

**STONY PLAIN REGION
GEOHAZARD RISK ASSESSMENT
SITE INSPECTION FORM**

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|--|---|---|---|
| SITE NUMBER AND NAME: NC 47 – Embankment Slope Failure | HIGHWAY AND KM: Access Road 172, km 2.1 | PREVIOUS INSPECTION DATE: June 3, 2009 | INSPECTION DATE: May 21, 2010 |
| LEGAL DESCRIPTION: SE 4-50-22-W4M | NAD 83 COORDINATES: | RISK ASSESSMENT: PF: 2 CF: 4 TOTAL: 8 | |

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|---|---|
| SUMMARY OF SITE INSTRUMENTATION: Slope Inclinator: 1 | INSPECTED BY: Adam Gmeinweser, P. Eng. (EBA) Fred Cheng, P. Eng. (TRANS) Sabhago Oad, P. Eng. (TRANS) |
| LAST READING DATE: May 11, 2010 | |
| PRIMARY SITE ISSUE: Shallow rotational failure of south embankment slope. | |
| APPROXIMATE DIMENSIONS: Approximately 6.1 m in height and 12.2 m in length. | |
| DATE OF REMEDIAL ACTION: | |

| ITEM | CONDITION EXISTS | | DESCRIPTION AND LOCATION | NOTICABLE CHANGE FROM LAST INSPECTION | |
|-------------------|------------------|----|---|---------------------------------------|----|
| | YES | NO | | YES | NO |
| Pavement Distress | X | | Cracks along shoulder associated with embankment failure 2H:1V embankment failure stabilized with soil nails | | X |
| Slope Movement | X | | | | X |
| Erosion | | X | | | |
| Seepage | | X | | | |
| Culvert Distress | | X | | | |

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| COMMENTS: Rotational failure centered on a culvert; failure possibly due to a high water event. Soil nailing performed in 2008 to stabilize embankment. 2009 Risk Assessment reduced from 48 to 8 after repairs. Risk level unchanged since 2009. Location and site plan shown in Figure NC-47. Site conditions shown in Photos 1 and 2. |
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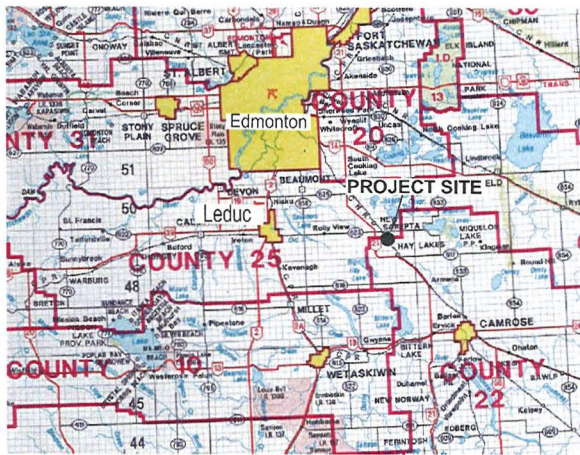
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SITE OBSERVATIONS:

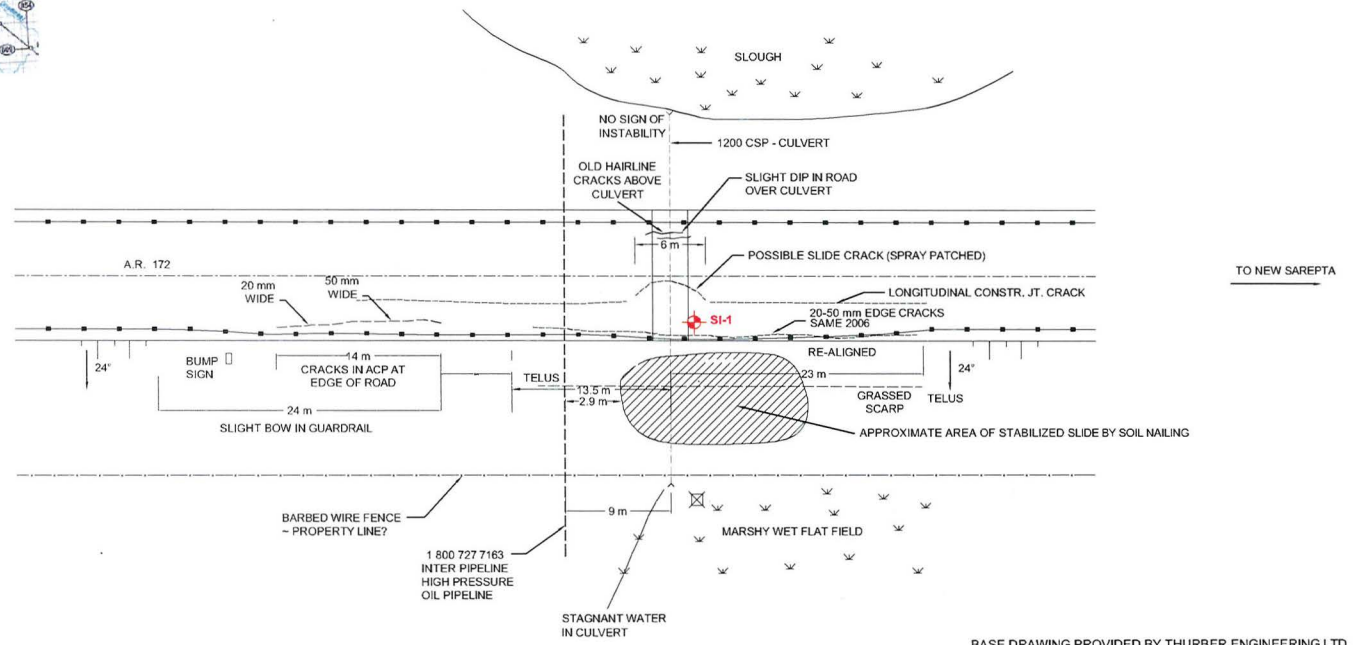
- The fill slope is steeper than what is normally constructed by TRANS being approximately 2H:1V and 6.1 m high.
- The slope failure was repaired in October 2008.
- Soil nails sticking out of ground, potentially a risk to public.
- Shallow slope movements have stopped since application of soil nailing in 2008.
- There were minor deep seated movements noted at approximate embankment base level. These could be associated with lateral spreading along organics or wet soils near the culvert/ creek location.

