SOUTHERN REGION GRMP
SITE INSPECTION FORM

SITE NUMBER AND NAME	HIGHWAY & KM	PREVIOUS INSPECTION DATE	INSPECTION DATE
S075 Pekisko Creek Slides	540:02, 5.772	May 9, 2023	**May 27, 2025**
LEGAL DESCRIPTION 12-13-17-02 W5M	NAD 83 COORDINATES UTM Northing Easting 11 5590917 701863	RISK ASSESSMENT PF: 9 CF: 4 TOTAL: 36	
AVERAGE ANNUAL DAILY TRAFFIC (AADT): 700 (east), (Ref. No. 71130)		CONTRACTOR MAINTENANCE AREA (CMA): 521	

SUMMARY OF SITE INSTRUMENTATION:	INSPECTED BY:
Site A: Operable – One slope inclinometer (SI) and one vibrating wire piezometer (VWPs). Inoperable – one SI and one VWP. Site B: Operable – Two SIs and one VWP. Inoperable – one VWP. LAST READING DATE: May 20, 2025	Chris Gräpel (KCB) Jorge Rodriguez (KCB) Renato Macciotta (UofA) Alex Frotten (TEC) Rishi Adhikari (TEC)

PRIMARY SITE ISSUE: Site A & B are two slides located approximately 30 m apart along the left (south) valley slope of Stimson Creek. The slope is relatively steep, and sliding is likely caused by elevated groundwater during precipitation events, further accelerated by surface water flow from the ditch. The head scarp at Site A has encroached onto the highway right-of-way and has undermined the highway ditch, re-directing ditch flows onto the failed slope. The head scarp of Site B is outside of the fence and is not impacting the highway ditch.

APPROXIMATE DIMENSIONS: Site A has undermined approximately 30 m of fence line, with a total length of the slide being approximately 100 m, and the head scarp is located approximately 6.5 m from the edge of the west (southbound) lane. Site B has a width of approximately 20 m, and the head scarp is located 1.7 m from the fence line.

DATE OF ANY REMEDIAL ACTION: 2017 – A drilling program was performed at the site by Mayfield Drilling and Environmental and monitored by KCB. Three SIs and four VWPs were installed to monitor movement and groundwater level, respectively, and to support design work. 2017 – Bridge construction was conducted east of the site. This project also included a highway overlay.

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		Sliding in the west valley slope at both Site A and B. Head scarps are encroaching into the ROW.	X	
Erosion	X		Site A: Surface water flow from the west (southbound) ditch flows onto the slide surface. Erosion of the head scarp has undermined the fence and exposed bedrock near the north extent of the site.	X	
Seepage	X		Site A: Wet areas observed on the bench below the slide near the SI locations.	X	
Culvert Distress		X	N/A – There is no culvert at the S075 site.		X

COMMENTS

Site A:

- No pavement distress was observed.
- The slide appears to be a rotational failure, and the midslope bench looks like it is rotated by approximately 15°. The west portion of the slide area is shallow and translational (estimated depth of failure of approximately 4 m to 5 m).
- The head scarp has retrogressed into the west (southbound) ditch, and the fence is undermined. The edge of the scarp is approximately 6 m to 7 m from the edge of the highway surface (Photo 1 and 2).
- Eight fence posts were observed to be hanging during the 2025 inspection (Photo 2). The landowner installed a rope fence below the hanging fence (likely to contain livestock).
- Flow from the west (southbound) ditch is being conveyed into the slide area (Photo 2 and 3). The slope appears saturated with visible seepage observed on the slope surface during previous inspections.
- A boulder, dislodged from near the head scarp on the north extent of the backslope due to erosion, was observed on the slide surface during the 2025 inspection (Photo 4).
- An exposed buried utility cable has been observed along the site during previous inspections.
- There are power poles installed along the slide, but none appear to have been impacted (deflecting) by the slide movements.

Site B:

- No pavement distress was observed.
- In general, the west (southbound) highway ditch and slope are well vegetated. The head scarp has unvegetated areas that are susceptible to erosion during spring freshet and precipitation events (Photo 1).
- The ditch along the site is well defined and is not conveying surface water flow onto the slide.
- The slide is approximately 1.5 m west of the fence. The head scarp does not appear to have retrogressed between the 2024 and 2025 inspections (Photo 5).

