

SITE NUMBER AND NAME: S008 Fisher Creek Pile Wall		HIGHWAY & KM: 762:02, 2.125	PREVIOUS INSPECTION DATE: July 8, 2020	INSPECTION DATE: July 5, 2021
LEGAL DESCRIPTION: 09-10-021-04 W5M	NAD 83 COORDINATES: UTM Northing Easting 11 5627342 678866		RISK ASSESSMENT: PF: 10 CF: 5 TOTAL: 50 (New cracking north of previously slide)	
AVERAGE ANNUAL DAILY TRAFFIC (AADT): 720 (north) (Ref No. 65170), 1420 (south) (Ref. No. 60180)			CONTRACTOR MAINTENANCE AREA (CMA): 27	

SUMMARY OF SITE INSTRUMENTATION: 5 slope inclinometers installed into the concrete pile wall. LAST READING DATE: June 17, 2021	INSPECTED BY: Chris Morgan (KCB) Margot Lederman (KCB) Alex Frotten (AT) Roger Skirrow (AT)
PRIMARY SITE ISSUE: Monitoring natural slope and embankment slope failure repair on west side of highway.	
APPROXIMATE DIMENSIONS: Pre 2017: 130 m long slide area, embankment slopes vary 3H:1V to 4H:1V, slope is approximately 12 m high. Previous reports indicate landslide depth of 5 m below highway. In 2020, new pavement cracking north of the previous slide was observed, and the site extents have therefore been extended 20 m northwards.	
DATE OF ANY REMEDIAL ACTION: Concrete pile wall installed on west side of highway; construction completed in January 2017. Pile wall consists of cast-in-place, 1.2 m diameter and 18 m long piles installed into bedrock. Some piles encountered water bearing sand and gravel that required concrete to be tremied into place. New asphalt surface and HTCB installed in Fall 2017.	

ITEM	CONDITION EXISTS		DESCRIPTION AND LOCATION	NOTICABLE CHANGE FROM LAST INSPECTION	
	YES	NO		YES	NO
Pavement Distress	X		Pavement cracking 11 m long and 20 mm wide in northbound lane approximately 18 m north of the existing pile wall	X	
Slope Movement	X		Some sinkholes and fill cracking over entire length of pile wall		X
Erosion		X	Slopes well vegetated with grass. Existing erosion features not visible.		X
Seepage		X			X
Culvert Distress		X			X

COMMENTS
Recorded movements in the existing pile-wall are negligible, but new pavement cracking and a dip in the northbound lane to the north of the pile wall was observed in 2020, indicating possible outflanking of the wall. Pavement cracking was noted approximately 24 m north of the existing pile wall (approximately 15 m north of the HTCB terminal). Movement is to the west.
In 2021, the extent of pavement cracking was larger than in 2020. The crack was estimated as approximately 11 m long and up to 22 mm wide. Cracking was within 0.8 m of the white line on the east side of the highway (northbound lane).

The slope along the west embankment is approximately 5-6 m high and well vegetated with grass. Downstream of the slope is a vegetated area with no obvious tension cracking.

Fill on the west slope of the highway was settling around the concrete piles creating some cracking downslope of the pile wall and some localized sinkholes were noted around the pile wall in 2018. At the time of the 2021 site visit, vegetation and long grass obscured additional observations.

The ditch on the uphill side was experiencing rill erosion in 2018 due to lack of rolled erosion control product in the ditch bottom. At the time of the 2021 site visit, the ditch was well vegetated and in good condition.

Recommendations:

- Short-Term
 - Continue reading pile wall instruments at least once a year (current reading frequency is twice a year).
 - Continue annual inspections.
 - Drill a borehole near the pavement cracking north of existing pile wall and install a SI to monitor slope movements.
- Long-Term
 - Extend the pile wall to the north, or excavate and replace embankment fill with geogrid reinforced gravel to stabilize west embankment slope.

