

SITE NUMBER AND NAME: S077 South Ghost Erosion	HIGHWAY & KM: 40:14, 29.00	PREVIOUS INSPECTION DATE: May 27, 2024	INSPECTION DATE: May 26, 2025
LEGAL DESCRIPTION: SW 20-27-07-W5M	NAD 83 COORDINATES: UTM Northing Easting 11 5686872 642530	RISK ASSESSMENT: PF: 9 CF: 3 TOTAL: 27	
Average Annual Daily Traffic (AADT): 175 (north) & 265 (south) (Reference No. 00401450)		CONTRACTOR MAINTENANCE AREA (CMA): 520	

SUMMARY OF SITE INSTRUMENTATION: There is no instrumentation at the S077 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: Over-steepening of the creek bank/highway embankment slope due to surface water runoff erosion and creek erosion. Erosion has undermined the west (southbound) shoulder and is retrogressing to the driving lane of the highway. The west ditch has been undermined and is draining directly into the erosion feature, then into the creek.
APPROXIMATE DIMENSIONS: The erosion scarp encroaching on the edge of the highway is approximately 30 m in length. The highway embankment/creek bank is approximately 3 m tall.
DATE OF ANY REMEDIAL ACTION: N/A

ITEM	CONDITION EXISTS		DESCRIPTION AND LOCATION	NOTICABLE CHANGE FROM LAST INSPECTION	
	YES	NO		YES	NO
Pavement Distress	X		The highway has a gravel surface. Erosion of the embankment is undermining the west (southbound) shoulder and is encroaching upon the driving lane.		X
Slope Movement		X	N/A – none observed during the 2025 inspection.		X
Erosion	X		Surface water runoff from highway has formed an erosion gully. Erosion at the toe of the highway embankment from creek flow.		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

S077:

- At the site, Hwy 40:14 is a two-lane gravel road, oriented approximately southeast to northwest.
- The highway embankment is located adjacent to a small unnamed creek. The creek flows from north to south. During the 2025 inspection, there was low to moderate flow in the creek, higher than during the 2024 inspection (Photo 1 and 2).
- The east bank of the creek (highway embankment slope) is eroding the shoulder of the west (southbound) lane. The erosion is over a length of approximately 30 m (Photo 1 and 2).
- The erosion has over-steepened the highway embankment slope to approximately 1H:1V, which could lead to embankment instability.
- Surface water runoff from the highway is contributing to erosion of the creek bank/west highway embankment slope. Surface water runoff from the highway is being concentrated at the north extent of the site and has formed an erosion gully approximately 0.5 m to 1.0 m wide and 0.3 m deep. The erosion gully will continue to increase in size (depth and width) if not repaired. The rate of erosion will likely be exacerbated by periods of heavy or prolonged rainfall. The erosion gully does not appear to have increased in size between the 2024 and 2025 inspections.
- A buried TELUS communication line runs along the west side of the highway and is exposed within the erosion feature (Photo 2). KCB submitted a one-call ticket which confirmed the line is active.

Maintenance/Repair/Monitoring Recommendations:

Short-term:

- The site should be regularly inspected by the Maintenance Contract Inspector (MCI).
- The site should be inspected annually as part of the Southern Region GRMP Section B inspections.
- Hazards signs should be installed by TEC's HMC, northwest of the site, to warn road users of the sharp shoulder. If left unrepaired, a guardrail or temporary barriers should be installed along the site.

Long-term:

- The creek bank/highway embankment should be reconstructed with geogrid-reinforced granular fill. The toe of the slope should be armoured with riprap or concrete lock blocks. The repair work should address the surface water runoff from the highway surface. Depending on the final grade of the reconstructed slope, a guardrail may need to be installed along the site.
- The TELUS line should be relocated or trenched within the east highway embankment.