Maintenance/Repair/Monitoring Recommendations:

Short-term:

- The site should be regularly inspected by TEC's Maintenance Contract Inspector (MCI).
- The site should continue to be inspected as part of the Southern Region GRMP Section B inspections.
- The instruments should continue to be read once per year (spring only) as part of the Southern Region GRMP Section C readings.
- Building an earthfill berm along the head scarp to contain surface water flow in the west (southbound) ditch. The ditch surface should be lined with a geotextile and covered with a layer of gravel to reduce the likelihood of future erosion within the ditch, further destabilizing the slope.

Long-term:

- A geotechnical and hydrotechnical assessment should be completed at the site to provide alternative mitigation options. The repair could include:
  - The slope could be repaired with a pile wall or geogrid-reinforced granular fill. Subsurface drainage (e.g., buried drainpipes within the slope or in a shear key) should be included as part of a repair to convey seepage/groundwater to the toe of the slope.

- A toe berm could also be constructed to stabilize the slope, but would require a large volume of fill. A borrow area for bridge construction is present in the valley bottom, near the creek. The volume of fill available from the borrow should be assessed if a toe berm is selected.
- An H-pile wall with timber lagging and drainage system could be consider if the slip surface is not too deep.

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

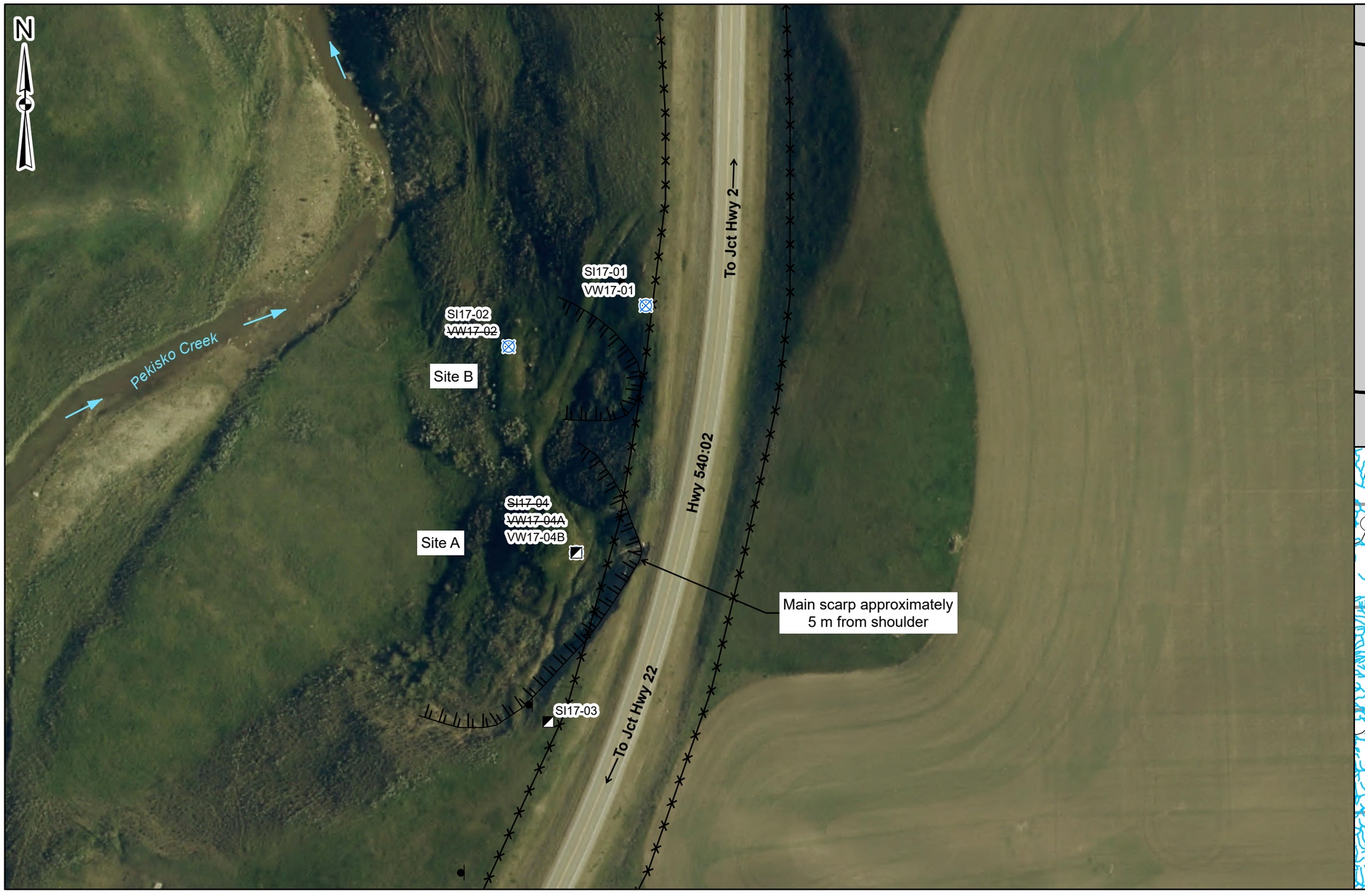
PERMIT TO PRACTICE
KLOHN CRIPPEN BERGER LTD.

