

SITE NUMBER AND NAME S017-II Mount Baldy Rockfall Hazards		HIGHWAY & KM 40:12, 38.28	PREVIOUS INSPECTION DATE May 7, 2019	INSPECTION DATE May 17, 2022
LEGAL DESCRIPTION NE 32-23-8-W5M	NAD 83 COORDINATES UTM Northing Easting 11 5653639 635354		RISK ASSESSMENT PF: 11 CF: 1 TOTAL: 11	
Average Annual Daily Traffic (AADT): 2600 (north) & 2580 (south) (Reference No. 53190)			Contractor Maintenance Area (CMA): 28	

SUMMARY OF SITE INSTRUMENTATION: There is no instrumentation at the S017-II site. LAST READING DATE: N/A		INSPECTED BY: Chris Morgan (KCB) Laura Assaad (KCB) Alex Frotten (AT) Roger Skirrow (AT)
PRIMARY SITE ISSUE: Rockfalls from back/cut slopes on the east and west side of Hwy 40:12. The site has narrow ditches and potential rockfall sources on both sides of the highway.		
APPROXIMATE DIMENSIONS: The slope height is approximately 16 m to 18 m (east side of the highway) and 8 m to 10 m (west side of the highway), with 3 m to 4 m of native soil at the top of the slopes.		
DATE OF ANY REMEDIAL ACTION: None.		

ITEM	CONDITION EXISTS		DESCRIPTION AND LOCATION	NOTICABLE CHANGE FROM LAST INSPECTION	
	YES	NO		YES	NO
Pavement Distress		X	N/A – none observed outside of typical pavement wear		X
Slope Movement	X		Weathering of the rock slope and rockfall into the east and west ditches	X	
Erosion	X		Erosion of soil at the top of east and west slopes	X	
Seepage		X	N/A – none observed		X
Culvert Distress		X	N/A – none observed		X

COMMENTS
<p>S017-II (East):</p> <ul style="list-style-type: none"> The rock slope on the east (northbound) side of the highway is 16 m to 18 m in height. Loose material at the top of the slope is eroding and contributing to the rockfall. The east (northbound) ditch is narrower than the west (southbound) resulting in less rockfall debris capacity (Photo 1 and 2). Debris has accumulated in the ditch at the toe of the slope. New rockfall debris up to 1 m in length was observed in the ditch (Photo 3) (WP 97). At the south end of the site the rock slope is more severely weathered than other parts of the rock slope. The weathering appears more severe along a shear plane, and appears to be undermining an overlying and relatively more competent rock mass causing more overhangs that could lead to future rockfall events (Photo 4).

S017-II (West):

- The rock slope on the west (southbound) side of the highway is approximately 6 m to 8 m in height. Loose material at the top of the slope is eroding (more towards the north side of the site) and contributing to the rockfall (Photo 5).
- The west (southbound) ditch is up to 1.0 m deep and 3 m wide. Debris has accumulated along the west side of the ditch at the toe of the rock slope (Photo 6).
- The top of the rock slope is more weathered than the lower portions of the rock slope and is more susceptible to falling down the slope (Photo 7). There are numerous cracks and blocks up to 1.0 m may break away over the next freeze-thaw cycle (Photo 8).

Maintenance/Repair/Monitoring Recommendations:

- The ditch should be cleaned of debris more regularly. The MCI reports that ditches are typically cleaned every 3 to 5 years.
- The rock slopes should be scaled to remove loose materials and reduce potential for rockfall hazard.
- The site should be inspected every two-years as part the Southern Region Section B inspections.

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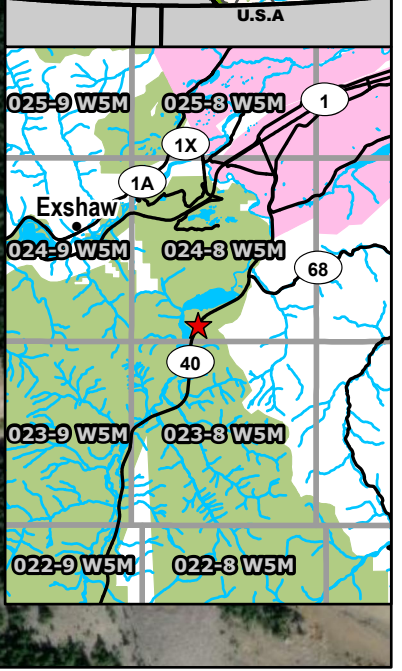
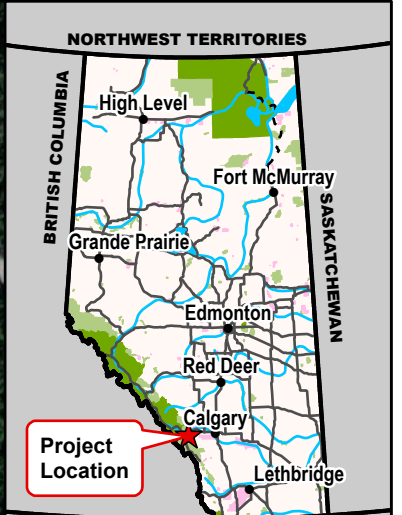
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
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<p>Chris Gräpel, M.Eng., P.Eng. Senior Civil Engineer, Associate</p>	
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DRAFT



Legend

-  GPS Waypoint (May 17, 2022)
-  GPS Track (May 17, 2022)
-  Scarp

NOTES:
 1. HORIZONTAL DATUM: NAD83
 2. GRID ZONE: UTM ZONE 11N
 3. IMAGE SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS AND THE GIS USER COMMUNITY.

CLIENT




PROJECT SOUTHERN REGION GEOHAZARD RISK MANAGEMENT PROGRAM		
TITLE Site Plan S017-2 - Mount Baldy Rockfall Hazard Hwy 40:12, km 38.28		
SCALE 1:4,000	PROJECT No. A05116A03	FIG No. 1

Inspection Photographs S017-II (East)

Photo 1 Rock slope height is approximately 16 m to 18 m. Loose material at the brow of the slope erodes and contributes to the rockfall. Photo taken May 17, 2022, facing southwest.



Photo 2 The ditch along the east (southbound) site of the highway is narrow and has less rockfall capacity than the west ditch. Photo was taken May 17, 2022, facing southwest.



Photo 3 New rockfall debris in the east (southbound) ditch (WP 97). Photo taken May 17, 2022, facing northwest.



Photo 4 At the south end of the east rockfall site there is more severe weathering along the bedding planes leading to more overhangs that could lead to more rockfall debris. Photo taken May 17, 2022, facing southwest.



S017-II (West)

Photo 5 The rock slope on the west (southbound) side of the highway is approximately 8 m to 10 m in height. Photo taken May 17, 2022, facing southwest.



Photo 6 The west (southbound) ditch is approximately 0.8 m to 1.0 m deep and 3 m wide and has more rockfall capacity than the east (northbound) ditch. Photo taken May 17, 2022, facing southwest.



Photo 7 The rock face near the top of the slope (indicated by red arrow) is more weathered and are more likely to fail than lower portions of the slope. Photo taken May 17, 2022, facing northeast.



Photo 8 A zoomed in photo of the weathered rock slope shown in Photo 7. Photo taken May 17, 2022, facing northeast.

