SOUTHERN REGION GRMP
SITE INSPECTION FORM

SITE NUMBER AND NAME: **S005 Chin Coulee**	HIGHWAY & KM: 36:02, 37.101	PREVIOUS INSPECTION DATE: May 9, 2019	INSPECTION DATE: **May 11, 2023**
LEGAL DESCRIPTION: 10-36-007-17 W4M	NAD 83 COORDINATES: UTM Northing Easting 11 5495465 414771	RISK ASSESMENT: PF: 9 CF: 2 TOTAL: 18	
AVERAGE ANNUAL DAILY TRAFFIC (AADT): 720 (north), 900 (south), Ref No. (70000182)		CONTRACTOR MAINTENANCE AREA (CMA): 24	

SUMMARY OF SITE INSTRUMENTATION: Two slope inclinometers and four vibrating wire piezometers, installed after the 2016 highway realignment. LAST READING DATE: June 2023	INSPECTED BY: Peter Roy (KCB) Alex Frotten (AT) Roger Skirrow (AT)
PRIMARY SITE ISSUE: Large deep seated, retrogressive, translational earth slide. Head scarp no longer affecting road surface due to highway realignment.	
APPROXIMATE DIMENSIONS: Overall slope is approximately 100 m above Chin Coulee Reservoir and overall has a slope of approximately 3H:1V from head scarp to reservoir level.	
DATE OF ANY REMEDIAL ACTION: Highway realignment completed in fall 2016. The highway shoulder is now located approximately 10 m north of the extents of previous asphalt cracking. Ditch constructed on south side of highway. Slide area at the top of the embankment was graded. Previously constructed masonry block wall removed.	

ITEM	**CONDITION EXISTS**		**DESCRIPTION AND LOCATION**	**NOTICABLE CHANGE FROM LAST INSPECTION**	
	YES	NO		YES	NO
Pavement Distress		X	None since realignment.		X
Slope Movement	X		Previous head scarp at road surface graded. Movement ongoing downslope.		X
Erosion	X		Erosion downslope, not near highway		X
Seepage					X
Culvert Distress		X			X

COMMENTS

Visit site once per contract. The longer-term plan for this site is potentially to reroute the road several hundred metres to the west as part of a project related to potential expansion of the Chin Coulee reservoir and relocation of the Hwy 36 bridge.

There are 10 geocubes installed at the site for slide monitoring. No visible difference was observed to the slide when compared with the 2019 inspection but the geocube data suggests general deformation in a southernly direction, possibly with an element of toe movement in a southeasterly direction. The largest movement noted in the geocube data was from SM22-04, located at the crest of the slope to the east, which was estimated to be approximately 193 mm in the downslope direction and 110 mm vertically (between May 2022 and August 2023).

Cumulative movements during the monitoring period were estimated as between 1 mm and 33 mm (horizontally) and 3 mm and 12 mm (vertically), across the other geocubes.
The slide is large with multiple back scarps and reverse grabens. The size of this slide infers a deep-seated translational failure mode on a sub-horizontal weak layer. Toe of slide is below the fluctuating reservoir level, which may influence slide mobilization.
Check dams in ditches have too steep of an upstream slope and may constitute a traffic hazard if a car leaves the highway.

