**GEOHAZARD ASSESSMENT PROGRAM**

**PEACE RIVER / HIGH LEVEL AREA**

**2012 INSPECTION**

| 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 06, 2011 | 5<br>9 | 4<br>2 | 20 (Station 42+600)<br>18 (Station 43+200) |
| **Current Inspection:** | June 28, 2012 | 5<br>9 | 4<br>2 | 20 (Station 42+600)<br>18 (Station 43+200) |
| **Road AADT:** | 100 | | **Year:** | 2011 |
| **Inspected By:** | (Don Proudfoot and Harjeet Panesar, Thurber Engineering)<br>(Roger Skirrow and Ed Szmata, 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:<br>▪ Continued backslope slumping on the south end of the site, leading to debris build up at the ditch. More trees on slide.<br>▪ Sideslopes re-constructed in 2010, well groomed and no sign of visible instability.<br>STATION 43+200:<br>▪ Additional shallow sloughing of shale slope. Some additional vegetation noticed. | ☐ | ☑ |
| ☑ Erosion | STATION 42+600:<br>▪ 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 during the construction of the new culvert in 2010 was not visible at the time of the 2012 inspection. The side slopes appeared to be well groomed, and the grass was well grown and greener compared to 2011. Small scarps and potential cracks were noticed on the east side slope.

- The runoff from the road caused small erosion rills in the east side slope and accumulation of gravel washed 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 may block the drainage of the ditch, however additional signs of movement were noticed.

- Accumulation of sediment was observed at the bottom of the culvert in the second smooth wall pipe and also water was ponded in the culvert on the upstream side of each joint.

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.

STATION 43+200:

- Continue to clean sloughed material from ditch when required.