



**NORTH CENTRAL REGION GRMP
EDSON / STONY PLAIN
SITE INSPECTION FORM**



SITE NUMBER AND NAME: NC094 – 100 Ave at NB AHD	HIGHWAY AND KM: 216:06, km 20.550	PREVIOUS INSPECTION: N/A	CURRENT INSPECTION: June 14, 2022
LEGAL DESCRIPTION: NW-32-52-25-W4	NAD83 COORDINATES: UTM12U 5935400N, 323784E		RISK ASSESSMENT: PF: 9 CF: 4 Total: 36
AVERAGE ANNUAL DAILY TRAFFIC (AADT): 97,590 (2021)		CONTRACTOR MAINTENANCE AREA (CMA): AHD	

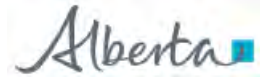
SUMMARY OF INSTRUMENTATION: No instrumentation installed at this site. LAST READING DATE: N/A	INSPECTED BY: Stantec: Leslie Cho, Sonja Pharand AT: Rocky Wang
PRIMARY SITE ISSUE: Slumping of the side slope embankment south of 100 Ave between two overpass bridges (81038 S2-7 and 81038 N1-1) for the Anthony Henday Drive (AHD).	
APPROXIMATE DIMENSIONS: Landslide approximately 13 m wide by 8 m long x 2 m deep	
DATE OF ANY REMEDIAL ACTION: No remedial action completed to date	

ITEM	CONDITIONS EXIST		DESCRIPTION AND LOCATION	NOTICEABLE CHANGE FROM LAST INSPECTION	
	YES	NO		YES	NO
Pavement Distress		X			
Slope Movement	X		Slump on the vegetated embankment south of 100 Ave on-ramp to northbound Anthony Henday Drive, between the two Anthony Henday overpass bridge abutments.		
Erosion		X			
Seepage		X			
Culvert Distress		X			
Other	X		Pooling water at top of slope at tension barrier, light standard, and low area. Pooling water along south ditch of 100 Ave.		

COMMENTS
<ul style="list-style-type: none"> The overall embankment about 33 m wide and 8 m high. The slump exists between the two bridge abutments south of the 100 Avenue on-ramp to AHD northbound. The landslide is slightly west of center of the embankment and is approximately 13 m wide by 8 m long by 2 m deep. The landslide appears to be confined within the approach fill. A scarp was observed approximately at mid-height of embankment and is up to 0.5 m high. Toe bulge is 4.1 m from the edge of the pavement and approximately 0.7 m high. Snow fence has been placed above and below the slump. The scarp is approximately 0.7 m from the snow fence. The highway surface currently does not appear to be affected by the embankment failure. Additional dips present on slumped ground near top scarp. Ponding water in vehicle tire ruts along the toe of the embankment. Scouring on the south side of the 4 high-tension cable barrier posts closest to the embankment. Holes are 30 cm deep with 20 cm average diameter. Water is ponding in these holes.




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- A possible scour hole was observed at the base of the light standard at the top of the slope with pooling water 20 cm deep.
- Standing water north of the light standard. Water appears to be directed to this location from AHD on both sides of slope. Drainage mats present. Overall drainage at the top of the embankment appears to be towards the south and away from the bridge.

RECOMMENDATIONS

- The MCI should continue to monitor the slump and highway surface until remediation can be undertaken. Movement of snow fence and distance of scarp to snow fence should be documented regularly.
- Long-term remediation may consist of remove and replacing an area 15 m wide by 12 m long and 5 m deep with granular fill. Geogrid may also be considered to enhance slope stability. The high-level cost for removal and replacement is \$150,000 to \$200,000 excluding engineering costs.
- Site inspections frequency should be increased to annual inspections.