RECOMMENDATIONS:

- Monitor SI to assess if movements at depth continue. Consider removing site from GRMP if Fall 2010 readings show no further movement.
- Monitor SI in Fall 2010 and remove from GRMP.
- Have MCI place topsoil over slope and have seeded to cover soil nails protruding from slope. Topsoil should be seeded. Alternatively, a compost mat (i.e., EcoBlanket™) could be placed over the area.
- Crack near the south side of the road should be sealed.



KEY MAP
N.T.S.



BASE DRAWING PROVIDED BY THURBER ENGINEERING LTD.

LEGEND

SLOPE INDICATOR

NOTE

1. FEATURE LOCATIONS ARE APPROXIMATE.



Government of Alberta
Transportation

EBA Engineering
Consultants Ltd.



North Central (Stony Plain)
Geohazard Risk Management Program
NC-47 New Sarepta, Alberta

Site Plan

| | | | |
|-----------------------------|-------------------|-----------|----------|
| PROJECT NO E12101085.002 | DWN TK | CHK CG | REV 0 |
| DATE EDM | DATE July 2009 | | |

Figure NC-47



Photo 1
Repaired sideslope

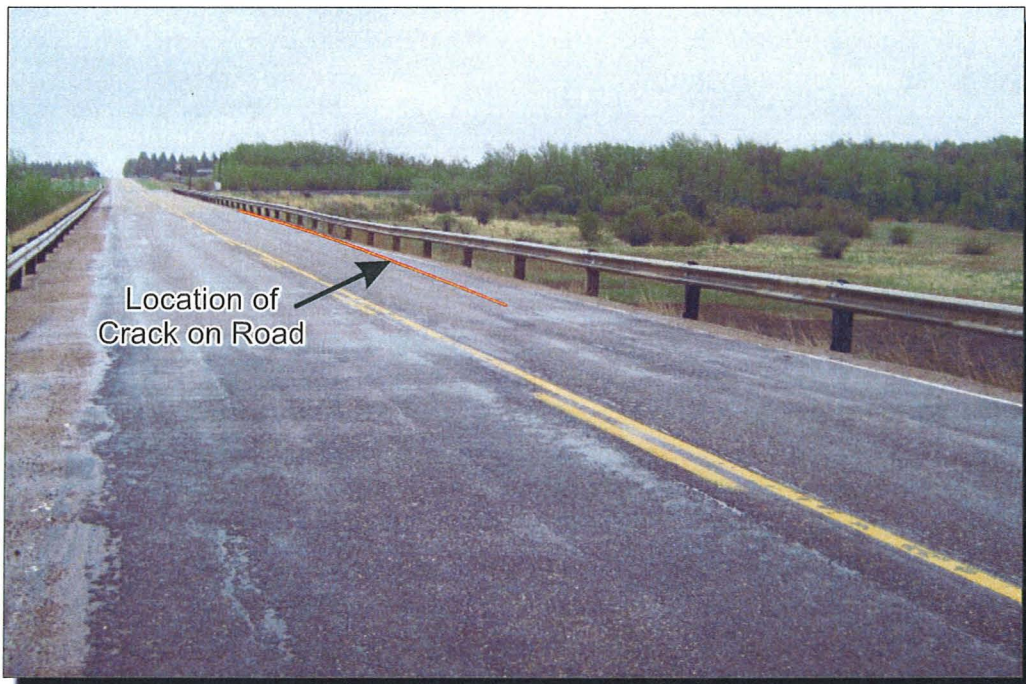


Photo 2
Looking east along Access Road 172; crack present on roadway