

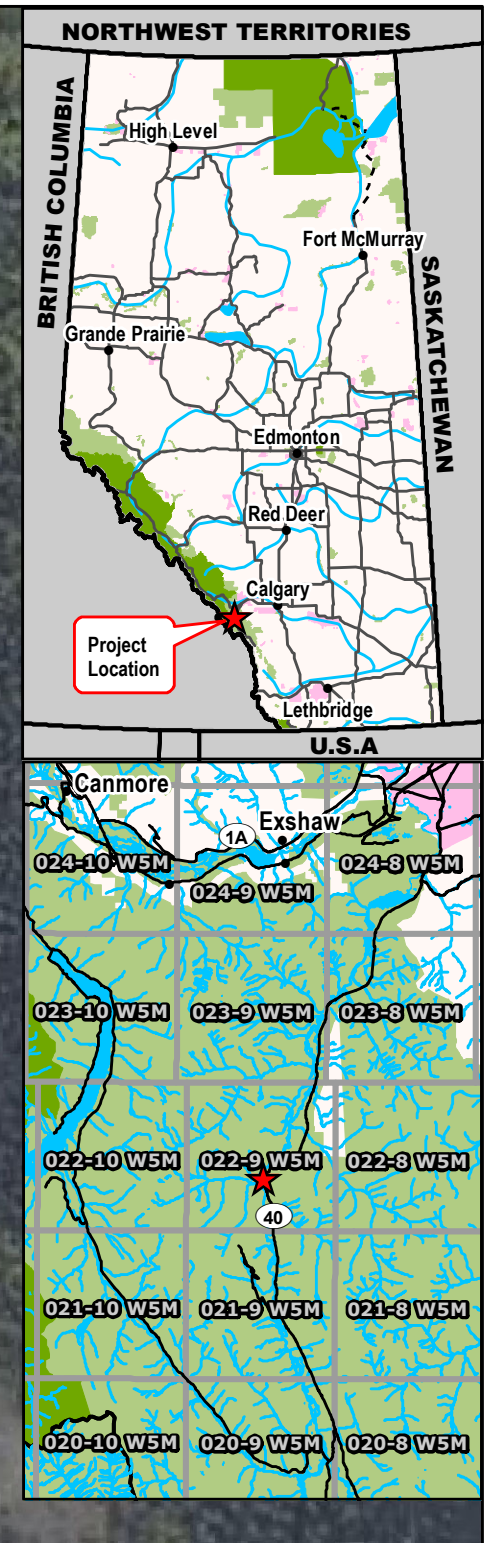
SITE NUMBER AND NAME S018 Galatea Creek Through-Cut		HIGHWAY & KM 40:12, 18.469	PREVIOUS INSPECTION DATE May 1, 2018	INSPECTION DATE May 7, 2019
LEGAL DESCRIPTION SW 15-22-9-W5	NAD 83 COORDINATES UTM Northing Easting 11 5636274 628319		RISK ASSESMENT PF: 13 CF: 3 TOTAL: 39	
Average Annual Daily Traffic (AADT): 940 (north), 440 (south), (Ref. No. 52170)			Contractor Maintenance Area (CMA): 28	

SUMMARY OF SITE INSTRUMENTATION: None LAST READING DATE: N/A	INSPECTED BY: Chris Gräpel (KCB) Chris Morgan (KCB) Renato Macciotta (KCB) Alex Frotten (AT) Roger Skirrow (AT) Nicolas Ropchan (AT)
PRIMARY SITE ISSUE: Rockfall from rock cut faces on east and west sides of the highway.	
APPROXIMATE DIMENSIONS: Slope height is approximately 16 m (maximum)	
DATE OF ANY REMEDIAL ACTION: Wire mesh installed on rock slope on the east side of the highway in 2016.	

ITEM	CONDITION EXISTS		DESCRIPTION AND LOCATION	NOTICABLE CHANGE FROM LAST INSPECTION	
	YES	NO		YES	NO
Pavement Distress		X			X
Slope Movement	X		Rockfalls from east and west slopes		X
Erosion		X			X
Seepage		X			X
Culvert Distress		X			X

COMMENTS
Active site with small rockfalls at the time of inspection, and potential larger instabilities (Photo 4). Visit site every two years.
Multiple old rock bolts are present on the east side, possibly from original construction in the mid 1980s. The condition of the bolts is unknown. Several of the bolts appear loose or not flush with the rock face due to weathering of the rock slope over time. The slope contains large blocks which are held by rock bolts that are potentially exerting minimal stabilizing force. There are potential wedge failure locations.
Wire mesh on the east side is functioning as designed. Rockfalls, for the most part, are being contained by the mesh. Some areas of damaged mesh were noted at the base of the mesh due to large falling rocks. Large rockfalls are damaging the mesh joint with the lower cable, creating loose sections. Loose sections of mesh may be more prone to tearing and the mesh should be repaired.
More concentrated debris is located in areas where the wire mesh was not placed (gaps in the mesh were left to provide animal access up the slope).

