

SITE NUMBER AND NAME: C072 North of Rocky Mountain House (RMH)		HIGHWAY & KM: 22:24, 9.8	PREVIOUS INSPECTION DATE: June 12, 2017	INSPECTION DATE: June 11, 2018
LEGAL DESCRIPTION: 09-33-040-07 W5M 12-34-040-07 W5M	NAD 83 COORDINATES: UTM Northing Easting 11 5817436 640058		RISK ASSESSMENT: PF: 6 CF: 4 TOTAL: 24	
AVERAGE ANNUAL DAILY TRAFFIC (AADT): 2,540 (north) (Ref No. 990020)			CONTRACT MAINTENANCE AREA (CMA): 17	

SUMMARY OF SITE INSTRUMENTATION: Three slope inclinometers (SIs) installed on the east slope in 1990 – status unknown. LAST READING DATE:		INSPECTED BY: Chris Gräpel (KCB) Ryan Gazley (KCB) Rocky Wang (AT) Tony Penney (AT)
PRIMARY SITE ISSUE: An upper slope failure along the west slope (southbound lane) of the highway embankment. At the location of the slide, Hwy 22 crosses a tributary creek of Canyon Creek, which is a tributary of the North Saskatchewan River. The original slide on the east embankment slope was repaired in 1990.		
APPROXIMATE DIMENSIONS: The upper west slope is approximately 6 m high sloped at approximately 3H:1V. The east slope is approximately 13 m high sloped at approximately 4H:1V.		
DATE OF ANY REMEDIAL ACTION: 1990: site investigation and repair work conducted/completed at the location of the original slide on the east slope; October 2016 – southbound lane patched.		

ITEM	CONDITION EXISTS		DESCRIPTION AND LOCATION	NOTICABLE CHANGE FROM LAST INSPECTION	
	YES	NO		YES	NO
Pavement Distress	X		Old pavement cracks reflected in new asphalt patch. New cracking at south end of patch.	X	
Slope Movement	X		Guardrail subsided and deflected; fence deflected within slide area, no evidence of ground cracking		X
Erosion		X	None observed		X
Seepage		X	None observed		X
Culvert Distress		X	1300 mm diameter CSP culvert (BF13457)		X

COMMENTS
A new asphalt patch (approximately 100 m long) has been placed since the 2017 inspection. The old pavement cracks appear to be reflecting through the new patch and new cracks have appeared at the south end of the patch.
The fence at the toe of the embankment is deflected slightly to the west. Standing water was observed at the toe of the embankment, likely due to recent rainfall in the area.
Cracking in the southbound lane could indicate potential retrogression of the backscarp onto the highway.
Southbound vehicles were observed to drive into the northbound lane around the patched area that is subsided and cracked.
The presence of wet areas on the bench, near the deflected section of fence, indicate the bench is poorly drained.
During the previous inspection, debris (e.g., branches, and small logs-flotsam) was observed at or just above the

crown elevation of the culvert inlet indicating that the water level at some point was at or just above the crown elevation of the culvert. This may indicate that the culvert has insufficient capacity to handle flow volumes.

The bridge file number of the culvert is BF13457. The culvert consists of a 1300-mm-diameter CSP culvert sleeved into an original 1800-mm-diameter multi-plate CSP culvert. Previous inspection observations have included flotsam from highwater events above the crown of the culvert, indicating the culvert could be undersized.

A geotechnical site investigation (e.g., drilling, laboratory testing, and instrumentation installation and monitoring program) should be conducted on the west slope to assess subsurface conditions; and to monitor depth of movement, and groundwater conditions.

Discussed remedial actions: Repair of the upper slide area could include excavating the slide area and reconstructing the upper portion of the slope with geosynthetic reinforced fill, with a shear key and subsurface drainage. The bridge culvert should be inspected with a remotely operated video camera, and a hydrologic assessment should be conducted to assess the discharge capacity of the culvert. If needed, a new culvert could be drilled through the base of the embankment.



Legend

- Power Pole
- Buried Powerline
- GPS Track (June 11, 2018)
- x—x— Fence
- Guardrail
- ~ Crack
- Creek
- Flow Direction
- > Culvert
- Wet Area
- TTTTT Berm Downslope Crest

NOTES:
 1. HORIZONTAL DATUM: NAD83
 2. GRID ZONE: UTM Zone 11N
 3. IMAGE SOURCE: Bing Maps 2018, Microsoft Corporation.
 Image dated August 2012

CLIENT

Alberta

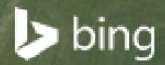
Klohn Crippen Berger

PROJECT
 CENTRAL REGION GEOHAZARD RISK MANAGEMENT PROGRAM

TITLE
 Site Plan
 C072 – North of Rocky Mountain House (RMH)
 Hwy 22:24, km 9.8

SCALE: 1:2,000 PROJECT No. A05115A02 FIG No. 1

Time: 14:29:02 PM
 Date: July 10, 2018
 File: Z:\A\EDM\A05115A02\ABT_Central Region GRMIP\00 Drawings\2018\2_Section B12_2018_Site Inspections\MXD\C072_180710.mxd



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Photo 1 Old pavement cracks are being reflected through the recent asphalt patch. Photo taken June 11, 2018 looking south.



Photo 2 New pavement cracking (approximately 8 m in length) at the south end of the asphalt patch. Photo taken June 11, 2018 looking north.



Photo 3 The fence line at the toe of the slide showing a slight deflection towards the west.
Photo taken June 11, 2018 looking south.



Photo 4 Condition of the slope below the asphalt patch. Photo taken June 11, 2018 looking southeast.

