

# Monthly Status Report

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**Reporting Period**  
**May 2022**

# 1. Introduction

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## 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:** Constructable and operable.

## 2. Project Update

### 2.1 Project Dashboard

Objectives		Project Status	Comments
Project Delivery	Scope	●	<ul style="list-style-type: none"> <li>• 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.</li> </ul>
	Schedule	●	<ul style="list-style-type: none"> <li>• The Project is on schedule to be completed by winter 2023/2024.</li> </ul>
	Budget	●	<ul style="list-style-type: none"> <li>• The Project spending for the month of May 2022 was \$16.8 million and total project spending to date is \$325.8 million.</li> <li>• Total Federal Recoveries to date are \$145.1 million.</li> <li>• The Project is forecast to be delivered within budget.</li> </ul>
	Safety	●	<ul style="list-style-type: none"> <li>• Workplace Occupational Health and Safety (OHS) committee is in place and active.</li> <li>• The Health and Safety Plan for Project work is in place which includes specific COVID-19 protocols.</li> <li>• Lost Time Injury Frequency Rate (LTIFR) for the Project remains at 0. The 2020 average Injury Rate for Heavy Construction (Bridge, Overpass, or Viaduct Construction or Repair) is 1.1 as per <a href="#">WorkSafeBC</a>.</li> </ul>

Objectives		Project Status	Comments
Partners/Stakeholders	<b>Quality</b>	●	<ul style="list-style-type: none"> <li>Daily quality monitoring ongoing with no major issues observed.</li> </ul>
	<b>Environmental</b>	●	<ul style="list-style-type: none"> <li>Ongoing submission reviews for management plans.</li> <li>Ongoing weekly site surveillance visits.</li> </ul>
	<b>Archaeology</b>	●	<ul style="list-style-type: none"> <li>Site alteration permit amendment issued on May 30, 2022, to allow for sediment removal along the Dart Creek Forestry Service Road (FSR).</li> <li>Sediment stockpile reconfiguration commenced on May 31, 2022.</li> </ul>
	<b>Design and Construction</b>	●	<ul style="list-style-type: none"> <li>Oversight of Design-Build-Agreement (DBA) Project work.</li> <li>Compliance reviews during construction.</li> <li>Ongoing review of KHCC design and management plans ongoing.</li> <li>Site surveillance and inspections by Project Team.</li> <li>Ongoing traffic management ongoing and active traffic monitoring during extended closure.</li> </ul>
	<b>Community Benefits</b>	●	<ul style="list-style-type: none"> <li>Ongoing coordination and collaboration with BCIB to implement the CBA and meet workforce requirements.</li> </ul>
Partners/Stakeholders	<b>Indigenous Groups</b>	●	<ul style="list-style-type: none"> <li>Continued collaboration and engagement with Indigenous Groups on key environmental values.</li> <li>Continued engagement with KHCC and Indigenous Groups on contract and employment opportunities.</li> </ul>
	<b>Third Parties</b>	●	<ul style="list-style-type: none"> <li>Regular meetings with CP Rail.</li> <li>Temporary and permanent designs progressing with BC Hydro</li> </ul>
	<b>Public and Stakeholder Engagement</b>	●	<ul style="list-style-type: none"> <li>Ongoing work to enhance quality and reliability of traffic notifications.</li> <li>Website and social media updates including highway status calendar and stakeholder notices.</li> </ul>

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

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

## 4. May Highlights and Three Month Lookahead

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### 4.1 Safety

<b>Scope:</b>	<ul style="list-style-type: none"><li>• Establish Occupational Health and Safety (OH&amp;S) Project delivery objectives and performance measures.</li><li>• Manage Project OH&amp;S activities and monitor performance metrics.</li><li>• Ensure the Project complies with relevant WorkSafeBC regulations and government requirements.</li><li>• Outline relevant health and safety management processes and activities.</li></ul>
<b>Monthly Highlights:</b>	<ul style="list-style-type: none"><li>• Site Safety Audit was conducted by Project safety advisor on May 19, 2022. No findings reported in the audit. Next audit scheduled for mid-June 2022.</li><li>• No first aid incidents were documented in the health and safety log in May. Lost Time Injury Frequency Rate (LTIFR) for the Project is 0, which is less than the WorkSafeBC 2020 average of 1.1 for Bridge, Overpass, or Viaduct Construction or Repair (subsector Heavy Construction).</li></ul>
<b>Three Month Lookahead:</b>	<ul style="list-style-type: none"><li>• Maintain Province’s Safety Management Plan for implementation as part of the Design-Build-Finance Agreement to align with KHCC, Transportation Investment Corporation (TIC), the Owners Engineer (OE) and Ministry of Transportation and Infrastructure requirements.</li><li>• Orientation and safety training for onsite personnel as required.</li><li>• Conduct surveillance audits of KHCC’s safety management performance.</li></ul>