<p>The rock mass on the east slope has pervasive planar joints, in an adverse orientation (dipping out of slope). Some of the rock mass joints are dilated, with some rock blocks on the verge of falling. Continuous weathering is leading to block falls.</p>
<p>Recent rockfall block of 0.9 m by 0.55 m by 0.6 m (0.3 m³) observed in the ditch and was not contained by the wire mesh. Older blocks of up to 1 m³ have been observed at this site.</p>
<p>Some rocks are making it to the highway surface.</p>
<p>A fallen tree was observed at the south end of the east side, possibly due to surface weathering at the crest of the slope.</p>
<p>West slope not as much of an issue due to favorable hydrology and lower slope height. Ditch is larger on west side of highway, however, a section of the west slope appears to be feeding small rocks onto the road. The west slope has an overhanging section estimated as 2 to 5 m³ in size.</p>
<p>Recommendations are:</p> <p><u>Short-Term</u></p> <ul style="list-style-type: none"> • Rock debris should be cleaned from ditches and highway surface. Ditches reported as not cleaned out this year; • Reattach the mesh to the base cable so that it functions effectively; • Carry out spot bolting on blocks which are considered to be at risk of movement; and • Carry out rock mechanics photogrammetry assessment of the east and west slopes.



Legend

- TTTTTTT Crest of Rock Slope
- ➡ Flow Direction



NOTES: 1. HORIZONTAL DATUM: NAD83 2. GRID ZONE: UTM Zone 11N 3. IMAGE SOURCE: Google Earth 2018. Imagery dated Septemebr 23, 2012	CLIENT	PROJECT
		SOUTHERN REGION GEOHAZARD RISK MANAGEMENT PROGRAM
	TITLE	FIG No.
	Site Plan S018 - Galatea Through Cut Hwy 40:12, km 18.469	1
	SCALE	PROJECT No.
	1:2,200	A05115A03

Time: 16:48:10 PM
 Date: June 13, 2019
 File: Z:\A\EDM\A05115A03\ABT Southern Region GRMP\A00 Drawings\2019\2. Section BIM\XDS\018_190613.mxd

Photo 1 South portion of east rock slope. Photo taken facing southeast on May 7, 2019.



Photo 2 Central portion of east rock slope. Photo taken facing east on May 7, 2019.



Photo 3 North portion of east rock slope. Photo taken facing northeast on May 7, 2019.



Photo 4 Central portion of east rock slope, including large block held by an off-centre rock bolt. Photo taken facing southeast on May 7, 2019.



Photo 5 Mid slope rock bolt in poor condition on east slope. Photo taken on May 7, 2019.



Photo 6 Damaged connections between the wire mesh and base cable due to rockfall impacts. Photo taken on May 7, 2019.

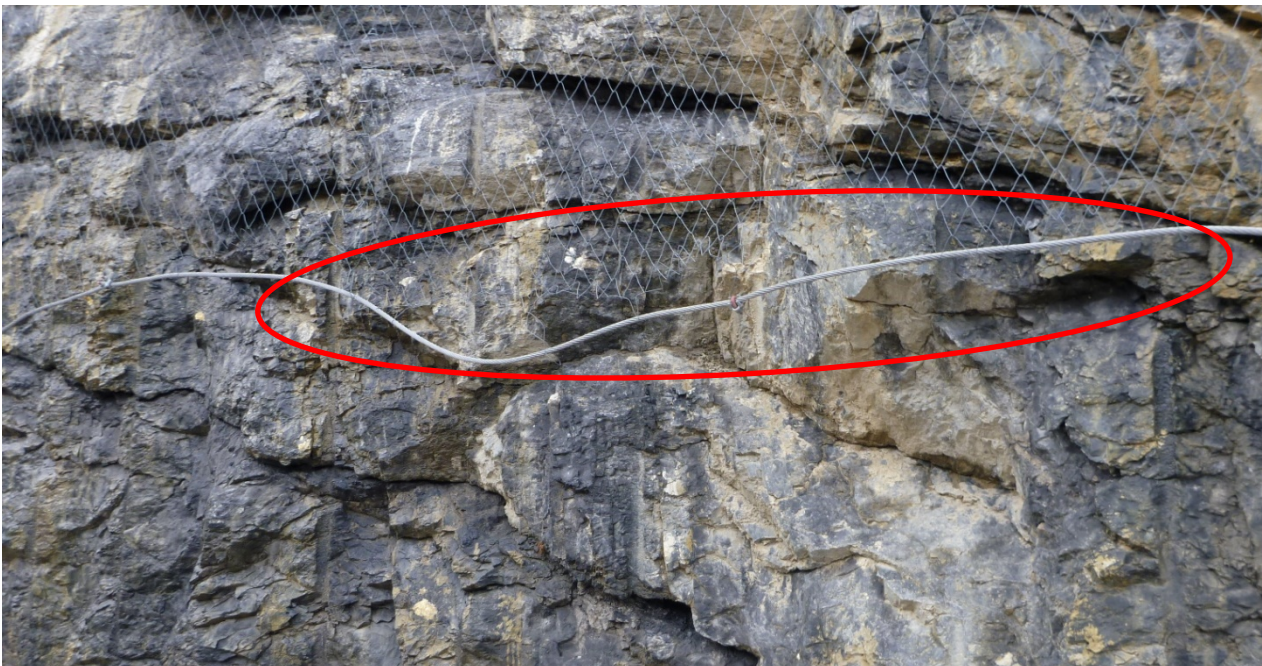


Photo 7 West side of the cutting. Photo was taken facing north on May 7, 2019.



Photo 8 Minor rockfall on the road. Photo was taken facing north on May 7, 2019.

