CENTRAL REGION GRMP
SITE INSPECTION FORM

SITE NUMBER AND NAME: **C078 Shunda Creek Rockfall**	HIGHWAY & KM: H11:06, 6.17	PREVIOUS INSPECTION DATE: June 27, 2023	INSPECTION DATE: **June 9, 2025**
LEGAL DESCRIPTION: 16-36-40-15 W5	NAD 83 COORDINATES: UTM 11 Northing 5816109 Easting 566557	RISK ASSESSMENT: PF: 11 CF: 2 TOTAL: 22	
HIGHWAY SERVICE CLASSIFICATION: 2		CONTRACT MAINTENANCE AREA (CMA): 514	
AVERAGE ANNUAL DAILY TRAFFIC (AADT): 1,380 (west) & 1,340 (east) (Ref No. 7000875 & 70000507)			

SUMMARY OF SITE INSTRUMENTATION:	INSPECTED BY:
There is no instrumentation at the C078 site. LAST READING DATE: N/A	Chris Gräpel (KCB) James Lyons (KCB) Tony Penney (TEC) Chris Newman (TEC)

PRIMARY SITE ISSUE: The site is a rockfall geohazard site along Hwy 11:06. The rock slope is on the north side of the highway and rockfall particles are accumulating in the north (westbound) ditch.
APPROXIMATE DIMENSIONS: The rock slope is approximately 8 m to 10 m in height with an overall slope of approximately 75%. The rock slope is approximately 370 m long at the site and the more active zone is approximately 60 m long.
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	N/A – none was observed during the 2025 inspection.		X
Slope Movement	X		Rock fall debris and trees were accumulated in the north (westbound) ditch from the north rock slope.	X	
Erosion	X		There is minor erosion at the brow of the rock slope where the overburden is overhanging the slope.		X
Seepage		X	N/A – none was observed during the 2025 inspection.		X
Culvert Distress		X	N/A – none was observed during the 2025 inspection.		X

COMMENTS

General:

- Rockfall hazard signs were observed on either side of the site.
- The height of the rock slope at the site is approximately 8 m to 10 m. There appears to be a bench at the crest of the rock slope, with more slope above the bench.
- The entire rock slope along this length of Hwy 11:06 is approximately 370 m in length. Only the east 180 m was inspected during the 2025 inspection as the west portion of the rock slope was not as tall and appeared more stable. The most active zone (Photo 1 and 2) is near the east portion of the site and is approximately 60 m long.
- Pavement damage was not observed, nor were there any rockfall particles observed across the highway behind the south (eastbound) guardrail during the 2023 inspection. The south side of the highway was not inspected in 2025.

Higher Activity Zone:

- The eastern third of the slope is sloped at approximately 75%.
- Material has accumulated in the north (westbound) ditch and was nearly encroaching upon the shoulder of the highway (Photo 1). The material being deposited into the ditch was a combination of rockfalls, overburden material being eroded from the brow of the slope, and vegetation. Between 2023 and 2025, a tree fell down the slope and was near the edge of the highway (Photo 1).
- Rockfall particles in the ditch were mostly cobbles and small boulders with an average size estimated to be approximately 0.2 m and a maximum size of approximately 1.0 m diameter (Photo 1). The larger particles were generally platy (i.e., much wider and longer than they are thick).
- There were talus deposits in the ditch along the higher activity zone (Photos 1). The talus slopes filling the ditch will impede highway drainage and make it more likely for rockfall particles to roll or bounce onto the highway.
- The rock slope on the eastern third (approximately) of the site appears to be bedrock overlain with a coarse-grained till with cobbles and boulders (Photo 2). The talus deposits of cobbles and boulders in the ditch appear to be from the till but could also be from bedrock near the brow of the slope where exposed fractured bedrock with open joints were present approximately 8 m up the slope.
- There were trees at the brow of the slope and the ones closest to the edge are leaning (Photo 2). Further undermining of the trees will eventually cause them to topple, releasing more material from the brow of the slope.
- The public have been stopping at this location to pick up rocks for personal use for several years.

Lower Activity Zone:

- In the lower activity zone, the discontinuity spacing was tighter, approximately 0.3 m (Photo 3). The rock slope is a near vertical bedrock cut.
- The slope consists of bedrock with closely to widely spaced discontinuities (Photo 3 through 6). The bedrock appeared to be sedimentary with bedding planes slope at approximately 5 degrees to 10 degrees as exposed on the slope face. Discontinuity orientation measurements were not taken.
- The bedrock is generally massive but with closer spaced discontinuities near the brow of the slope.
- The ditch was generally empty with a few particles at the ditch bottom (Photo 4 and 5). In general, the ditch appeared wide and deep for the rock slope, estimated to be 5.0 m wide and 1.2 m to 1.5 m deep. During the 2025 inspection, larger rockfalls up to 1 m long consisted of platy particles were observed at the west extent of the site (Photo 6).

