public and stakeholder communications and engagement.
Monthly Highlights:	<ul style="list-style-type: none">• Released monthly project newsletter.• Responded to public/stakeholder inquiries.• Presented project progress to Golden Town Council on November 16.
Three Month Lookahead:	<ul style="list-style-type: none">• Oversight of KHCC's Communication and Public Engagement obligations and activities.• Build awareness of construction and traffic management activities with media info bulletins/interviews, website updates, newsletters and advisories, and social media.• Continue direct dialogue with key stakeholders and Community Liaison Committee.• Public information webinar on project progress in the winter.• Update local government on project progress.

5. Schedule

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



6. Project Photos



Figure 1: Sheep's Bridge – Installing 90mm thick precast deck panels – Nov 1, 2021



Figure 2: Grizzly 4 – Crews installing piles – Nov 8, 2021



Figure 3: Blackwall Bridge – Crews installing soil anchors – Nov 9, 2021



Figure 4: Bighorn Bridge – Heat and hoarding pier cap during curing process – Nov 13, 2021



Figure 5: Lynx Viaduct crews installing piles – Nov 25, 2021



Figure 6: Marmot – SR40 piling at marmot with Basis Engineering performing checks – Nov 30, 2021