

SITE NUMBER AND NAME: S045-1 West Fisher Creek	HIGHWAY & KM: 549:02, 10.704	PREVIOUS INSPECTION DATE: May 9, 2023	INSPECTION DATE: May 26, 2025
LEGAL DESCRIPTION: 16-08-021-03 W5M	NAD 83 COORDINATES: UTM Northing Easting 11 5626463 683084	RISK ASSESSMENT: PF: 1 CF: 6 TOTAL: 6	
AVERAGE ANNUAL DAILY TRAFFIC (AADT): 800 (east), (Ref. No. 65170)		CONTRACTOR MAINTENANCE AREA (CMA): 521	

SUMMARY OF SITE INSTRUMENTATION: There is no instrumentation at the S045-1 site. LAST READING DATE: N/A	INSPECTED BY: Chris Gräpel (KCB) Jorge Rodriguez (KCB) Karen Masterson (KCB) Alex Frotten (TEC) Rishi Adhikari (TEC)
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PRIMARY SITE ISSUE: Erosion of the left riverbank/south highway embankment slope due to surface water runoff from the highway surface and creek erosion during high flow events in Fisher Creek. The erosion had retrogressed to within approximately 1 m of the edge of the highway before being repaired in 2024.

APPROXIMATE DIMENSIONS: The site is approximately 70 m long.

DATE OF ANY REMEDIAL ACTION: 2014 – A high-tension cable barrier (HTCB) was installed along the south (eastbound) lane. September and October 2024 – the site was repaired as part of CON0022020. The embankment slope was excavated and reconstructed with geogrid-reinforced granular fill (Des. 2 Cl. 40). The bottom portion of the slope was armoured with Class 2 riprap, and a brush layer (a line of approximately 1,600 live willow cuttings) was installed within the riprap particles. The slope was hydroseeded, and the mixture included a bonded-fibre matrix (BFM) due to the relatively steep slope.

ITEM	CONDITION EXISTS		DESCRIPTION AND LOCATION	NOTICABLE CHANGE FROM LAST INSPECTION	
	YES	NO		YES	NO
Pavement Distress		X	N/A – none observed during the 2025 inspection.		X
Slope Movement		X	The previously over-steepened and eroding highway embankment slope/riverbank was stabilized in 2024 with geogrid-reinforced fill and riprap armouring.	X	
Erosion		X	Erosion due to precipitation, surface water runoff from the highway, and creek erosion was repaired in 2024 by rebuilding the slope with geogrid-reinforced granular fill and riprap armouring.	X	
Seepage		X	N/A – none observed during the 2025 inspection.	X	
Culvert Distress		X	N/A – none observed during the 2025 inspection.		X

COMMENTS

General:

- Fisher Creek, in this reach, is a freely meandering stream in a wide silt-sand-gravel plain, showing cut-offs, oxbow lakes, meander scars and point bars. This bank has a high attack angle (85°).
- KCB submitted a proposal to TEC in 2017 for the provision of engineering and environmental services for the rehabilitation of the scope. The proposal was approved and between 2017 and 2024, KCB submitted the following deliverables to TEC:
 - Fish and Fish Habitat Assessment (FFHA) issued on September 14, 2022.
 - Environmental Evaluation (EE) issued on October 10, 2022.
 - *Water Act* approval supporting documentation was submitted on December 14, 2022.
 - Environmental Risk Assessment (ERA, also included as part of the tender package) issued on December 18, 2023.
 - Preliminary Engineer Report (PER) issued on July 10, 2019.
 - Tender (Tender No. TND0022020) package (including tender specifications, Issued for Tender (IFT) drawings, C-estimate, ERA, and tender submission letter) was issued on June 17, 2024.
 - The contract (Contract No. CON0022020) was awarded to Devcon Inc. (Devcon) on August 14, 2024.
- The one active TELUS communications line was temporarily relocated to above-ground during construction along the crest of the slope. The four inactive lines were removed by Devcon during construction.
- Construction was completed by Devcon between September 3, 2024, and October 15, 2024. The contract was administered by KCB, and we were on-site, full-time, monitoring construction. The scope of the repair included removing and reinstalling the HTCB, turbidity monitoring, fish isolation and rescue, in-stream work, strip, salvage, and respread topsoil, excavating and reconstructing the highway embankment with geogrid-reinforced granular fill (Des. 2 Cl. 40), armouring the embankment with Class 2 riprap (including the installation of a brush layer), replacing the existing barbed wire fence, and hydro seeding disturbed areas. KCB issued the Final Details Report on March 31, 2025.

S045-1:

- No new pavement distress (cracking or settlement) was observed along the crest of the slope.
- The repair work completed in 2024 appears to be in good condition and performing well.
- The reconstructed slope appears relatively even, and no visual evidence of post-construction movement was observed.
- The BFM spread during construction appeared thick, and grass is beginning to grow on the repaired slope.
- The Class 2 riprap particles appeared to have been placed well (i.e., dense arrangement of riprap particles).
- The brush layer installed in the riprap appeared to be growing well along the length of the repair.
- Fisher Creek appears narrow along the repair, and there is evidence of the south (right) bank being inundated (i.e., grass appeared underwater), which should result in the bank being eroded back to where it was before the highway embankment began to erode.

Maintenance/Repair/Monitoring Recommendations:

- The site should be regularly inspected by the Maintenance Contract Inspector (MCI).
- The site should be inspected once per contract as part of the Southern Region GRMP Section B inspections. TEC could consider removing the S45-1 site from the GRMP in the next contract cycle.
- Complete the warranty inspection by TEC, KCB, and Devcon in late-summer or early-fall 2025.