Maintenance/Repair/Monitoring Recommendations:

- The site should regularly be inspected by TEC's Maintenance Contract Inspector (MCI).
- The site should continue to be inspected every two years as part of the Central Region Section B inspections.
- The debris and rockfall in the north (westbound) highway ditched should be removed regularly by TEC's Highway Maintenance Contractor (HMC) to maintain the ditch capacity. Continued buildup of rockfall materials will eventually allow rockfall particles to reach the road. As a preliminary start, TEC should plan to clean out the ditch once every two years and monitor how quickly the ditch refills with particles. Ditch cleaning should not excavate the toe of the slope, as excavating the toe will increase the frequency of rockfall and ditch infilling. TEC operations should verify that there are no buried services in the ditch before starting ditch cleaning.
    - ➢ There were rockfalls observed in the south (eastbound) ditch near Bighorn River, approximately 25 km west of the C078 site, during the 2025 Section B inspection tour. The ditch should be cleaned out when the HMC cleans out the ditch at the C078 site.

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PROFESSIONAL ENGINEER ALBERTA
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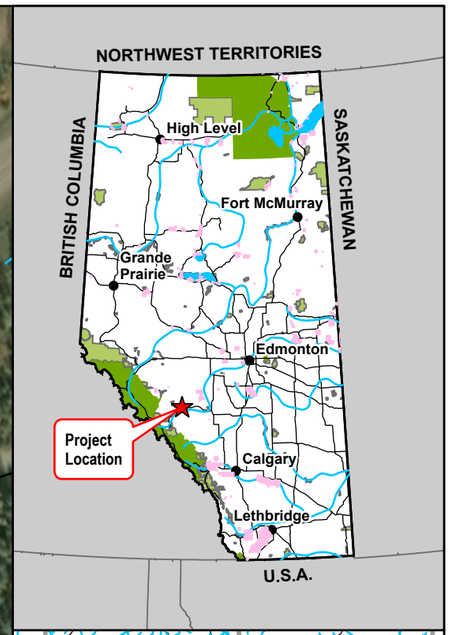
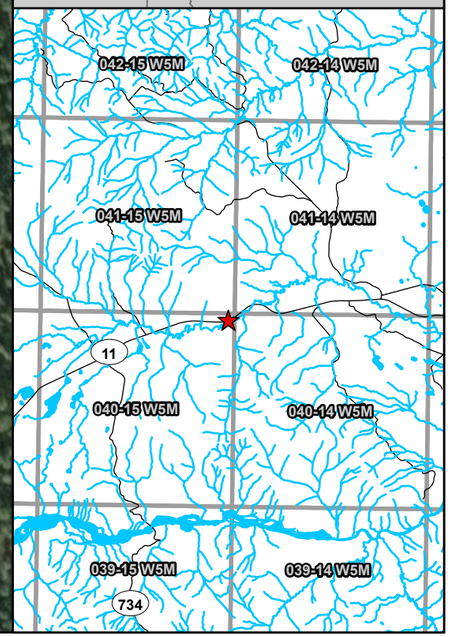
2025-08-22

James Lyons, P.Eng.
Civil Engineer

PERMIT TO PRACTICE
KLOHN CRIPPEN BERGER LTD.
RM SIGNATURE: _____
RM APEGA ID #: 58463
DATE: August 25 2025
PERMIT NUMBER: P009196
The Association of Professional Engineers and Geoscientists of Alberta (APEGA)





Legend

- Highway Right-of-Way
- Guardrail
- Telus Trench

0 100 Metres

NOTES:
1. HORIZONTAL DATUM: NAD83
2. GRID ZONE: UTM ZONE 11N
3. IMAGE SOURCE: 2025 MICROSOFT CORPORATION, 2025 MAXAR CNES, DISTRIBUTION AIRBUS DS

CLIENT: Alberta

Klohn Crippen Berger

PROJECT: CENTRAL REGION GEOHAZARD RISK MANAGEMENT PROGRAM

TITLE: Site Plan
C078 - Shunda Creek Rockfall
Hwy 11:06, km 6.17

SCALE	PROJECT No.	FIG No.
1:2,000	A05116A02	1

File: Z:\AEDM\A05116A02 ABT Central Region GRMP 400 Drawings\GIS\02_ProFiles\2023\Section B\ABT_Central_SectionB_230724\ABT_Central_SectionB_230724.aprx Date: Time: Creator: : NMirhadi

Inspection Photographs

Photo 1 **Material from the talus slope is accumulating in the north (westbound) ditch and is almost encroaching onto the north shoulder. A tree (indicated by red arrow) fell down the slope between the 2023 and 2025 inspections. Photo taken June 9, 2025 facing west.**

Photo 2 **Overburden overhanging the crest of the slope and two leaning trees in the eastern third of the site. Photo taken June 9, 2025 facing northeast.**

Photo 3 **A portion of the rock slope near west extent of the site where the discontinuity spacer becomes tighter (approximately 0.3 m). Photo taken June 9, 2025 facing north.**

Photo 4 **The relatively intact rock slope along the west portion of the site. There is a potentially unstable shelf of rock at the top of the rock slope (indicated by red arrow). Photo taken June 9, 2025 facing west-northwest.**

Photo 5 **Very little rock fall has accumulated in the north (westbound) ditch at the toe of the rock slope. Photo taken June 9, 2025 facing west.**

Photo 6 **Larger rockfalls up to approximately 1 m long in the north (westbound) ditch at the west extent of the site were deposited between the 2023 and 2025 inspections. Photo taken June 9, 2025 facing east.**