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| SITE NUMBER AND NAME: NC081 – Evansburg Slide | HIGHWAY AND KM: 16A:08, km 8.230 | PREVIOUS INSPECTION: June 16, 2022 | CURRENT INSPECTION: June 13, 2024 |
| LEGAL DESCRIPTION: SW 30-53-07-W5M | NAD83 COORDINATES: UTM11U 5941007N, 630586E | | RISK ASSESSMENT: PF: 3 CF: 3 Total: 9 |
| AVERAGE ANNUAL DAILY TRAFFIC (AADT): 960 (2023) | | CONTRACTOR MAINTENANCE AREA (CMA): 508 | |

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| SUMMARY OF INSTRUMENTATION: Three slope inclinometers and four standpipe piezometers functional LAST READING DATE: May 16, 2024 | INSPECTED BY: Stantec: Leslie Cho, Sonja Pharand TEC: Kristen Tappenden |
| PRIMARY SITE ISSUE: Shallow slope failure on south side of highway. | |
| APPROXIMATE DIMENSIONS: 50 m wide by 9 m long x 2 m deep | |
| DATE OF ANY REMEDIAL ACTION: Berm constructed over culvert alignment in 2001. Highway resurfaced in 2009. Eastbound lane (EBL) patched in Fall 2014 and June 2017. An 8 – 10 tonne patch placed October 2020. Remedial construction including installation of a driven steel pile wall (HP 310x110) and highway reconstruction was completed in Fall 2021. | |

| ITEM | CONDITIONS EXIST | | DESCRIPTION AND LOCATION | NOTICEABLE CHANGE FROM LAST INSPECTION | |
|-------------------------|------------------|----|--|--|----|
| | YES | NO | | YES | NO |
| Pavement Distress | | X | Pavement is still in good condition since repair. | | X |
| Slope Movement | X | | SI21-01 and 02 show small movements at the pile top. Bulging on south slope near creek. | | X |
| Erosion | X | | Erosion noted at the inlet and outlet of the culvert across the south field access road. | | X |
| Seepage | | X | | | X |
| Bridge/Culvert Distress | | X | | | X |

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| COMMENTS |
| <ul style="list-style-type: none"> Pavement cracks approximately 3 mm to 5 mm wide and 250 mm long were observed in the westbound lane's northern wheel path, and appear similar to the 2022 inspection. The repaired pavement appears in good condition (Photo 1) Pavement cracking was observed on either side of the 2021 repair zone (Photos 2 & 3) SI21-01 and SI21-02 are installed within the pile wall. Small deflections were observed at the pile top which is likely due to loading and deflection of the pile wall. BH20-02 is installed in the bulging area on the south slope near the creek and indicates little change since 2023. Piezometric levels range from 2.1 m to 4.3 m below ground surface and are approximately at creek elevation, similar to previous years. Erosion was noted at the west end of the culvert crossing the property access road at the southwest corner of the project extents (Photo 4). The east end of the culvert has become vegetated and the erosion and saturated ground observed in 2022 was not present during this inspection. The ground around the flush mount installed for SI21-01 and SI21-02 is settled, similar to the condition in 2022. This is likely due to less compaction around the inclinometers by the Contractors to avoid damage to the instrument. |

