

SITE NUMBER AND NAME: <b>S058 Spring Hill Slide</b>		HIGHWAY & KM: 505:04, 21.110	PREVIOUS INSPECTION DATE: May 19, 2022	INSPECTION DATE: <b>May 29, 2024</b>
LEGAL DESCRIPTION: 15-29-04-23 W4M	NAD 83 COORDINATES: UTM Northing Easting 12 5466599 350117		RISK ASSESMENT: PF: 7 CF: 6 TOTAL: 42	
AVERAGE ANNUAL DAILY TRAFFIC (AADT): 660 (east) & 520 (west) (Reference No. 93050 & 99030)			CONTRACTOR MAINTENANCE AREA (CMA): 25	

SUMMARY OF SITE INSTRUMENTATION:  There is no instrumentation at the S058 site.  LAST READING DATE: N/A		INSPECTED BY: Chris Grapel (KCB) Peter Roy (KCB) Kristen Tappenden (TEC) Alex Frotten (TEC)
PRIMARY SITE ISSUE: Deep-seated earth slide within coulee side slope. The head scarp extends into the roadway and is impacting the pavement and south shoulder of the embankment.		
APPROXIMATE DIMENSIONS: Cracking extends across the pavement and along left flank of slide. The visible head scarp is approximately 200 m long. The highway embankment is sloped approximately 2H:1V and the coulee slope to the left of the slide is approximately 3H:1V.		
DATE OF ANY REMEDIAL ACTION: Road pavement has been patched since the 2022 inspection.		

ITEM	CONDITION EXISTS		DESCRIPTION AND LOCATION	NOTICABLE CHANGE FROM LAST INSPECTION	
	YES	NO		YES	NO
Pavement Distress	X		Pavement cracking due to slope movement.	X	
Slope Movement	X		Active slope movement in coulee side slope south of the highway		X
Erosion		X			X
Seepage		X			X
Culvert Distress		X			X

<b>COMMENTS</b>
The pavement cracking extends westward through the recent overlay and there is possible tension cracking between the highway and the fence line along the side of the coulee. There is no visible instability on the slope north of the highway.
The pavement cracking lines up with tension cracking along the wall of the coulee.
There is a possible toe bulge at the base of the valley, near to the old creek alignment. The creek appeared dry during the 2024 inspection.
The vertical HDPE pipe in the north (westbound) ditch may be plugged.
A high-pressure pipeline was marked in the shoulder on the north side of the highway.
<u>Maintenance/Repair/Monitoring Recommendations:</u>
<u>Short-Term:</u>
<ul style="list-style-type: none"> <li>A site investigation should be completed to investigate the drainage pipe. The outlet should be cleared to increase drainage capacity.</li> </ul>

Long-Term:

- A geotechnical site investigation should be completed, including the installation of instruments to assess depth of movement, to support design and construction. The geotechnical investigation could include at least two boreholes with the installation of two slope inclinometers to monitor movement.
- The load on the slide could be reduced by changing the vertical alignment of the highway (i.e., reducing the elevation of the highway above the slide) and replacing the current highway subgrade with lightweight fill to further reduce the loading on the slide. The excavated material could be repurposed to build a toe berm to further stabilize the highway embankment.
- A driven steel pile wall with drainage improvements.

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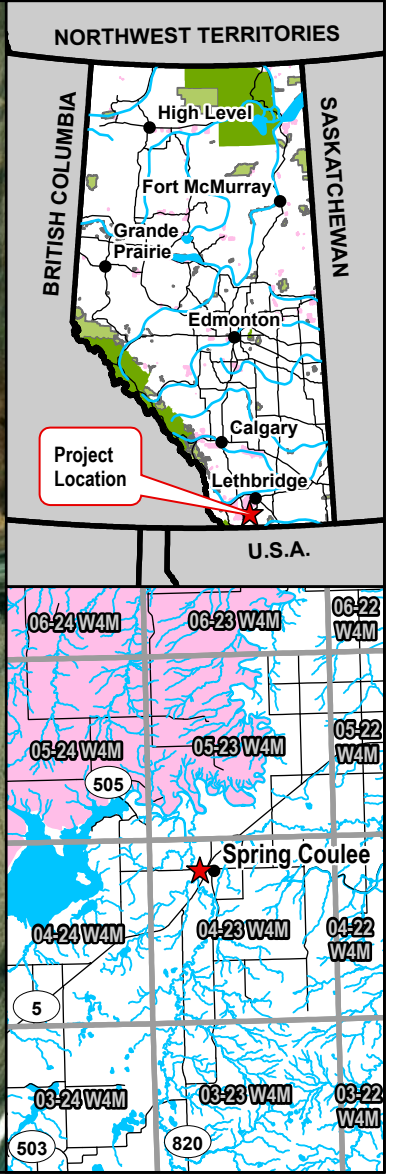
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

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Peter Roy, P.Eng.  
Civil Engineer

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- Legend**
-  Scarp
  -  Crack

NOTES:  
 1. HORIZONTAL DATUM: NAD83  
 2. GRID ZONE: UTM ZONE 12N  
 3. IMAGE SOURCE: MAXAR 2024

CLIENT




PROJECT  
 SOUTHERN REGION GEOHAZARD RISK MANAGEMENT PROGRAM

TITLE  
 Site Plan  
 S058 - Spring Hill Slide  
 Hwy 505:04, km 21.110

SCALE 1:6,000 PROJECT No. A05116A03 FIG No. 1

**Photo 1** Pavement cracking and settlement due to head scarp of slide on coulee slope south of highway. Photo taken May 29, 2024, facing northwest.



**Photo 2** Downslope highway embankment. Photo taken May 19, 2022, facing northwest.



**Photo 3**      **Head scarp of slide on coulee slope south of highway. Photo was taken May 19, 2022, facing east.**

