



December 4, 2007

File: 15-85-66

Alberta Infrastructure and Transportation
Unit 2, Jewell Building
3603 – 53 Street
Athabasca, Alberta
T9S 1A9

Attention: Mr. Arthur Kavulok

**NORTH CENTRAL REGION GEOHAZARD ASSESSMENT
HWY 2:48 CANYON CREEK (NC 9)
2007 ANNUAL INSPECTION REPORT**

Dear Sir:

This letter documents the 2007 annual site inspection of an area of slope instability located along Hwy 2:48 at km 26, about 3.2 km west of Canyon Creek (refer to Figure NC9-1, Section F). Thurber Engineering Ltd. (Thurber) undertook this inspection in partial fulfillment of our Geotechnical Services for Geohazard Assessment, Instrumentation Monitoring and Related Work contract (**CE143/2007**) with Alberta Infrastructure and Transportation (INFTRA).

Mr. Masud Karim, EIT and Mr. Don Proudfoot, P.Eng. of Thurber undertook the inspection on May 24, 2007 in the presence of Mr. Roger Skirrow, P. Eng., Mr. Arthur Kavulok, and Dr. Rocky Wang, of INFTRA.

1. BACKGROUND

Thurber last visited the site in May 2006 and the site condition at that time is described in our Part B assessment letter included in the site binder. Additional information for the site is provided in the Geotechnical File Review in Section A of the binder.

2. SITE OBSERVATIONS

The changes in condition since last year are shown on the site sketch plan, Figure NC9-1, attached for inclusion in Appendix F of the binder. The cross-section included previously in Section F (Figure NC9-2) is considered

current for this assessment. Selected photographs taken during the visit are also attached.

No new cracks were observed on the road. The transverse crack at the south edge of the road was about 10 mm wide.

The confined low area adjacent to the south ditch was once again full of water.

No changes in site features were observed compared to last year at the slide area located north of the highway. However, the west portion of the scarp still seemed somewhat active as was observed last year. Ponded water was observed at the northern most part of the site in the flat area near the toe of the slope. Also a mulched seismic trail was found in the same area.

No maintenance has been undertaken since last year.

3. ASSESSMENT

Based on the Spring 2007 instruments readings at this site, the rate of movement in SI2 increased slightly by 1.5 mm/yr at the zone from 13.1m to 13.9m compared to Fall 2006. No discernable movements were observed in the remaining SIs (SI3 and SI6). In addition, pore water pressure readings remained steady except in PN01, which recorded an increase of 0.8 m compared to Fall 2006.

The tilting powerpole (observed last year), somewhat active scarp, a slight increase in movement rate and in pore pressures are all indicative of an active slide. As was mentioned last year, this could develop to a larger slope movement during heavy or prolonged precipitation events.

4. RISK LEVEL

The risk level for this site has been assessed as follows:

$$PF (7) * CF (4) = 28$$

A risk level of 28 is considered applicable to this site (higher compared to 20 last year), based on a Probability Factor of 7 (active, with perceptible movement rate and defined zones of movement) and a Consequence Factor of 4 due to the high fill slope involved.

5. RECOMMENDATIONS

5.1 Short Term

In the short term the site should be regularly inspected by the MCI to determine when further asphalt patching maintenance is required to maintain a smooth even road surface for traffic safety.

Due to some activity at the western portion of the slide area, the MCI should also regularly check for any new development at this location.

5.2 Long Term

Details for the infill of the low area adjacent to the south ditch were discussed in the last report. Borrow material could be taken from ridges in the slope behind the low area as described in our 2006 report.

6. CLOSURE

We trust this assessment and recommendations meet with your needs at this time. Please contact the undersigned should questions arise or if the slide condition worsens.