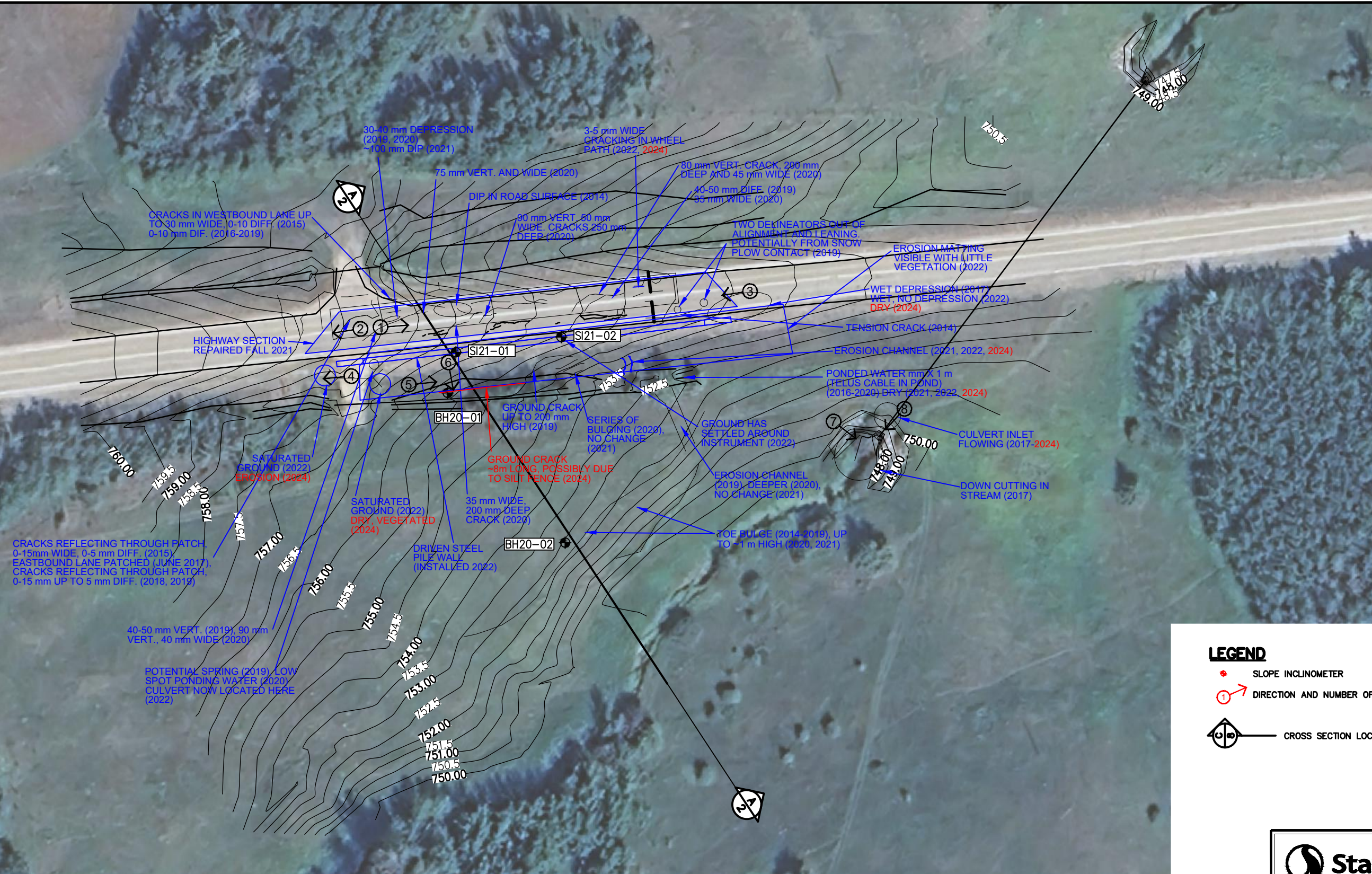
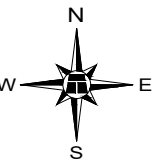
- The south ditch was observed to be dry and well vegetated. A ground crack, approximately 8 m long and 60 mm wide was observed near the south fence line (Photos 5 & 6). This crack may be due to removal of the silt fencing that was observed in 2022.
- The culvert (BF71355) is in good condition and does not appear to have been affected by the landslide or construction (Photos 7 & 8).
- The erosion channel near BH20-02 was mostly vegetated and appears unchanged since 2022.
- The south slope beyond the tree line was very well vegetated at the time of inspection and may have obscured some landslide features.

RECOMMENDATIONS

- Pavement cracks should be monitored by the MCI and sealed to prevent water infiltration into the embankment and pavement structure.
- The ground crack along the fence line should be regraded to prevent water infiltration into the embankment.
- The MCI should continue to monitor the culverts on a regular basis to ensure they are free flowing to reduce surface water penetration of the embankment and pavement structure.
- The site inspection frequency can be reduced given installation of the pile wall and re-vegetation of the slopes. An inspection frequency of once per contract cycle is recommended.
- Instrumentation monitoring should continue to be completed twice annually in the spring and fall.

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| PREPARED BY: Sonja Pharand, P.Eng. | REVIEWED BY: Xiteng Liu, M.Sc., P.Eng., PMP | PERMIT TO PRACTICE: |
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LEGEND

- SLOPE INCLINOMETER
- ① DIRECTION AND NUMBER OF PHOTO
- CROSS SECTION LOCATION

NOTES :

