

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

SITE NUMBER AND NAME: NC 19 – Pavement Cracking (Site B)	HIGHWAY AND KM: Hwy 39:06, km 5.6	PREVIOUS INSPECTION DATE: May 20, 2010	INSPECTION DATE: June 14, 2011
LEGAL DESCRIPTION: SE 11-49-6-W5M	NAD 83 COORDINATES: -50736 E, 5897872 N	RISK ASSESSMENT: PF: 3 CF: 2 TOTAL: 6	

SUMMARY OF SITE INSTRUMENTATION: Instrumentation present at this site was monitored to assess performance of Site A pile wall repair. Instrument readings were discontinued in 2010 due to good performance of Site A pile wall repair. Inspection of Site B toe berm continued for at least one more year.	INSPECTED BY: Adam Gmeinweser, P. Eng. (EBA) Chris Gräpel, P. Eng. (EBA) Sabhago Oad, P. Eng. (TRANS) Fred Cheng, P. Eng. (TRANS)
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LAST READING DATE: Fall 2009
PRIMARY SITE ISSUE: Deformation of asphalt at Site B
APPROXIMATE DIMENSIONS: 0.3 m wide by 10 m long (Site B)
DATE OF REMEDIAL ACTION: Pile wall constructed in 2003 at Site A. Toe berm constructed in 2007 at Site B.

ITEM	CONDITION EXISTS		DESCRIPTION AND LOCATION	NOTICABLE CHANGE FROM LAST INSPECTION	
	YES	NO		YES	NO
Pavement Distress	X		Settlement and cracking present at pavement edge of eastbound lane at km 5.6 Small increase in movement from 2010	X	
Slope Movement		X			
Erosion		X			
Seepage		X			
Culvert Distress		X			

COMMENTS: Location and site plan shown on Figure NC-19. Site conditions shown in Photos 1 to 2. Risk level unchanged from 2010.

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SITE OBSERVATIONS:

- Cracking was evident along a utility trench approximately 1.5 m north of the barb wire fence at Site A. The cracking followed the pile wall along a straight line.
- The embankment slope failure at km 5.6 (Site B) was repaired in fall of 2007 using a toe berm and installation of gravel drainage layer with perforated pipe wrapped in a geotextile filter.
- Pavement deflection, about 0.3 m from the edge of pavement at Site B, was measured to be about 65 mm in width. There appears to be little change in the crack width compared to the 2010 site visit.
- Perforated pipes at the base of the Site B toe berm appeared to be dry. The north ditch was also relatively dry.

RECOMMENDATIONS:

- Cracks along the shoulder of the km 5.6 embankment slope should be patched.
- Topsoil and seed or hydroseed top of embankment along km 5.6 where vegetation coverage is poor.
- Continue to monitor km 5.6 after asphalt is patched to assess if settlement along the shoulder continues. This should be done after periods of heavy rainfall.
- If cracking along the pavement continues or accelerates and expands after maintenance conducted at km 5.6, the upslope drainage measures of deep gravel sub-drain not constructed in 2007 should be implemented at an estimated \$100,000 to \$300,000, including engineering cost.
- The uneven portion of the ditch north of the highway should be graded to prevent water from ponding.



Photo 1: Toe berm (Site B)



Photo 2: Cracking at edge of pavement at Site B