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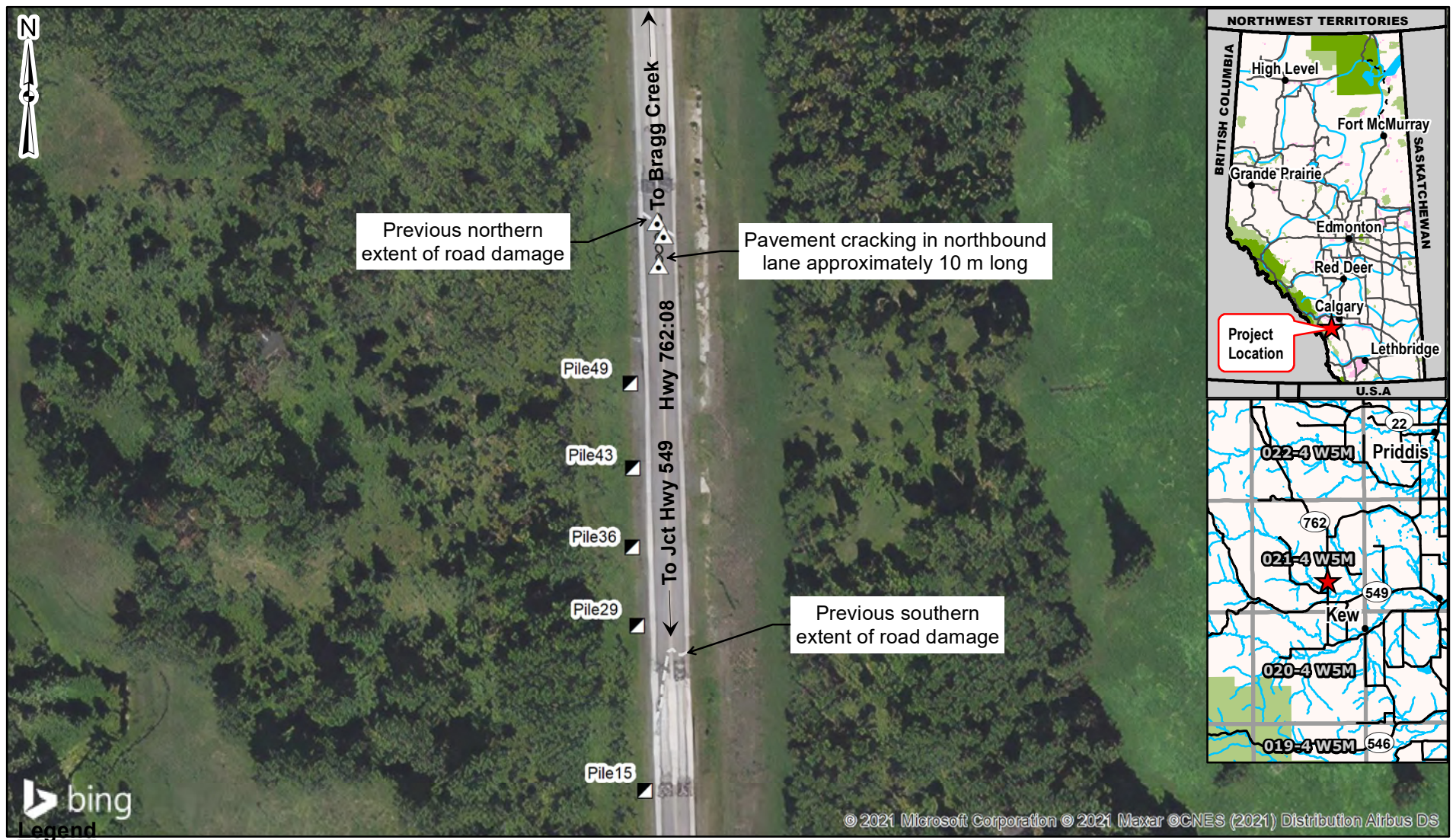
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2021-11-24

Chris Morgan, M.Sc., P.Eng.
Senior Geotechnical Engineer

Time: 14:45:31 PM
 Date: October 07, 2021
 File: Z:\MCG\Y\Alberta\A05116A03\ABT Southern Region GRMP\400 Drawings\2021\Section B figures\MXD\SO08_211007.mxd Date: October 07, 2021 Time: 14:45:31 PM Creator: aharrison



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-  GPS Waypoint (July 8, 2020)
-  Slope Inclinometer (SI)
-  Crack



NOTES:
 1. HORIZONTAL DATUM: NAD83
 2. GRID ZONE: UTM Zone 11N
 3. IMAGE SOURCE: Bing Maps 2020, Microsoft Corporation

CLIENT




PROJECT SOUTHERN REGION GEOHAZARD RISK MANAGEMENT PROGRAM		
TITLE Site Plan S008 - Fisher Creek Hwy 762.02, km 2.125		
SCALE 1:1,300	PROJECT No. A05116A03	FIG.No. 1

Photo 1 New pavement cracking north of the pile wall. Possible outflanking of pile wall. Photo taken facing south on July 5, 2021.



Photo 2 Pavement cracking in the northbound lane, north of the existing pile wall. Photo taken facing south on July 5, 2021.



Photo 3 Pavement cracking has enlarged when compared to 2020 inspection. Photo taken facing southwest on July 5, 2021.



Photo 4 View south along east ditch. Photo taken on July 5, 2021.