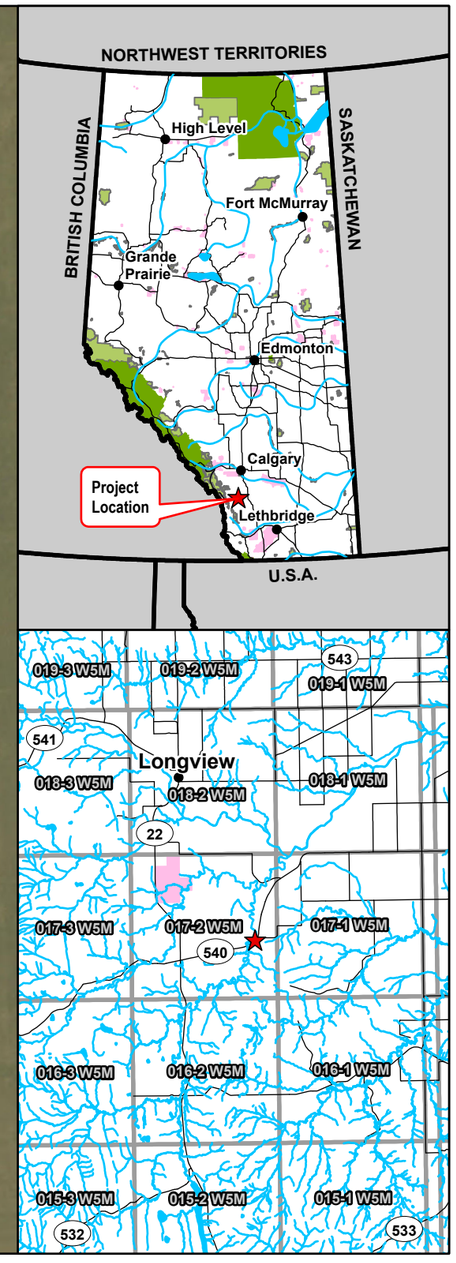
RM SIGNATURE: _____

RM APEGA ID #: 187607

DATE: 10 Oct. 2025

PERMIT NUMBER: P009196
The Association of Professional Engineers and Geoscientists of Alberta (APEGA)





Legend

- Slope Inclinometer (SI)
- Vibrating Wire Piezometer (VW)
- Powerpole
- Flow Direction
- Scarp
- Fence

0 50 Meters

NOTES:
1. HORIZONTAL DATUM: NAD83
2. GRID ZONE: UTM ZONE 11N
3. IMAGE SOURCE: GEODESY GROUP INC., SOUTHERN ALBERTA
4. STRIKETHROUGH INDICATES INSTRUMENT IS INACTIVE

CLIENT: Alberta

Klohn Crippen Berger

PROJECT: SOUTHERN REGION GEOHAZARD RISK MANAGEMENT PROGRAM

TITLE: Site Plan
S075 - Pekisko Creek Slides
Hwy 540:02, km 5.72

SCALE	PROJECT No.	FIG No.
1:1,500	A05116A03	1

File: Z:\AC\GY\Alberta\A05116A03 ABT Southern Region GRMP\400 Drawings\2022\Section C\Section C - Spring 2022\Section C - Spring 2022.aprx Date: Time: Creator: : NMirhadi

Inspection Photographs

Photo 1 **Aerial photo of the S075 site, showing both the Site A and Site B slides. Photo taken May 27, 2025, facing southeast.**

