GEOHAZARD ASSESSMENT PROGRAM

PEACE RIVER / HIGH LEVEL AREA

2013 INSPECTION

Alberta Government

THURBER ENGINEERING LTD.

Site Number	Location	Name	Hwy	km
PH11	North of Town of Peace River	Whitemud River (Stations 42+600 and 43+200)	743:02	Approx. 42.6 and 43.2
Legal Description		**UTM Co-ordinates**		
36-87-21-5		11V N 6272376	E 486574	

	Date	PF	CF	Total
Previous Inspection:	June 28, 2012	5 9	4 2	20 (Station 42+600) 18 (Station 43+200)
Current Inspection:	May 30, 2013	5 9	4 2	20 (Station 42+600) 18 (Station 43+200)
Road AADT:	100		**Year:**	2012
Inspected By:	(Don Proudfoot and Harjeet Panesar, Thurber Engineering) (Rocky Wang, Ed Szmata and Erwin Kurz, Alberta Transportation)			
Report Attachments:	☑ Photographs ☑ Plans ☐ Maintenance Items			

Primary Site Issue:	**Site repaired in 2010** – Original site issue was Backslope and sideslope slumping.		
Dimensions:	See drawing		
Date of any remediation:	**Earthworks for new culvert installation at Station 42+600 were completed in 2010.**		
Maintenance:	Installation of new culvert and sideslope construction.	**Worsened?**	
Observations:	**Description**	**Yes**	**No**
☐ Pavement Distress	Gravel road (not affected by movement)	☐	☑
☑ Slope Movement	STATION 42+600: ▪ Continued backslope slumping on the south end of the site, leading to debris build up at the ditch. More trees on slide. ▪ Sideslopes re-constructed in 2010, well groomed and no sign of visible instability. STATION 43+200: ▪ Additional shallow sloughing of shale slope. Some additional vegetation noticed.	☐	☑
☑ Erosion	STATION 42+600: ▪ Additional erosion in east side ditch at the south end of the site.	☑	☐
☐ Seepage		☐	☐
☐ Culvert Distress	A new culvert was installed in 2010	☐	☐
☐ Other		☐	☐

Instrumentation:

None

Assessment (Refer to Figure PH11-1)**:**

STATION 42+600:

- A sinkhole, which had developed in the east sideslope during the construction of the new culvert in 2010, was not visible at the time of the 2013 inspection. The side slopes appeared to be well groomed, and the grass was well grown and greener.
- The runoff from the road caused small erosion rills in the east side slope and accumulation of gravel washed away from the road.
- The shallow slide located in the west backslope, at the south end of the site is also not presently affecting the highway but blocking the drainage of the ditch, however additional signs of movement were noticed.
- Speedy flow of water was observed in the creek. Seepage was also noticed from a few bolts from a corrugated steel pipe at the culvert outlet.
- A swale was evident at the west side directing flow from the road to the culvert outlet.
- The scour hole on the west sideslope is now 0.7 m deep x 1.5 m wide.

STATION 43+200:

- The shale slope appears to have sufficient global stability and the spalling is considered to be more of a maintenance issue. There are no signs of movement in the roadway. The subdued scarp with a good vegetative cover indicates that the side slope is currently stable. More soil buildup was noticed at the toe of the slope.

Recommendations:

STATION 42+600:

(a) The site should be monitored for another year as part of the geohazard assessment to check for any signs of potential instability.

(b) Backslope failure west of the highway:

- Clean ditch when required in the short term. Dispose of dirt outside the valley. In the long term the back slope requires a flatter angle with 3 m wide benches at 6 m height intervals. This could be done in conjunction with future grading work for highway alignment improvements.

(c) East ditch erosion:

- Repair by backfilling with compacted material and cover with coconut mat and synthetic ditch checks.
- for highway alignment improvements.

(d) The west scour hole should be filled with gravel and monitored.

STATION 43+200:

- Continue to clean sloughed material from ditch when required.