### 4.2 Quality

<b>Scope:</b>	<ul style="list-style-type: none"><li>• Establish quality management Project objectives and performance measures.</li><li>• Monitor relevant quality management performance metrics.</li><li>• Manage Project quality management activities.</li></ul>
<b>Monthly Highlights:</b>	<ul style="list-style-type: none"><li>• Reviewed three (3) Non-Compliance Reports (NCR) received from KHCC, no significant issues found. Suitable corrective actions were identified.</li><li>• The Quality Advisor completed a site visit on May 30-31, 2022, no significant issues found.</li></ul>
<b>Three Month Lookahead:</b>	<ul style="list-style-type: none"><li>• Review KHCC quality specific management plans.</li><li>• Oversee quality of KHCC work onsite.</li><li>• Record and distribute daily observation reports of work onsite.</li><li>• Review KHCC quality records for compliance to the DBA.</li><li>• Monthly audits of KHCC quality processes.</li></ul>

### 4.3 Environmental

<b>Scope:</b>	<ul style="list-style-type: none"><li>• Complete environmental reviews of KHCC’s submissions.</li><li>• Support communications team with stakeholder engagement.</li><li>• Conduct site surveillance and provide environmental support to Project as and when needed.</li></ul>
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<b>Monthly Highlights:</b>	<ul style="list-style-type: none"> <li>• Reviewed and commented on KHCC submissions, permits and designs.</li> <li>• Ongoing reporting of site environmental surveillance.</li> <li>• Installed additional measures to protect bighorn sheep.</li> </ul>
<b>Three Month Lookahead:</b>	<ul style="list-style-type: none"> <li>• Review and comment on KHCC's environmental submissions.</li> <li>• Conduct site environmental surveillance.</li> <li>• Continued collaboration with the Golden District Rod and Gun Club and the Ktunaxa Nation Council on bighorn sheep monitoring.</li> </ul>

#### 4.4 Archaeology

<b>Scope:</b>	<ul style="list-style-type: none"> <li>• Managing, directing, and undertaking all archaeological work, including Archaeology Impact Assessment (AIA), Systematic Data Recovery (SDR), and monitoring.</li> <li>• Providing the Province and KHCC with information for the management of archaeological and heritage resources.</li> <li>• Responding to chance archaeological or heritage finds.</li> </ul>
<b>Monthly Highlights:</b>	<ul style="list-style-type: none"> <li>• Ongoing lithic analysis and reporting.</li> <li>• Received site alteration permit amendment on May 30, 2022.</li> <li>• Began sediment stockpile reconfiguration started on May 31, 2022.</li> </ul>
<b>Three Month Lookahead:</b>	<ul style="list-style-type: none"> <li>• Continue artifact analysis and cataloging in the laboratory.</li> <li>• Submit alteration permit amendment requests, as required.</li> <li>• Sediment removal along Dart Creek Forest Service Road (FSR) on schedule to start in early June.</li> </ul>

#### 4.5 Design and Construction

<b>Scope:</b>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Provide technical support to the Project Team during the review of contractor submittals.</li> <li>• Oversight of DBA Project work.</li> <li>• Compliance reviews during construction.</li> <li>• Develop plans for managing traffic along the Alternate Route Highway 93/95 during full Project closures.</li> <li>• Establish agreements with other jurisdictions for provision of services along the Alternate Route.</li> </ul>
<b>Monthly Highlights:</b>	<ul style="list-style-type: none"> <li>• KHCC has 5 pile installation rigs and 6 available crews on rotation conducting foundation pile installation operations, working primarily on the eastbound lanes underway throughout the Project.</li> <li>• Extended traffic closure ended on May 20, 2022.</li> <li>• Site visit for geotechnical review completed on May 3, 2022.</li> </ul>