PROFESSIONAL ENGINEER PETER J. ROY ALBERTA

13 Oct. 2023
ID 141695

Peter Roy, P.Eng.
Civil Engineer

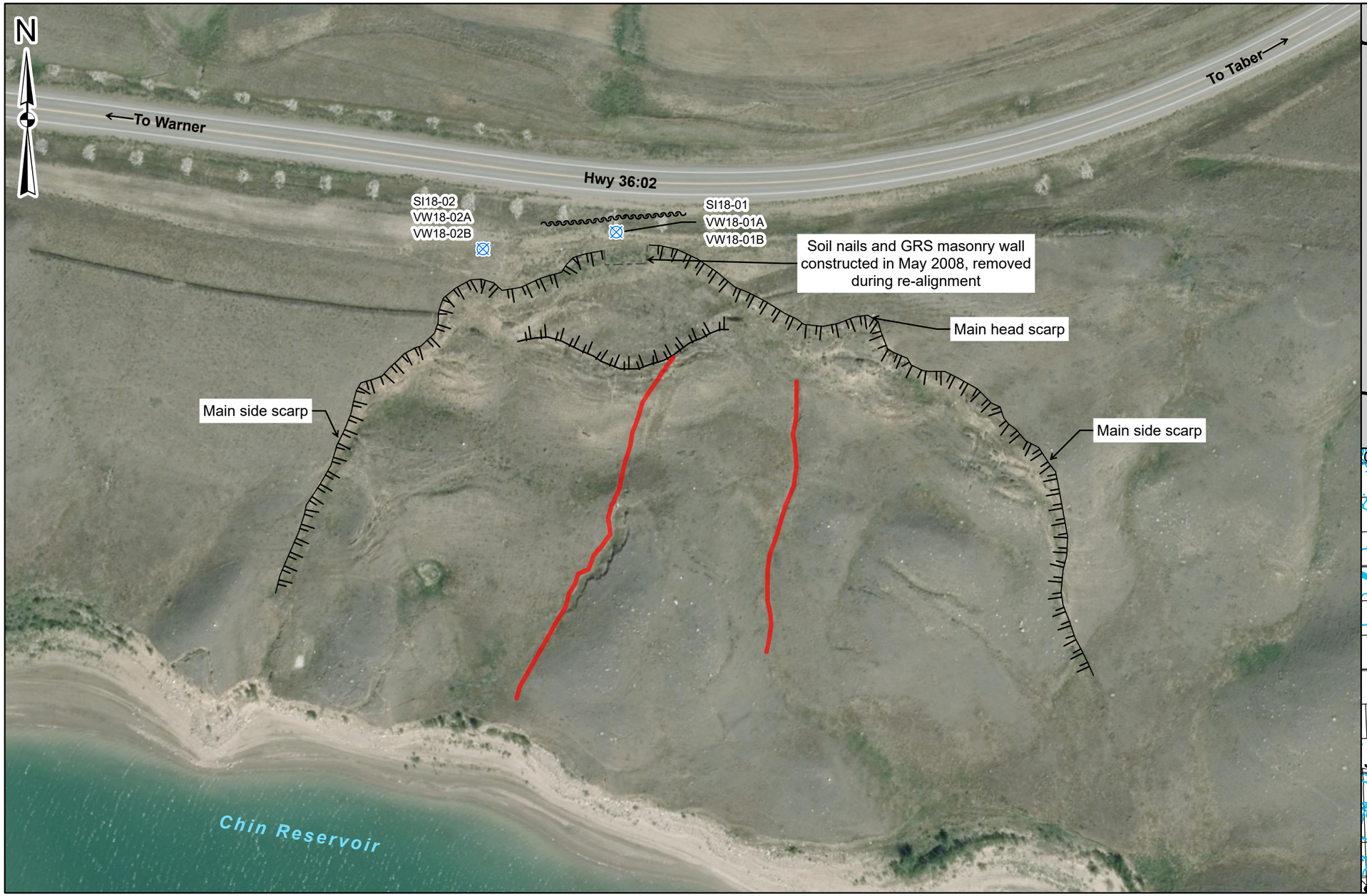
PERMIT TO PRACTICE
KLOHN CRIPPEN BERGER LTD.

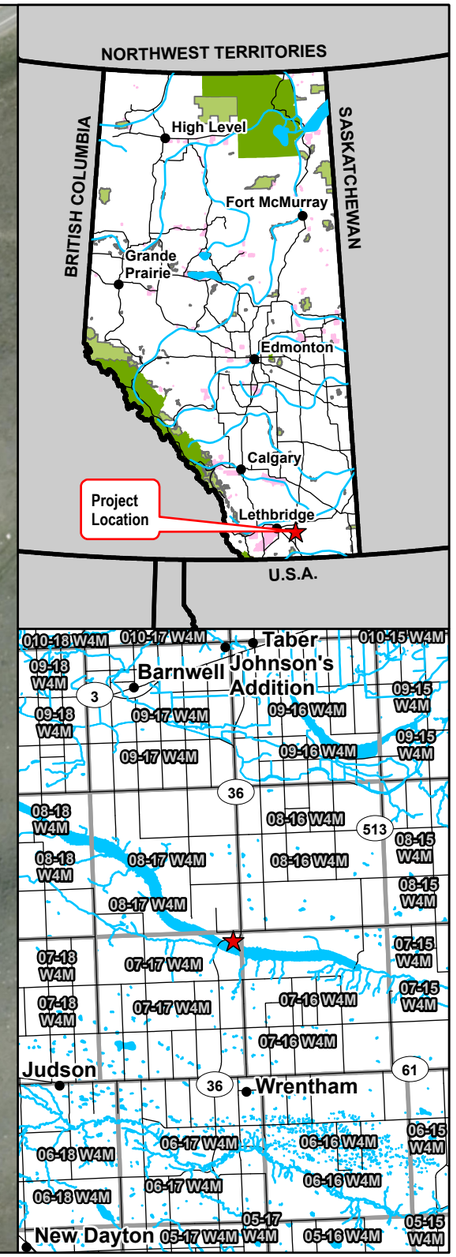
RM SIGNATURE: _____

RM APEGA ID #: 187607

DATE: 13 Oct. 2023

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





Legend

- Slope Inclinometer (SI)
- Vibrating Wire Piezometer (VW)
- Wall
- Scarp
- Backscarp
- Erosion
- Crack

0 50 Metres

NOTES:
1. HORIZONTAL DATUM: NAD83
2. GRID ZONE: UTM ZONE 12N
3. IMAGE SOURCE: TOWN OF PINCHER CREEK, WARNER, MAXAR

CLIENT: Alberta

Klohn Crippen Berger

PROJECT: SOUTHERN REGION GEOHAZARD RISK MANAGEMENT PROGRAM

TITLE: Site Plan
S005 - Chin Coulee (South of Taber)
Hwy 36:02, km 37.1

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

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

Photo 1 **Geocube installed at crest of slope between highway and slide area. Photo taken facing east on May 11, 2023.**

Photo 2 **Slope failure downslope of highway. Photo taken facing southeast on May 11, 2023.**

Photo 3 **Crest of slope, downslope of highway. Photo taken facing west on May 11, 2023.**

Photo 4 **Ditch check dams. Photo taken facing west on May 11, 2023.**