Alberta Transportation

CENTRAL REGION GRMP
SITE INSPECTION FORM

Klohn Crippen Berger

SITE NUMBER AND NAME: **C030 Slide and Erosion Site**	HIGHWAY & KM: 734:12, 40.628	PREVIOUS INSPECTION DATE: June 23, 2016	INSPECTION DATE: **July 9, 2019**
LEGAL DESCRIPTION: SW 29-33-8-W5	NAD 83 COORDINATES: UTM 11 Northing 5745765 Easting 629598	RISK ASSESSMENT: PF: 1 CF: 1 TOTAL: 1	
AVERAGE ANNUAL DAILY TRAFFIC (AADT): 100 (southbound) & 60 (northbound) (Ref No. 51280)		CONTRACT MAINTENANCE AREA (CMA): 18	

SUMMARY OF SITE INSTRUMENTATION:	INSPECTED BY:
None LAST READING DATE: n/a	Chris Gräpel (KCB) Ryan Gazley (KCB) Rishi Adhikari (AT) Tony Penney (AT)

PRIMARY SITE ISSUE: Slope instability at the site was repaired in 2004. Flooding in 2005 caused significant erosion damage to the area and was repaired in September 2005.

APPROXIMATE DIMENSIONS: n/a

DATE OF ANY REMEDIAL ACTION: Maintenance of subsurface drains, culvert slope drains, drainage pipes, and slide area undertaken in fall of 2014. Drainage capacity of cross culverts increased and a rip rap armoured channel constructed to divert water away from slide area. Guardrail installed to minimize potential for motorists to drive onto slide area. Construction was completed in June 2016.

ITEM	CONDITION EXISTS		DESCRIPTION AND LOCATION	NOTICABLE CHANGE FROM LAST INSPECTION	
	YES	NO		YES	NO
Pavement Distress		X			X
Slope Movement		X			X
Erosion		X			X
Seepage		X			X
Culvert Distress		X			X

COMMENTS

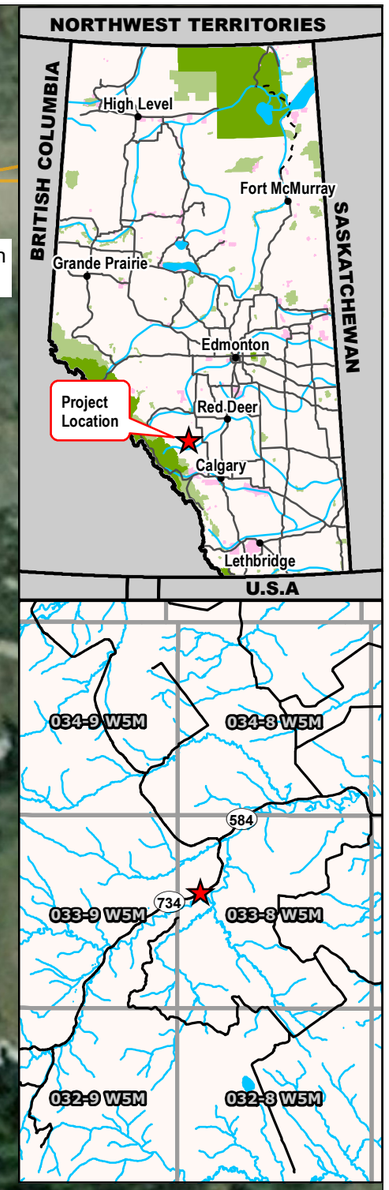
Site repaired as part of the AT High Water Mitigation Works by installation of culverts upstream of slide to re-route surface water flow through an alternate route that appeared to be a historic, pre-highway drainage channel. The diameter and number of culverts constructed at this site resulted in the crossing becoming a bridge file (BF83183).

The east and west oversize slope drains were in good condition. The subsurface drainage pipes at the east location are performing adequately and were observed to be flowing during the inspection. The slope below the subsurface drainage pipes at the east location was saturated.

The ditch along the south side of the highway that feeds the west slope drain is in good condition and the synthetic ditch barriers are intact.

The four CSP culverts installed below the highway at the west end of the site appear to be in good condition. All four of these culverts were damaged during construction. The north section of the west-most culvert and the south section of the east-most culvert were removed and replaced after being damaged. The inner two culverts were left in place. The condition of the culverts does not appear to have changed since 2016. Some vegetation is growing

in the riprap armouring at the outlet and along the outlet channel.
Water was observed to be flowing through the forested area and over the river valley slope downstream of the armoured outlet channel (waypoint 879). A landslide that was observed in 2017 where the water flows over the crest of the valley slope does not appear to have worsened.
The vegetation on the site and the stockpile on the west bank is well established. KCB recommends that the site be removed from the GRMP.