- Sheep’s Bridge – Concrete deck placement complete with parapet formwork and casting underway.
- Bighorn Wall – Wall is complete.
- Bighorn Viaduct – Foundation pile and pier cap installation for eastbound lanes ongoing.
- Bighorn Bridge – Foundation and substructures are complete with steel girder installation and completion of east and west transition piers currently underway.
- Lynx Viaduct – Pile installation and precast pier caps and box girders ongoing with eastbound bents.
- Frenchman’s Bridge – East and west transition pier work underway including temporary works to construct crane pads.
- Elk Viaduct – Mid-slope foundation pile installation ongoing.
- Cut 1 – Pioneering work still underway before production rock excavation can begin.
- Cut 2 – Cut 2 is complete.
- Cut 3 – Type D (overburden) and Type A (rock) excavation paused. Cut 3 excavation temporarily halted to facilitate pre-build laydown for girder launches at Bighorn Bridge.
- Dart Creek Forest Service Road (FSR) – Road upgrade and alignment ongoing. FSR being used for heavy haul to Surplus Disposal Site and being maintained by KHCC.
- Dart Creek diversion and rock armouring complete including box culvert under Highway 1.
- Cut 4 – Mechanical rock excavation in the Cut 4 area (Blackwall) is ongoing as required for access to foundation locations.
- Bison Upslope Wall – Erosion and worker protection in place and soil/rock anchors and shotcrete being installed.
- Pronghorn Upslope Wall – Additional geotechnical work underway.
- Grizzly Walls / Viaduct – Foundation pile installation ongoing for east bound lanes. Mechanically Stabilized Earth (MSE) wall at Grizzly wall 2 is ongoing.
- Blackwall Bridge – East and west transition pier construction ongoing.
- Marmot Viaduct – Foundation pile installation ongoing.
- Caribou Fill/Wall – Stabilization pile installation ongoing.
- Hedgehog Wall/Viaduct – Foundation pile installation ongoing.

**Three Month  
Lookahead:**

- Province review of designs and management plans as designs are finalized.
- 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.
- Continue blasting for rock cuts and installing bridge and wall foundation piles throughout spring/summer (weather dependant).
- Monitor KHCC traffic management performance through site and into the next extended closure.



## 4.6 Indigenous Groups

<b>Scope:</b>	<ul style="list-style-type: none"> <li>• Fulfill Province’s duty to consult and accommodate Identified Indigenous communities and facilitate engagement and collaboration with communities on environmental and socio-economic interests.</li> </ul>
<b>Monthly Highlights:</b>	<ul style="list-style-type: none"> <li>• Project Team meetings with Indigenous communities.</li> <li>• Continued collaboration with KHCC Indigenous Contracting and Employment Coordinator (ICEC) on employment opportunities for Indigenous Groups.</li> <li>• Installed temporary mitigation measures for wildlife, including temporary fencing, rumble strips and enhanced signage, along the alternate route.</li> </ul>
<b>Three Month Lookahead:</b>	<ul style="list-style-type: none"> <li>• Continue regular meetings with all Identified Indigenous Groups, including the Pespesellkwe, Ktunaxa, and Shuswap Indian Band.</li> <li>• Continue collaboration with KHCP4 environment team to ensure Indigenous Groups’ concerns are considered in the Construction Environmental Management Plan (CEMP) review.</li> <li>• Continue monitoring and collaring of Bighorn sheep with Ktunaxa Nation Council (KNC) and Golden Rod and Gun Club.</li> </ul>

## 4.7 Third Parties

<b>Scope:</b>	<ul style="list-style-type: none"> <li>• Develop utilities and rail agreements as required.</li> <li>• Secure local and regional government approvals as required.</li> </ul>
<b>Monthly Highlights:</b>	<ul style="list-style-type: none"> <li>• Regular meetings with CP Rail.</li> <li>• Completed design review of permanent utility alignment.</li> </ul>
<b>Three Month Lookahead:</b>	<ul style="list-style-type: none"> <li>• Continue implementation of Protocol Agreement.</li> <li>• Ongoing review of KHCC utility designs.</li> <li>• Review final design for Phase 2 temporary utility relocation.</li> <li>• Coordinate blasting with CP.</li> <li>• Resolution of CP request to increase size of track-level culverts.</li> </ul>