PREPARED BY: Sonja Pharand, E.I.T.	PREPARED BY: Leslie Cho, M.Eng., P.Eng.	REVIEWED BY: Xiteng Liu, M.Sc., P.Eng., PMP
		

2022 Site Inspection Photos at NC094

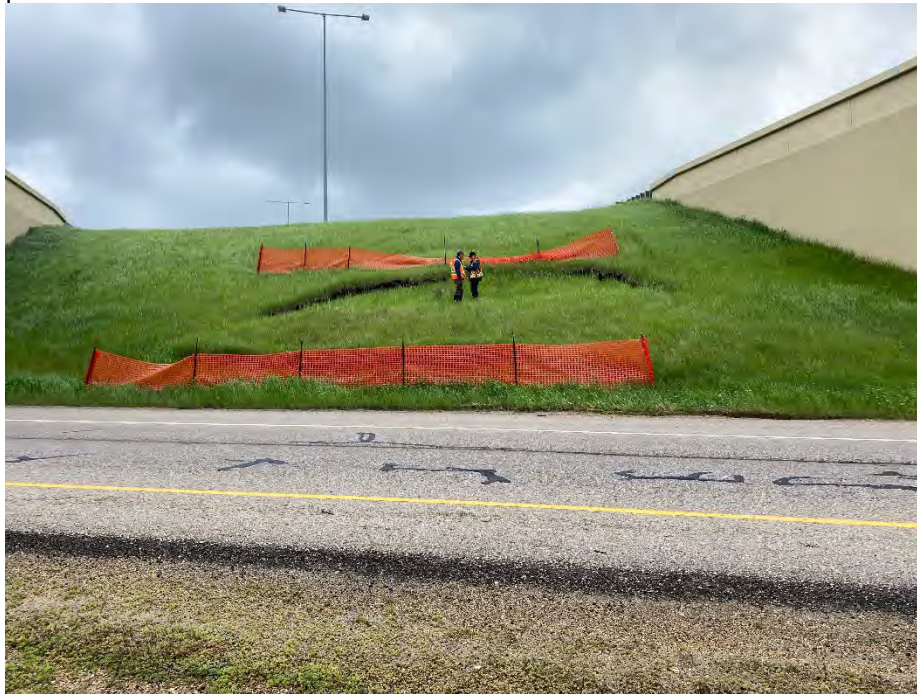


Photo 1: Slump on south embankment. Looking south.



Photo 2: Slump on south embankment. Looking west.

2022 Site Inspection Photos at NC094



Photo 3: Slump on south embankment. Looking southwest.



Photo 4: Ponded water on east side of embankment toe. Looking west.



Photo 5: Toe of the embankment. Looking east.



Photo 6: Dips in the ground below top of slump. Looking southwest.

2022 Site Inspection Photos at NC094



Photo 7: Upper scarp. Looking southwest.



Photo 8: Water ponding at the top of the embankment. Looking northwest.