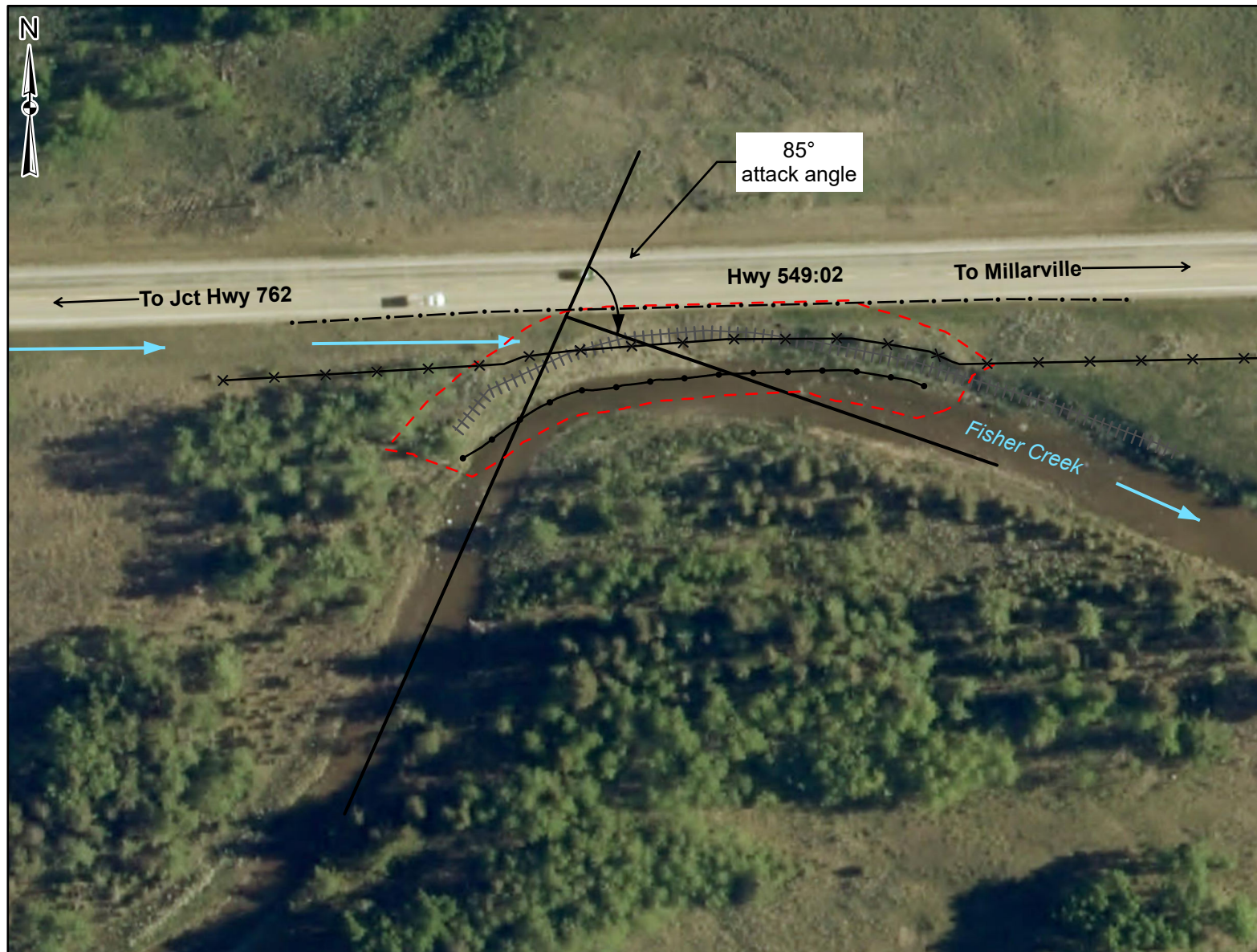
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Jorge Rodriguez, Ph.D., M.Sc., P.Eng.
Geotechnical Engineer



Legend

- | | |
|----------------|---------------|
| Flow Direction | Fence |
| Bank Erosion | Existing HTCB |
| Repaired Slope | Brush Layer |

NOTES:
1. HORIZONTAL DATUM: NAD83
2. GRID ZONE: UTM ZONE 11N
3. IMAGE SOURCE: MAXAR 2025

CLIENT

Alberta

Klohn Crippen Berger

PROJECT

SOUTHERN REGION GEOHAZARD RISK MANAGEMENT PROGRAM

TITLE

Site Plan
S045-1 - West Fisher Creek
Hwy 549:02, km 10.704

SCALE
1:1,000

PROJECT No. A05116A03

FIG No. 1

Inspection Photographs

Photo 1 Aerial view of the S045-1 site showing the repair extents. Photo taken May 26, 2025, facing northwest.



Photo 2 **Aerial view of the S045-1 site showing the repair extents. Photo taken May 26, 2025, facing northeast.**



Photo 3 The east end of the S045-1 site. The 2024 repair (new barbed wire fence, reconstructed slope, riprap armouring, and brush later) appeared to be in good condition. Photo taken May 26, 2025, facing west.



Photo 4 The west extent of the S045-1 site. The riprap appeared to be well-placed, and the brush layer appeared to be growing well during the inspection. Photo taken May 26, 2025, facing west.



Photo 5 **The Class 2 riprap was in good condition and the brush layer appeared to be growing well. Photo taken May 26, 2025 facing east.**



Photo 6 **The crest of the slope between the HTCB and barbed wire fence was relatively smooth, and grass was growing on the slope. Photo taken May 26, 2025, facing east.**