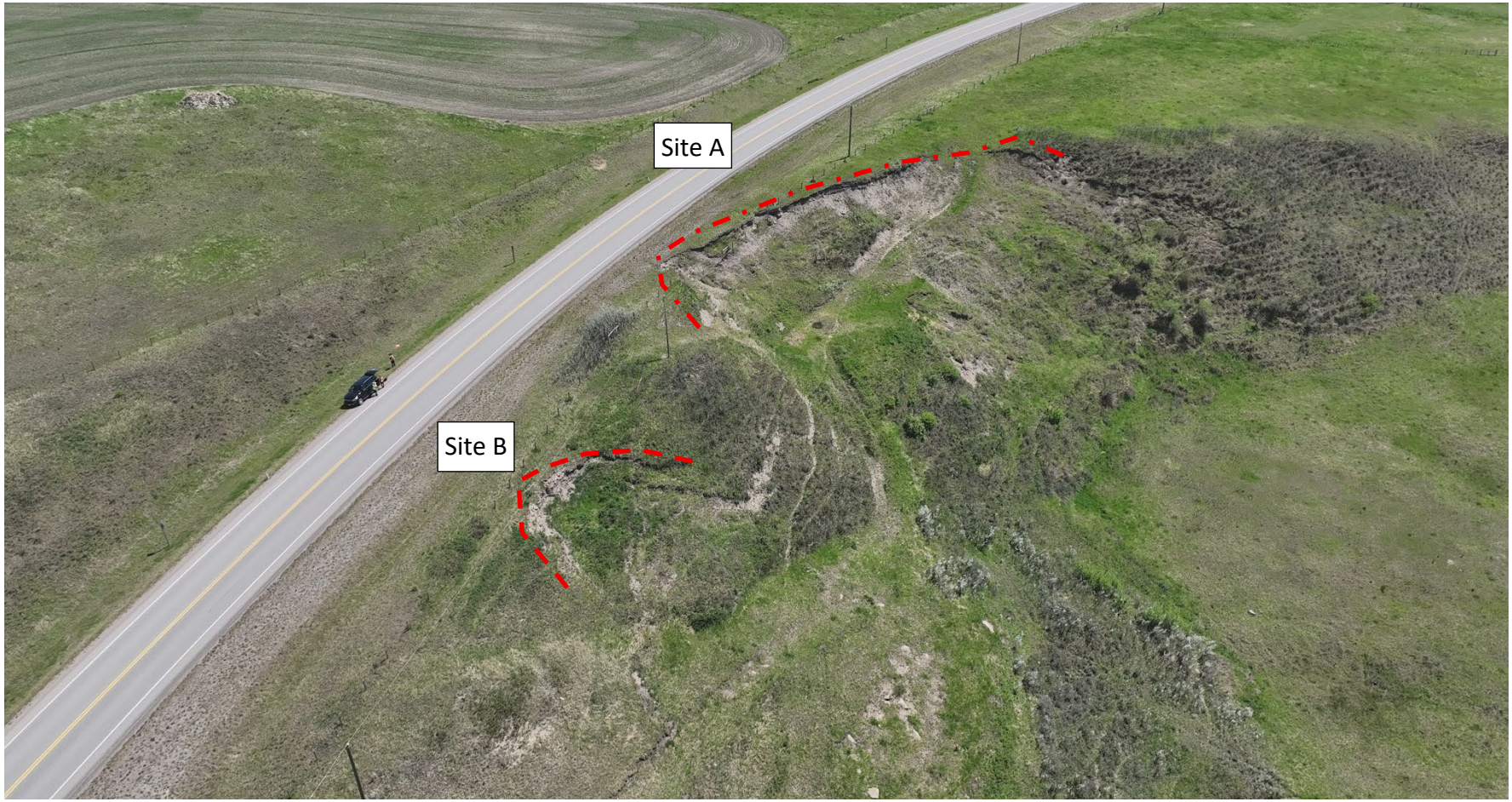


Photo 2 **Head scarp and hanging fence (red arrow) at Site A. Photo taken May 27, 2025, facing north.**

Photo 3 **The ditch is well vegetated along Site A. The erosion of the head scarp near the north extent of the site is retrogressing towards the ditch/highway surface. Photo taken May 27, 2025, facing north.**

Photo 4 **Erosion of the head scarp and hanging fence (red arrow) near the north extent of Site A. Photo taken May 27, 2025, facing north.**

Photo 5 **The slide at Site B is well vegetated and no deformation of the fence was observed. Photo taken May 27, 2025, facing south.**