

SITE NUMBER AND NAME: S070-II and -III Eyrie Gap and Fir Creek Geohazard Sites		HIGHWAY & KM: 541:02, km 4.488 to km 4.794	PREVIOUS INSPECTION DATE: May 17, 2022	INSPECTION DATE: May 9, 2023
LEGAL DESCRIPTION:	NAD 83 COORDINATES: UTM Northing Easting		RISK ASSESMENT:	
S070-II: NW-35-16-05 M5	11	5585241 671123	PF: 10	CF: 1 TOTAL: 10
S070-III: NW-35-16-05 M5	11	5585007 671335	PF: 11	CF: 1 TOTAL: 11
AVERAGE ANNUAL DAILY TRAFFIC: 153 (west) & 158 (east) (Reference No. 55410220)			CONTRACTOR MAINTENANCE AREA (CMA): 27	

SUMMARY OF SITE INSTRUMENTATION: There is no instrumentation at the S070-II and -III sites. LAST READING DATE: N/A	INSPECTED BY: Chris Grapel (KCB) Peter Roy (KCB) Renato Macciotta (U of A) Roger Skirrow (AT) Alex Frotten (AT)
PRIMARY SITE ISSUE: S070-II: Bedrock backslope north of the highway approximately 20 m high. Potential rockfall source upslope. S070-III: Bedrock and soil mantled backslope north of the highway approximately 6 m high. Potential rockfall source upslope.	
APPROXIMATE DIMENSIONS: S070-II: Approximately 50 m long and up to 20 m high. S070-III: Approximately 100 m long and up to 6 m high.	
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		X
Slope Movement		X	Bedrock slopes with ongoing rockfall into the existing catchment ditches		X
Erosion		X	N/A – none observed		X
Seepage		X	N/A – none observed		X
Culvert Distress		X	N/A – none observed		X
Rockfall	X		Recent rockfalls up to 0.25 m ³ contained within the ditch		X

COMMENTS
<p>S070-II:</p> <ul style="list-style-type: none"> The height of the bedrock backslope north of the highway is approximately 20 m. The upper portion of the backslope consists of granular soil and the lower portion of intact bedrock. The natural ground upslope of the backslope is well vegetated with grass and trees. The bedrock bedding plane is approximately 30° from horizontal and has a strike perpendicular to the road. Erosion at the brow of the rock slope is leading to an overhanging topsoil root mat. The ditch is clearly defined and provides good catchment. The ditch is approximately 6 m wide and 1 m deep. Rockfalls are active and fresh rockfall debris up to 1 m in width was noted in the ditch during the 2023 inspection. The majority of the debris was approximately 0.3 m in diameter. Rockfall debris observed was primarily blocky with some rounded particles.

S070-III:

- Bedrock and soil mantled back slope north of the highway is approximately 6 m high, including a 1.5 m near vertical section at the brow. The bedrock bedding planes are dipping obliquely towards the highway. Upslope of the rock slope, approximately 30 m of high ground is present, well vegetated with grass and trees. Bedrock outcrops are present near the brow of the slope. Erosion at the crest of the slope has created overhanging vegetation mats.
- Rockfalls are active and fresh rockfall debris up to 1.45 m x 0.65 m x 0.70 m was observed in the ditch during the 2023 inspection. The large debris noted was at the same location as what was observed during the 2022 inspection, indicating that the debris has not been cleared out of the ditch. Rockfall debris is primarily subrounded to angular. Material that has accumulated in the ditch and should be cleared out.
- The ditch is approximately 0.7 m deep and provides good catchment for rockfall debris.
- The site is located on the right-hand side of a pullout where a creek was realigned due to a previous washout.

Maintenance/Repair/Monitoring Recommendations:

- The sites should be regularly inspected by AT's MCI and inspected as part of the Southern Region GRMP Section B inspections.
- The ditches at S070-II and -III should be regularly cleaned out to maintain rockfall capacity.
- This site was included in the K-Country Rockfall Hazard Assessment completed by KCB in 2023. A draft report was submitted on September 18, 2023. One of the recommendations in the report included that the risk rating should be re-assessed during the next Section B inspection based on the results of the rockfall hazard assessment.

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<p>Peter Roy, P.Eng. Civil Engineer</p>	
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Legend

- ★ Site Location
- ▲ GPS Waypoint (May 9, 2023)
- GPS Track (May 9, 2023)
- ▬▬▬ Crest of Rock Slope

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 S070-2, -3 - Eyrie Gap and Fir Creek Geohazard Sites Hwy 541:02, km 4.794-4.488		
SCALE 1:5,000	PROJECT No. A05116A03	FIG No. 1

Photo 1 **S070-II: Northern portion of back slope adjacent to the highway. Photo taken facing west on May 9, 2023.**



Photo 2 **S070-II: Central portion of back slope adjacent to the highway. Photo was taken facing north on May 9, 2023.**



Photo 3 S070-II: Southern portion of back slope adjacent to the highway. Photo was taken facing southeast on May 9, 2023.



Photo 4 S070-II: Rockfall debris close to the road. Photo taken facing southeast on May 9, 2023.



Photo 5 S070-III: Rockfall debris at the toe of the slope in northbound ditch. Photo taken facing northwest on May 9, 2023.



Photo 6 S070-III: Northbound ditch and bedrock fracturing. Photo taken facing east on May 9, 2023.



Photo 7 **S070-III: Bedrock fracturing leading to future rockfall blocks. Large rock noted in ditch was there during the 2022 inspection. Photo taken facing north on May 9, 2023.**