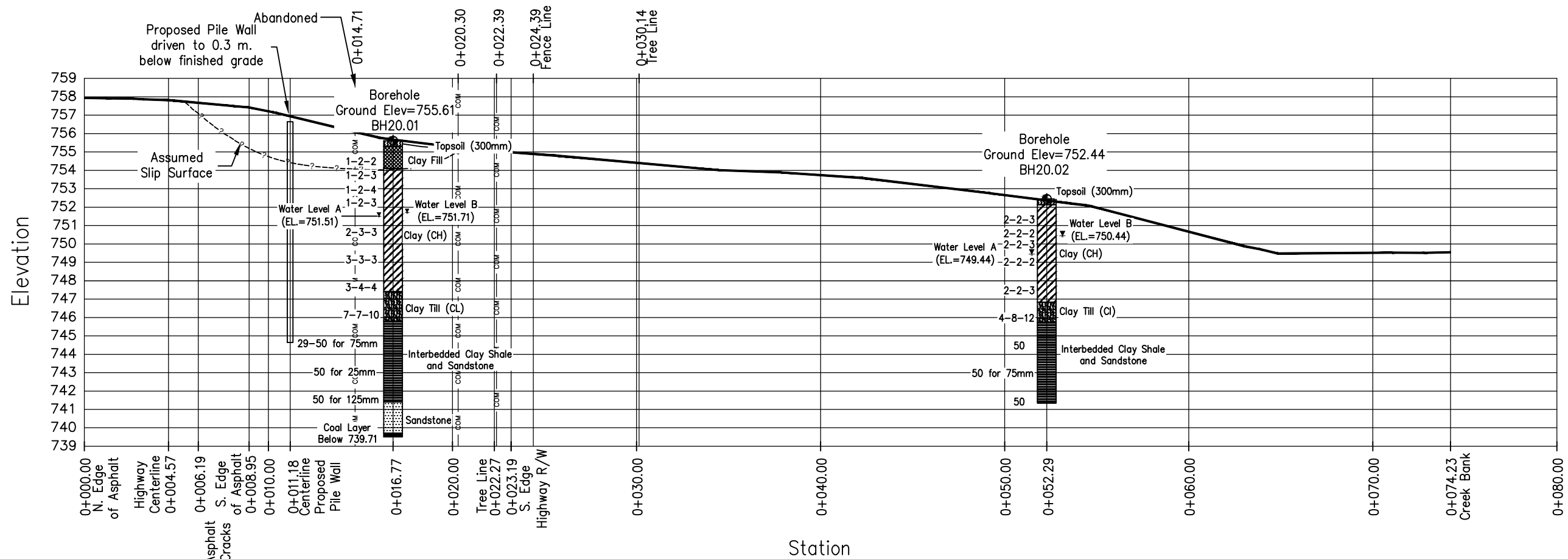
1. FEATURE LOCATIONS ARE APPROXIMATE.
2. PREVIOUS OBSERVATIONS SHOWN IN BLUE
3. 2024 OBSERVATIONS SHOWN IN RED

Stantec
 STANTEC CONSULTING
 300-10220 103 AVENUE NW
 EDMONTON, ALBERTA, CANADA
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TRANSPORTATION AND ECONOMIC CORRIDORS
 GEOHAZARD MONITORING PROGRAM
 NC81 HWY 16A:08, KM 8.23 EVANSBURG SLIDE
 SITE PLAN

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|-------|-------------|-------|----------|-----------|-----------|
| DRAWN | SP | CHECK | XL | APPROVE | LC |
| DATE | 30 SEP 2024 | SCALE | AS SHOWN | PROJECT # | 123315222 |

FIGURE - 1



CROSS-SECTION A

1:250

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|----------------|--------------|--|----------|-----------|-----------|
| Stantec | | STANTEC CONSULTING 300-10220 103 AVENUE NW EDMONTON, ALBERTA, CANADA T5J 0K4 | | | |
| | | TRANSPORTATION AND ECONOMIC CORRIDORS GEOHAZARD MONITORING PROGRAM NC81 HWY 16A:08, KM 8.23 EVANSBURG SLIDE CROSS SECTION | | | |
| DRAWN | SP | CHECK | XL | APPROVE | LC |
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| FIGURE - 2 | | | | | - |

2024 Site Inspection Photos at NC081



Photo 1: Pavement and embankment repair along Highway 16A. Looking east.



Photo 2: Pavement repair along Highway 16A. Looking west.

2024 Site Inspection Photos at NC081



Photo 3: East end of repair zone. Looking west.



Photo 4: Erosion at west end of culvert across property access road. Looking west.

2024 Site Inspection Photos at NC081



Photo 5: South ditch, looking east. Ground crack visible near fence line, possibly due to removal of silt fence.



Photo 6: Possible ground crack in south ditch near fence line. Looking south.

2024 Site Inspection Photos at NC081



Photo 7: Culvert on south side of highway. Looking southeast.



Photo 8: Looking down channel beyond culvert outlet on south side of highway. Facing southwest.