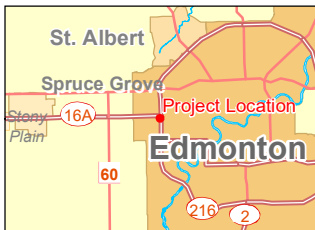
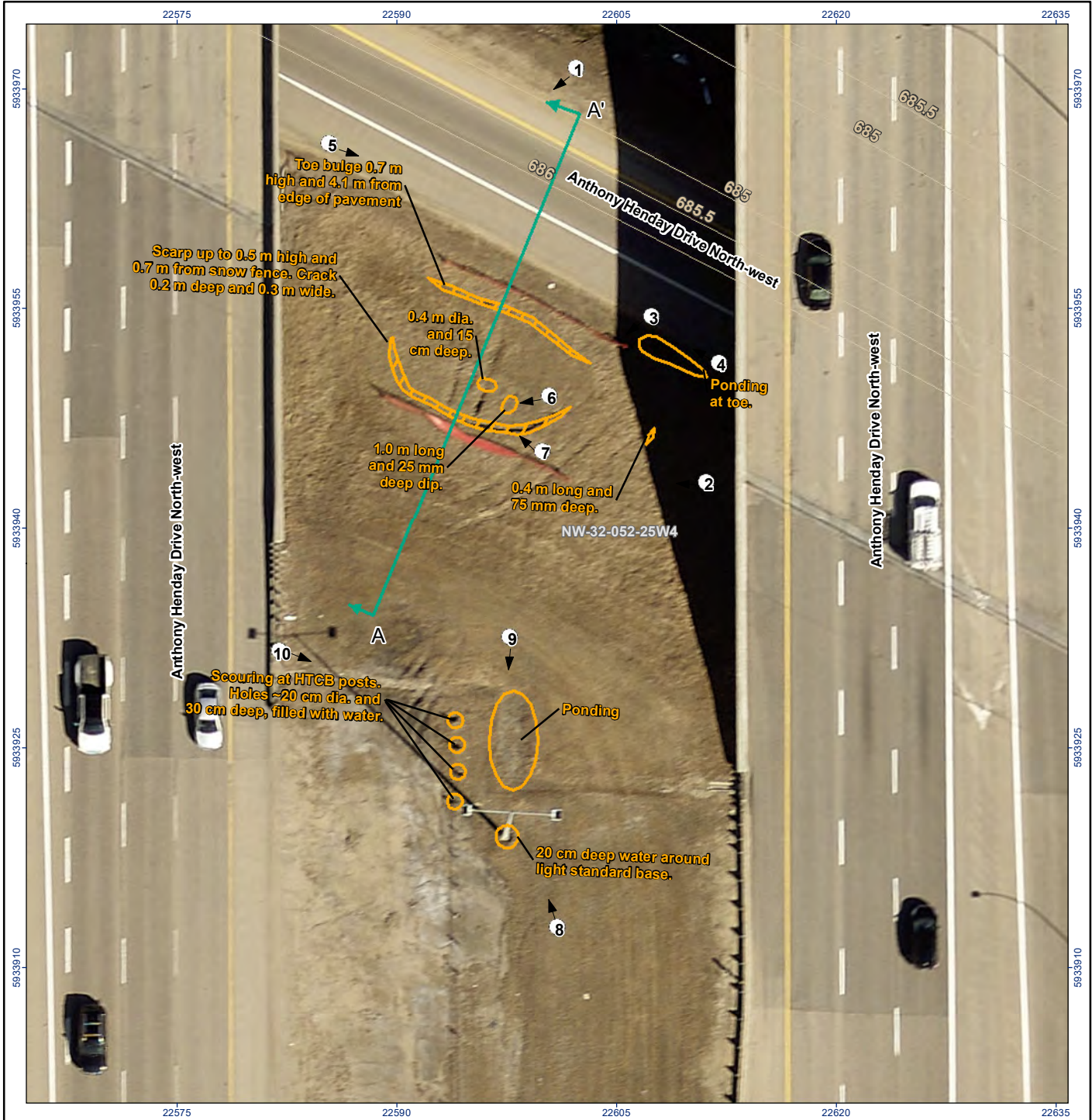
2022 Site Inspection Photos at NC094



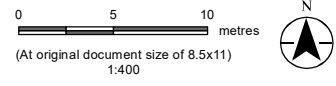
Photo 9: Ponding water at top of embankment. Looking south.



Photo 10: Drainage pathways from bridge surfaces. Looking east.



- 2022 Observation
- Ground Elevation Contour (m AMSL)
- 1 → Quarter Section
- 1 ○ Approximate Photo Location and Direction



Project Location: City of Edmonton, Alberta
 Prepared by MKuhl on 2022-07-08
 TR by LCho on 2022-07-08
 IR by XLiu on 2022-07-xx