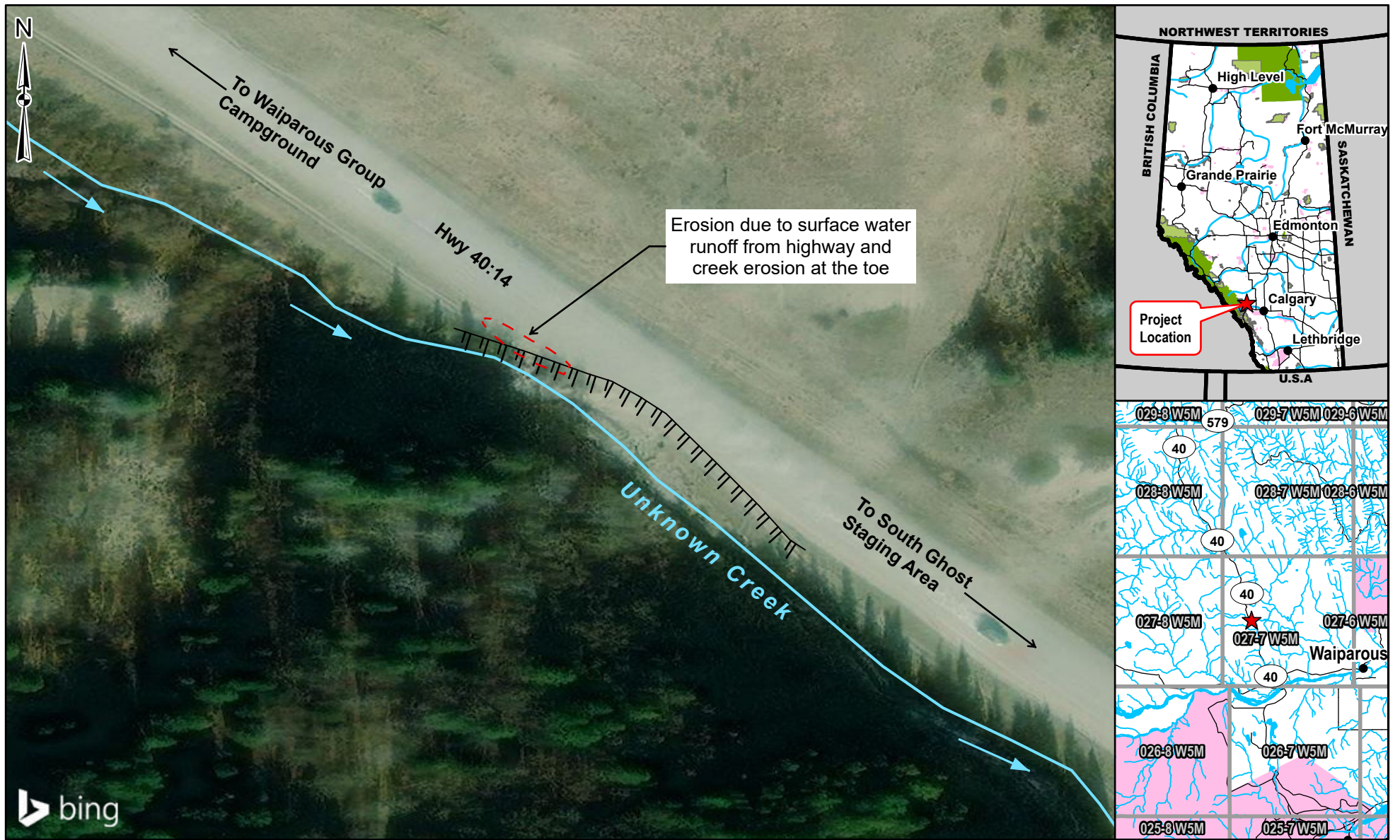
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Jorge Rodriguez, Ph.D., M.Sc., P.Eng.
Geotechnical Engineer



Legend

- Main Scarp
- Flow Direction
- Watercourse

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
S077 - South Ghost Erosion
Hwy 40:14, km 29.00

SCALE 1:1,250

PROJECT No. A05116A03

FIG No. 1

Inspection Photographs

- Photo 1** Erosion scarp encroaching the edge of the west (southbound) shoulder and is at the edge of the driving lane (indicated by red arrow). Photo taken May 26, 2025, facing northwest.



- Photo 2** Black utility line runs through the site and was exposed due to ongoing erosion at the site. Photo taken May 26, 2025, facing northwest.