Legend

- GPS Waypoint (July 9, 2019)
- Riprap
- GPS Track (July 9, 2019)
- PVC Slope Drain
- Guardrail
- Culvert
- Flow Direction

Meters
0 50

NOTES:
1. HORIZONTAL DATUM: NAD83
2. GRID ZONE: UTM Zone 12N
3. IMAGE SOURCE: Bing Maps, Microsoft Corporation 2019

CLIENT
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PROJECT
CENTRAL REGION GEOHAZARD RISK MANAGEMENT PROGRAM

TITLE
Site Plan
C030
Hwy 734:12, km 40.628

SCALE	PROJECT No.	FIG No.
1:1,000	A05115A02	1

Time: 10:42:26 AM
Date: September 12, 2019
File: Z:\AIEDM\A05115A02 ABT Central Region GRMP\400 Drawings\2019\2. Section B\2. 2019 Site Inspections\MXD\C030_190912.mxd

DRAWING 001

HIGHWAY 734:12

CONTRACT 17035

DESCRIPTION H734:12 - SITE C30 40.5 KM: ROAD ALIGNMENT AND DRAINAGE PLAN AND PROFILE

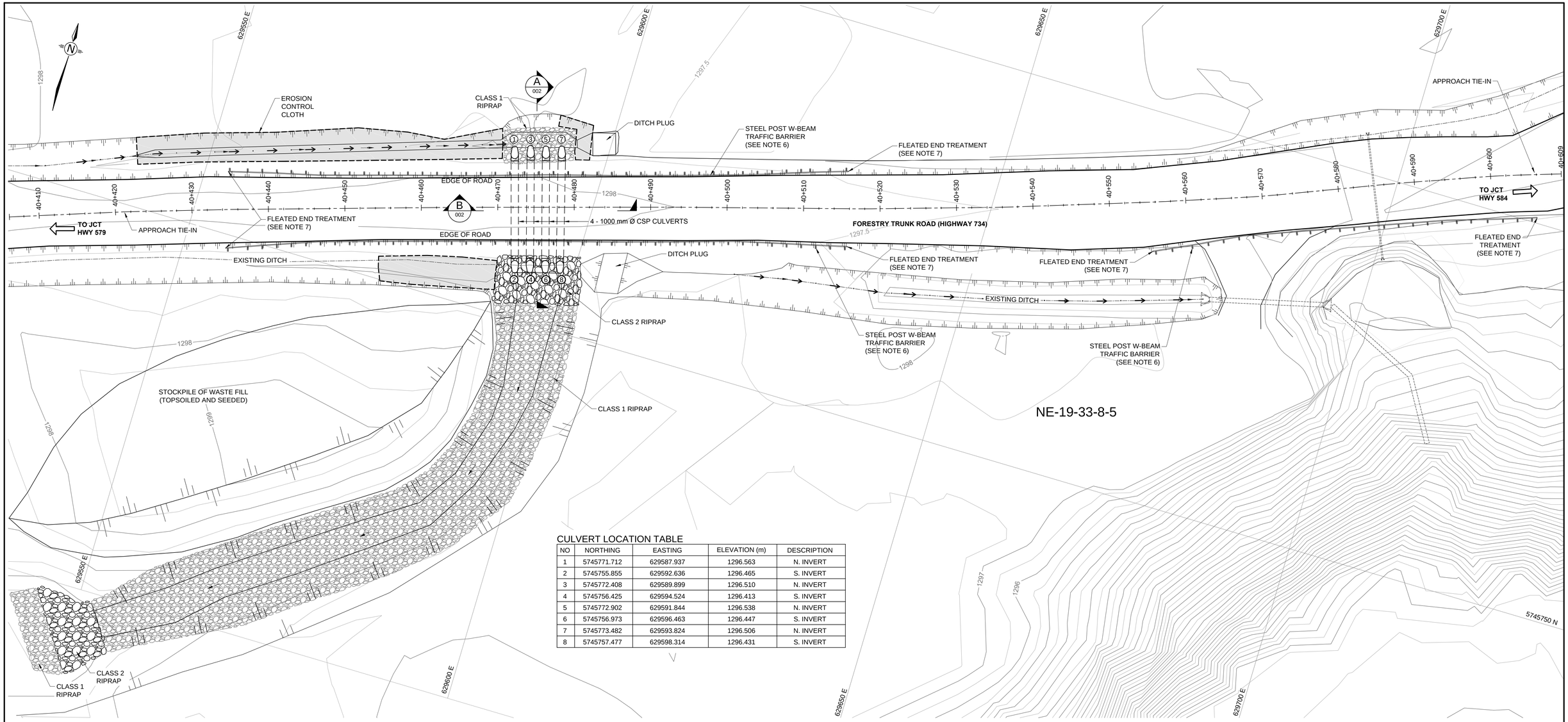
PHOTO

DATE

BY

SURVEYED

DEPARTMENT BAR CODE



CULVERT LOCATION TABLE

NO	NORTHING	EASTING	ELEVATION (m)	DESCRIPTION
1	5745771.712	629587.937	1296.563	N. INVERT
2	5745755.855	629592.636	1296.465	S. INVERT
3	5745772.408	629589.899	1296.510	N. INVERT
4	5745756.425	629594.524	1296.413	S. INVERT
5	5745772.902	629591.844	1296.538	N. INVERT
6	5745756.973	629596.463	1296.447	S. INVERT
7	5745773.482	629593.824	1296.506	N. INVERT
8	5745757.477	629598.314	1296.431	S. INVERT

ROAD ALIGNMENT PLAN VIEW

SCALE 1:250

NOTES

1. AS CONSTRUCTED SURVEY CONDUCTED BY HAMILTON & OLSEN SURVEYS LTD. IN SEPTEMBER 27, 2016.
2. DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.
3. CONTOURS SHOWN GENERATED FROM THE COMBINATION OF LIDAR AND TOPOGRAPHIC SITE SURVEY.
4. COORDINATES IS IN UTM PROJECTION WITH NAD83 DATUM, ZONE 11; CENTRAL MERIDIAN 117d W.
5. CHAINAGE BASED ON SITE LOCATION DISTANCE ALONG HWY 734.
6. TRAFFIC BARRIERS FOR SLIDE 2 HAZARD MITIGATION CONSIST OF STEEL POST W-BEAM SYSTEM (ALBERTA TRANSPORTATION DRAWING TEB 3.09).