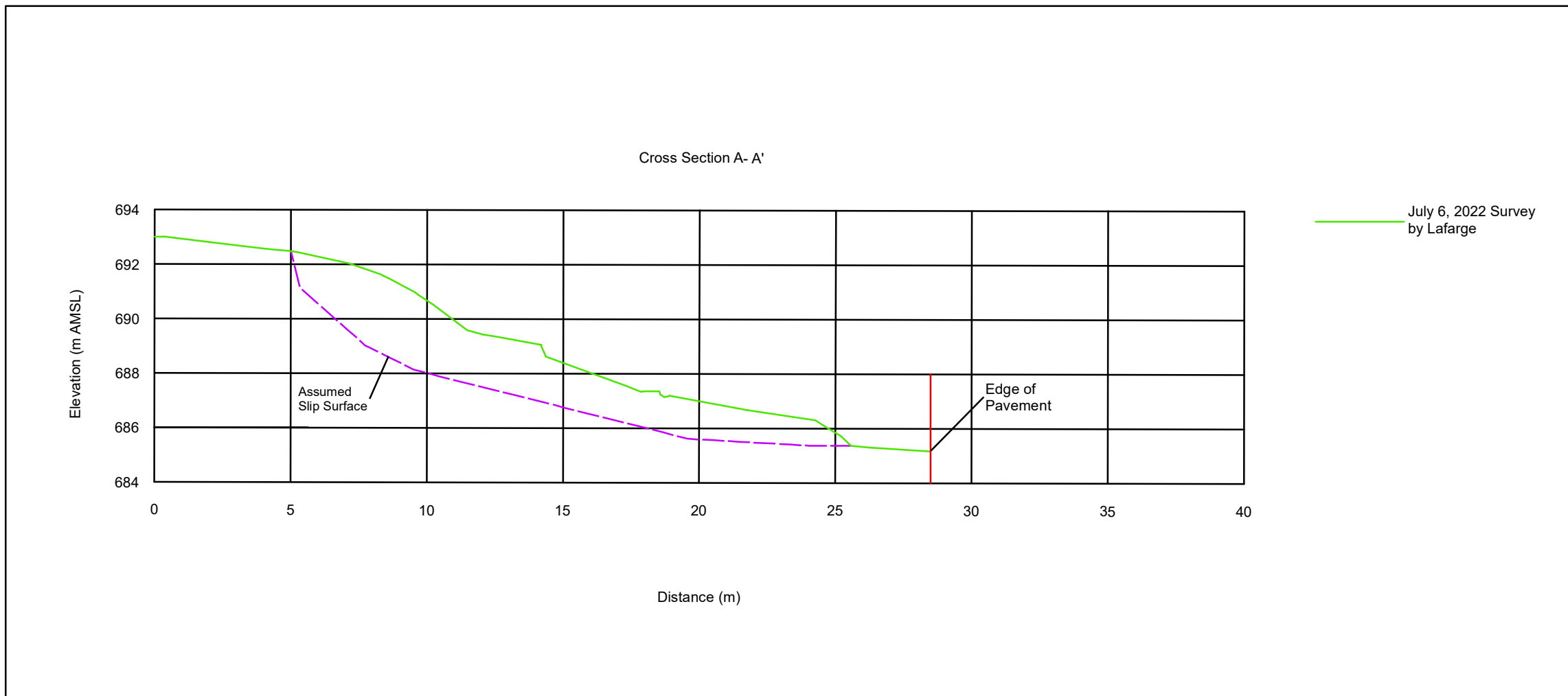
Client/Project: Alberta Transportation
 Geohazard Monitoring Program
 NC094 – 100 Ave at NB AHD
 123315222

Figure No. **1**
 Title
Site Plan

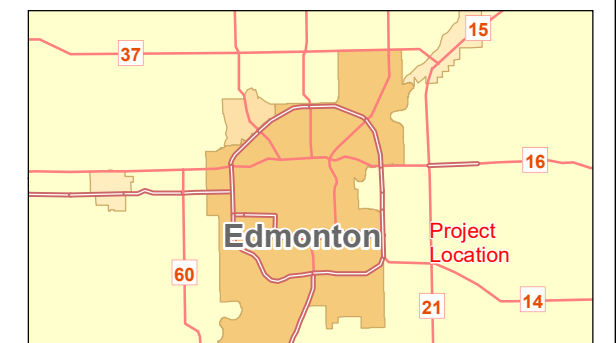
- Notes**
1. Coordinate System: NAD 1983 3TM 114
 2. Data Sources: Geogratis, ©Department of Natural Resources Canada, All rights reserved.
 3. Imagery: City of Edmonton, May - July 2021.

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 2. Data Sources: Geogatis, ©Department of Natural Resources Canada, All rights reserved.
 3. Imagery: City of Edmonton, 2019.



Project Location
 City of Edmonton,
 Alberta

Prepared by CL on 2022-07-21
 Quality Review by LC on 2022-07-21
 Independent Review by CM on 2022-07-21

Client/Project
 Alberta Transportation
 Geohazard Monitoring Program
 NC094 – 100 Ave at NB AHD

123315222

Figure No.
2

Title
Ground Profile of Section A