

SITE NUMBER AND NAME: C037 – I & II Culverts		HIGHWAY & KM: 734:12, 41.8 & 42.9	PREVIOUS INSPECTION DATE: June 12, 2017	INSPECTION DATE: July 9, 2019
LEGAL DESCRIPTION: 03-29-033-08 W5M	NAD 83 COORDINATES: UTM Northing Easting C037-I: 11 5746497 630511 C037-II: 11 5747521 630427		RISK ASSESSMENT: PF: 1 CF: 1 TOTAL: 1 PF: 1 CF: 1 TOTAL: 1	
AVERAGE ANNUAL DAILY TRAFFIC (AADT): 160 south (Reference No. 51280)			CONTRACT MAINTENANCE AREA (CMA): 18	

SUMMARY OF SITE INSTRUMENTATION: None LAST READING DATE: n/a	INSPECTED BY: Chris Gräpel (KCB) Ryan Gazley (KCB) Tony Penney (AT) Rishi Adhikari (AT)
PRIMARY SITE ISSUE: In 2005, erosion damage occurred at the two sites because the culverts had insufficient capacity to handle flood flow volumes. Minimal damage was observed at these two sites after the 2013 flood event. The site was repaired in June 2016.	
APPROXIMATE DIMENSIONS: The two sites are located approximately 1 km apart on Hwy 734. Each site is approximately 20 m long, and the highway embankment at each site (C037-I and C037-II) is approximately 3 m and 5 m high, respectively, sloped at approximately 2H:1V.	
DATE OF ANY REMEDIAL ACTION: June 2016 – culverts with higher flow capacities were installed at each site (three 600 mm diameter CSP culverts at C037 – I, and three 1000 mm diameter CSP culvert at C037 – II).	

ITEM	CONDITION EXISTS		DESCRIPTION AND LOCATION	NOTICABLE CHANGE FROM LAST INSPECTION	
	YES	NO		YES	NO
Pavement Distress		X	None observed, gravel surfaced road		X
Slope Movement		X	None observed		X
Erosion		X	None observed		X
Seepage		X	None observed		X
Culvert Distress		X	Culverts open		X

COMMENTS
At the C037 – I site, some undersized Class 2 riprap was placed at the culvert outlets. The MCI should monitor the culvert outlets for erosion after future flood events. Large riprap that was placed during a previous repair and removed during the 2016 repair and placed along the flanks of the riprap ramp, can be placed around the culvert outlets to repair erosion, as needed.
An old timber crib culvert was discovered at the C037-I site during construction in 2016. The timber culvert was excavated and replaced with coarse rockfill (gabion basket backfill) and covered with woven geotextile before the culverts were placed.
Prior to repair work being completed in 2016, the original highway geometry at the C037-II site had a steep super elevation. To eliminate some of the super elevation, additional gravel was added to the repair work contract, after the site was inspected during the 2016 GRMP tour. Grading since 2016 re-established the super elevation that existed before construction.
The quantity and diameter of culverts installed at the C037 – II site resulted in the site becoming a bridge file (BF83184).
The C037 sites are recommended for removal from the GRMP.



Time: 13:58:35 PM
 Date: September 13, 2019
 File: Z:\A\EDM\A05115A02\ABT_Central Region GRMP\400 Drawings\2019\2_Section B\2_2019_Site Inspections\MXD\C037_1_190913.mxd

Legend

- GPS Track (July 9, 2019)
- Culvert
- Creek
- Flow Direction
- Riprap

NOTES:
 1. HORIZONTAL DATUM: NAD83
 2. GRID ZONE: UTM Zone 11N
 3. IMAGE SOURCE: Bing Maps, Microsoft Corporation 2019

CLIENT

Alberta

Klohn Crippen Berger

PROJECT
 CENTRAL REGION GEOHAZARD RISK MANAGEMENT PROGRAM

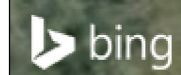
TITLE
 Site Plan
 C037-I
 Hwy 734:12, km 41.800

SCALE: 1:800 PROJECT No. A05115A02 FIG No. 1

© 2019 Microsoft Corporation © 2019 DigitalGlobe © CNES (2019) Distribution Airbus DS



- Legend**
- GPS Track (July 9, 2019)
 - Culvert
 - Creek
 - Flow Direction
 - Riprap



© 2019 Microsoft Corporation © 2019 DigitalGlobe © CNES (2019) Distribution Airbus DS



Time: 13:48:24 PM
 Date: September 13, 2019
 File: Z:\A\EDM\A05115A02\Drawings\2019\2. Section B12_2019_Site_Inspections\MXD\C037_2_190913.mxd

NOTES: 1. HORIZONTAL DATUM: NAD83 2. GRID ZONE: UTM Zone 11N 3. IMAGE SOURCE: Bing Maps, Microsoft Corporation 2019	CLIENT 	PROJECT CENTRAL REGION GEOHAZARD RISK MANAGEMENT PROGRAM
		TITLE Site Plan C037-II Hwy 734:12, km 42.900
	SCALE 1:1,000	PROJECT No. A05115A02
		FIG No. 2

Photo 1 Condition of inlet for 600 mm culverts at the C037-I site. Grass is growing up through the riprap placed around culverts. Photo taken July 9, 2019 looking southeast.



Photo 2 The inlet of the 1000-mm culverts (BF83184) installed at the C037 – II site . Vegetation is growing through riprap placed around culverts. Photo taken July 9, 2019 looking northeast.



Photo 3 Super elevation reestablished in roadway at C037-II from grading operations since repair was completed in 2016. Photo taken July 9, 2019 looking south.