7. TRAFFIC BARRIER SYSTEM INCLUDES FLARED ENERGY ABSORBING TERMINAL (FLEAT) END TREATMENT (ALBERTA TRANSPORTATION DRAWING RDG-B1.5).

LEGEND

- CONTOUR (0.5 m INTERVAL)
- CULVERT
- CLASS 1 RIPRAP
- CLASS 2 RIPRAP
- EXTENT OF EROSION CONTROL CLOTH
- FLOW DIRECTION
- TRAFFIC BARRIER

THINK SAFETY FIRST

SCALE: 1:250 m 5 0 5

THIS DRAWING MAY HAVE BEEN REDUCED. ALL SCALE NOTATIONS INDICATED (i.e. 1:1000 etc) ARE BASED ON 22" X 34" FORMAT DRAWINGS

CONSULTANT Klohn Crippen Berger

DESIGNER DATE

CHECKER DATE

REV	DATE	REVISION	BY
5			
4			
3			
2			
1	2017-01-02	ISSUED FOR REVIEW	FD

Alberta Transportation

H734:12 - SITE C30 40.5 KM
BF 83183 ROAD ALIGNMENT AND DRAINAGE PLAN
RECORD DRAWING

DATE	LOCATION	SITE	CONTRACT	HIGHWAY	SHEET	DRAWING
2015-09-01	NE-19-33-8-5	C30	17035	734:12	1 OF 2	001

Photo 1 **Condition of oversize slope drain and subsurface drainage pipes. Subsurface drainage pipes were observed flowing during inspection. The slope was saturated below this point (waypoint 878). Photo taken July 9, 2019 looking south.**

Photo 2 **Condition of western slope drain and riprap armouring. Photo taken July 9, 2019 looking northwest.**

Photo 3 **Condition of ditch along south side of highway that drains to western slope drain. Photo taken July 9, 2019 looking west.**

Photo 4 **Photo showing the culvert outlets and riprap armoured stilling basin on south side of highway. Photo taken July 9, 2019 looking northwest.**

Photo 5 **Riprap armoured channel downstream of culvert outlets. Photo taken July 9, 2019 looking southwest.**

Photo 6 **Photo showing the location where water is discharging over the river valley slope from the armoured outlet channel (waypoint 879). Photo taken July 9, 2019.**