

SITE NUMBER AND NAME: C009 Gabion Wall north of Rocky Mountain House		HIGHWAY & KM: 11:10, 5.125	PREVIOUS INSPECTION DATE: June 22, 2016	INSPECTION DATE: June 12, 2017
LEGAL DESCRIPTION: 01-04-040-07 W5M	NAD 83 COORDINATES: UTM Northing Easting 11 5808438 640268		RISK ASSESSMENT: PF: 8 CF: 3 TOTAL: 24	
AVERAGE ANNUAL DAILY TRAFFIC (AADT): 3,880 (west) (Ref No. 54350)			CONTRACT MAINTENANCE AREA (CMA): 18	

SUMMARY OF SITE INSTRUMENTATION: None LAST READING DATE: n/a	INSPECTED BY: Chris Gräpel (KCB) Courtney Mulhall (KCB) Roger Skirrow (AT) Tony Penney (AT)
PRIMARY SITE ISSUE: Erosion and slope movements near three culverts (1500, 900, and 700 mm diameter CSP) that are located downstream of the gabion wall drop structure, and erosion of the east abutment and wing wall of the gabion wall drop structure. The site is in the south ditch (eastbound lane) of Hwy 11.	
APPROXIMATE DIMENSIONS: The site is approximately 30 m long in the ditch, and the south slope of the highway embankment is approximately 10 m high sloped at approximately 6H:1V.	
DATE OF ANY REMEDIAL ACTION: October 2002 – failed gabion wall rebuilt and ditch slopes flattened; Fall 2003 – live stakes and wattles installed.	

ITEM	CONDITION EXISTS		DESCRIPTION AND LOCATION	NOTICABLE CHANGE FROM LAST INSPECTION	
	YES	NO		YES	NO
Pavement Distress	X		Center curb subsided near catch basin		X
Slope Movement	X		Recent movement evident on back scarp of slope failure	X	
Erosion	X		Erosion at toe of slope, near culverts, and at east abutment and wing wall of gabion wall drop structure	X	
Seepage		X	None observed		X
Culvert Distress	X		Culverts require repair, see below	X	

COMMENTS
The highway embankment appears to be stable under normal conditions, but susceptible to erosion initiated movements. A slope failure is located on the east slope of the ditch, downstream of the gabion wall drop structure. The backscarp of the slope failure shows evidence of recent movement.
The east wing wall of the gabion wall drop structure has failed. The 1500-mm and 900-mm culverts are being undermined by water flowing around the east abutment and wing wall of the gabion wall drop structure.
The 1500-mm culvert is flowing, but the outlet is undermined and disconnected. A sinkhole is located above the 1500-mm culvert outlet. The 900-mm culvert inlet (at waypoint 483) is dry, and the outlet is trickling (observed to be dry during previous site inspection). The 700-mm culvert inlet is steeply angled (approximately 45°), and the outlet is disconnected and deflected upwards due to slope movements. The disconnected culverts may be causing or exacerbating slope movements.
Water is flowing around the asphalt “island” on Hwy 11, and over the edge of the highway embankment, causing erosion. A catch basin is located on the island, at waypoint 485. A catch basin is also located in the middle of the grassed area between Hwy 11 and Hwy 22, at waypoint 484.

ITEM	CONDITION EXISTS		DESCRIPTION AND LOCATION	NOTICABLE CHANGE FROM LAST INSPECTION	
	YES	NO		YES	NO
			The backslope and ditch are well vegetated.		
Discussed remedial actions: repair the 1500-mm and 700-mm culverts; rebuild the gabion-wall drop structure by placing riprap where the east wing wall has failed; excavate and reconstruct the embankment slope with geosynthetic reinforced fill, with subsurface drainage.					



Legend

- GPS Track (June 12, 2017)
- GPS Waypoint (June 12, 2017)
- Sinkhole
- Scarp
- Erosion
- Riprap Armoured Channel
- Flow Direction

NOTES:
 1. HORIZONTAL DATUM: NAD83
 2. GRID ZONE: UTM Zone 11N
 3. IMAGE SOURCE: Bing Maps 2017, Microsoft Corporation.
 Image dated August 2012

CLIENT

PROJECT CENTRAL REGION GEOHAZARD RISK MANAGEMENT PROGRAM		
TITLE Site Plan C009 - Gabion Wall north of Rocky Mountain House Hwy 11:10, km 5.125		
SCALE 1:1,000	PROJECT No. A05115A02	FIG No. 1

Time: 11:41:13 AM
 Date: August 23, 2017
 File: Z:\AEDM\A05115A02\ABT Central Region GRM\IP\400 Drawings\2017\2. Section B\2017 Site Inspections\MXD\C009_170811.mxd

Photo 1 The east wing wall of the gabion wall drop structure has failed (marked with red arrow). The ditch and backslope are well vegetated. Photo taken June 12, 2017 looking west.



Photo 2 The 1500-mm and 900-mm culverts are being undermined by erosion around the east abutment and wing wall of the gabion wall drop structure (waypoint 482). Photo taken June 12, 2017 looking east.



Photo 3 The backscarp of the embankment slope failure shows evidence of recent movement. The 700-mm culvert is deflected upwards and raised above the creek. Photo taken June 22, 2016 looking northwest from waypoint 482.



Photo 4 The center curb near the catch basin (waypoint 485). Photo taken June 12, 2017 looking northwest.