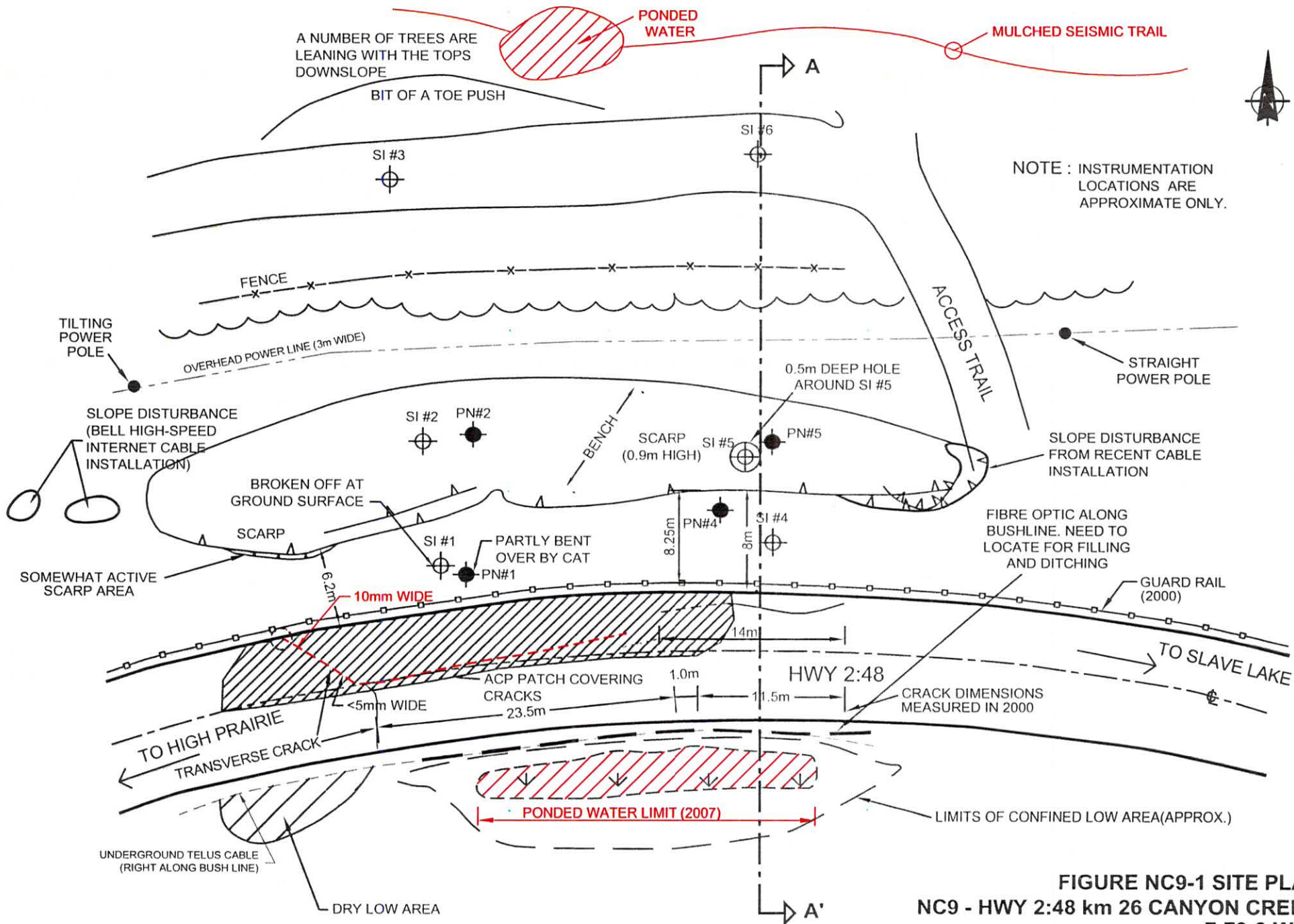
Yours very truly,
Thurber Engineering Ltd.
Don Proudfoot, P.Eng.
Review Principal



Masud Karim, M.Sc.
Project Coordinator
/dw

Attachments

cc: Mr. Roger Skirrow, P.Eng.
Director, Geotechnical Services (INFTRA)



LEGEND :

- ⊕-SI EXISTING SLOPE INCLINOMETER
 - PN EXISTING PNEUMATIC PIEZOMETER
- CHANGES OBSERVED ON MAY 2, 2006 SHOWN IN RED

FIGURE NC9-1 SITE PLAN
NC9 - HWY 2:48 km 26 CANYON CREEK
7-73-8-W5M

MAY 2, 2006
 SCALE 1:400 (APPROX.)
 THURBER PROJECT #15-85-66



THURBER ENGINEERING LTD.
 GEOTECHNICAL • ENVIRONMENTAL • MATERIALS



Photo 1 - Confined low area adjacent to the south ditch. Ponded water is visible, May 24, 2007.



Photo 2 - Transverse crack through the patched area, May 24, 2007.



Photo 3 - Looking north at the distress area, May 24, 2007.



Photo 4 - Western portion of the scarp, May 24, 2007.