

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: October 22, 2021	INSPECTION DATE: May 17, 2022
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: 844 (west) & 770 (east) (Reference No. 50100258)			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 Morgan (KCB) Laura Assaad (KCB) 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 (Photos 1 through 4). The bedrock bedding plane is approximately 30° from horizontal and has a strike perpendicular to the road (Photo 1 and 2). Erosion at the brow of the rock slope is leading to an overhanging topsoil root mat (Photo 4). 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 0.30 m in length was noted in the ditch during the 2022 inspection. 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 (Photos 5 through 7). 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 2022 inspection. Rockfall debris is primarily subrounded to angular. At the time of the 2022 site visit, granular material had accumulated in the ditch and should be cleared out (Photo 5).
- The ditch is approximately 0.7 m deep and provides good catchment for rockfall debris (Photo 5 and 6).
- 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 regular 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.

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<p>Chris Gräpel, M.Eng., P.Eng. Senior Civil Engineer, Associate</p>	
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File: Z:\A\CGY\Alberta\A05116A03\ABT Southern Region GRMP\400 Drawings\2022\Section\B\S070-2.aprx Date: Time: Creator: .aharrison



Legend

- ★ Site Location
- GPS Track (May 16, 2022)
- ▬▬▬ 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

Alberta

Klohn Crippen Berger

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

Inspection Photographs

Photo 1 Northern portion of back slope at S070-II on adjacent to the highway. Photo taken May 16, 2022, facing northwest.



Photo 2 Central portion of back slope at S070-II adjacent to the highway. Photo taken May 16, 2022, facing northeast.



Photo 3 Southern portion of back slope at S070-II adjacent to the highway. Photo taken May 16, 2022, facing east.



Photo 4 Back slope at S070-II on north side of the highway. Panoramic photo taken May 16, 2022, facing northeast.



Photo 5 Rockfall debris at the toe of the slope at the S070-III site. Photo taken May 16, 2022, facing northwest.



Photo 6 Northbound ditch along S070-III. Photo taken May 16, 2022, facing southeast.



Photo 7 **Bedrock fracturing at S070-III (indicated by red circle) leading to future rockfall blocks. Photo taken May 16, 2022, facing northeast.**