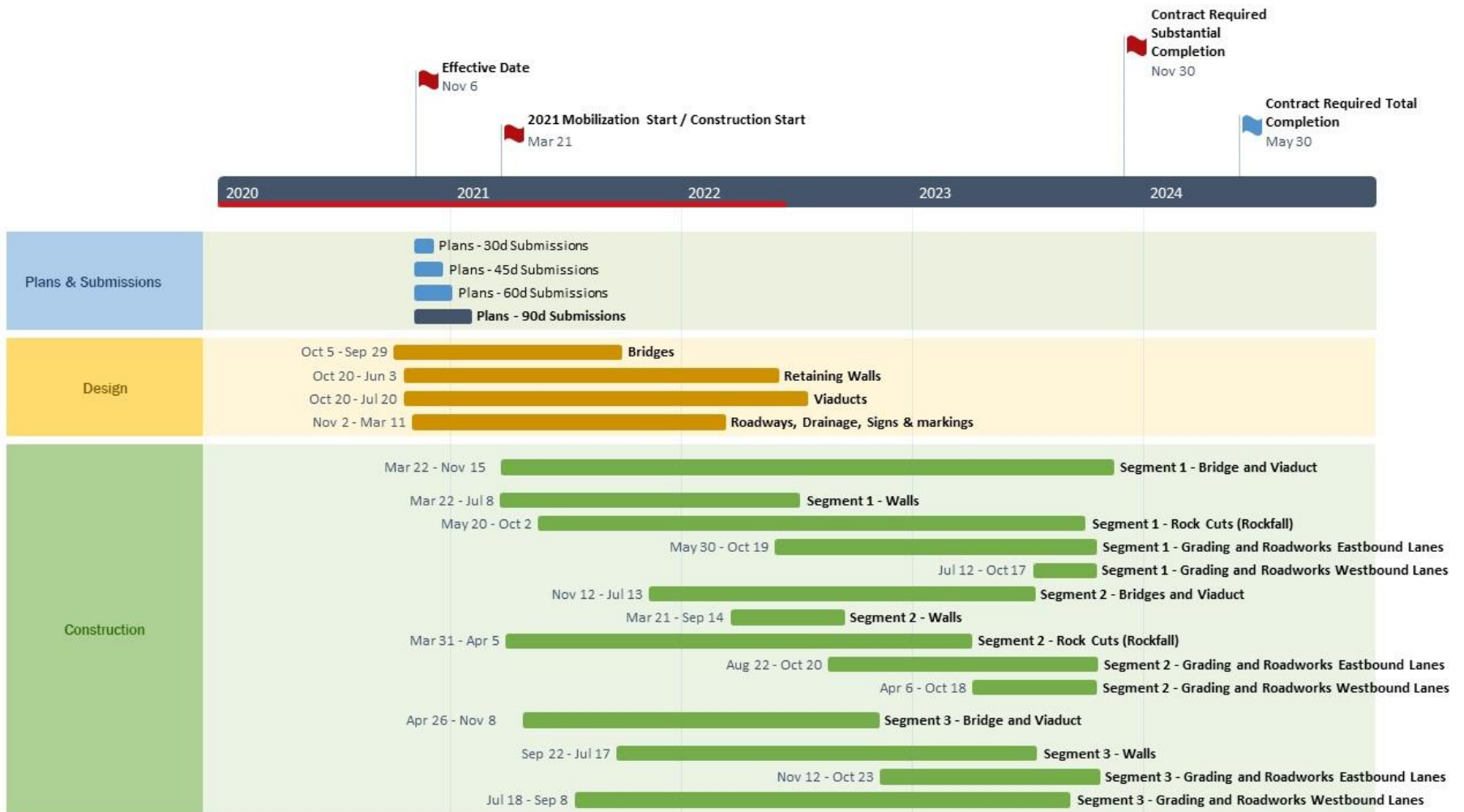
## 4.8 Public and Stakeholder Engagement

<b>Scope:</b>	<ul style="list-style-type: none"> <li>• Manage ongoing public and stakeholder communications and engagement.</li> </ul>
<b>Monthly Highlights:</b>	<ul style="list-style-type: none"> <li>• Released monthly Project newsletter.</li> <li>• Responded to public/stakeholder inquiries.</li> <li>• Continued day pass program management.</li> <li>• Provided a Project update to the BC Trucking Association.</li> </ul>
<b>Three Month Lookahead:</b>	<ul style="list-style-type: none"> <li>• Oversight of KHCC's Communication and Public Engagement obligations and activities.</li> <li>• Build awareness of construction and traffic management activities with media info bulletins/interviews, website updates, newsletters and advisories, and social media.</li> </ul>

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- Continue direct dialogue with key stakeholders and Community Liaison Committee (next meeting scheduled for June 2022).
  - Continue to manage commuter/day pass program for 2022.
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## 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

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**Figure 1: Bighorn Bridge – Cross-bracing installation in progress – May 28, 2022**



**Figure 2: Blackwall Bridge – Pouring concrete for pier column – May 13, 2022**



**Figure 3: Grizzly Viaduct – Crane pads installation ongoing – May 25, 2022**



**Figure 4: Lynx Viaduct– Pouring concrete keyway's at Span 2 – May 27, 2022**



**Figure 5: Frenchman's Bridge – Center pier cap formwork – May 25, 2022**



**Figure 6: Cut 1 – Pioneering work continues at east end of Cut 1 – May 30, 2022**