



December 9, 2005

File: 15-85-11

Alberta Infrastructure and Transportation
Room 223, Provincial Building
4709 – 44 Avenue
Stony Plain, Alberta T7Z 1N4

Attention: Mr. Michael Baik

**NORTH CENTRAL REGION GEOHAZARD ASSESSMENT
HWY 16:06 EDSON 25TH STREET (NC20)
2005 ANNUAL INSPECTION REPORT**

Dear Sir:

This letter documents the 2005 annual site inspection of a portion of Highway 16:06 near km 13.6, located on the south side of the eastbound lanes of Hwy 16, just west of RR171 (across from 25th Street) at the eastern edge of the Town of Edson. The legal site description is SE23-53-17-W5M. The work was undertaken by Thurber Engineering Ltd. (Thurber) in partial fulfillment of our Geotechnical Services for Geohazard Assessment, Instrumentation Monitoring and Related Work contract (CE046/2004, Section B) with Alberta Infrastructure and Transportation (AIT).

The site reconnaissance was undertaken on May 31, 2005 by Mr. Don Law, P.Eng. of Thurber. The reconnaissance was carried out in the presence of Mr. Roger Skirrow, P.Eng., Mr. Mike Baik, and Mr. Ron Coley (MCI) of AIT.

1. BACKGROUND

Thurber last visited the site in June of 2004, and the site conditions observed at that time are described in our Part B assessment letter provided in the site binder. Additional background information for the site is provided in the geotechnical File Review in Section A of the binder.

2. SITE OBSERVATIONS

The highway surface and side slope in the vicinity of the pavement distress were inspected on May 31, 2005. In addition, a soft area that was rutted during the 2003 construction located approximately 75 m west of the west end of the toe berm was also viewed.

The following points summarize the observations made during the reconnaissance. The locations of the site features are shown on Figure NC20-1 in Section F. Cross-Section A-A' on Figure NC20-2A included previously in Section F is considered applicable with no changes. Selected photographs taken during the site reconnaissance are attached.

SLIDE AREA

- The crack pattern noted in previous years over a length of about 30 m was still visible in the asphalt pavement within the shoulder and turning lane at this location. The cracking did not extend into the traveling lanes. Up to 10 mm of vertical displacement across the crack was noted in the central portion of the crack length. The crack within the pavement is coincident with the slide scarp observed during previous site visits and has not changed since the last site visit in June of 2004.
- No signs of slope movement were noted on the side slope, new toe berm, or in the area beyond (i.e. south of) the current toe of the slope. Vegetation cover on the berm area consisted of grasses and provided significantly better cover than that observed last year. No significant erosion was noted on the berm surface.
- A trickle of flow was noted from the west subdrain outlet at the time of the site visit. The east subdrain outlet was dry. This is the same observation as in 2004.

RUTTED SOFT GROUND WEST OF SLIDE AREA

The area of rutted soft ground located approximately 75 m west of the west end of the toe berm has not been repaired. Based on discussion with Mr. Coley, this work will be undertaken in 2005.

3. EVALUATION

Based on the results of visual observations made during the site reconnaissance, the installation of the toe berm appears to have been effective in stopping movements to date at this location. The granular fill and subdrain pipe installed in 2003 will allow water to drain from the slope, which should further augment the stability of the embankment in this area by reducing the likelihood of impeding drainage from the slope.

4. RISK LEVEL

A risk level of 6 is considered applicable to the site, based on a Probability Factor of 3 (inactive, low probability of remobilization) and a Consequence Factor of 2. This is a reduction from a risk level of 10 applied for this site during the previous (2004) site reconnaissance.

5. RECOMMENDATIONS

No action is recommended at the main slide area at this time. It is recommended to drop this site from the geohazards assessment program. If future slope movements are experienced in the pavement surface, the site could then be reinstated into the program.

If not already completed, the rutted zone located west of the site should be backfilled with granular fill, smoothed out and topsoil/seed placed to promote revegetation.

6. CLOSURE

We trust this assessment meets with your needs at this time. Please contact the undersigned should questions or concerns arise.

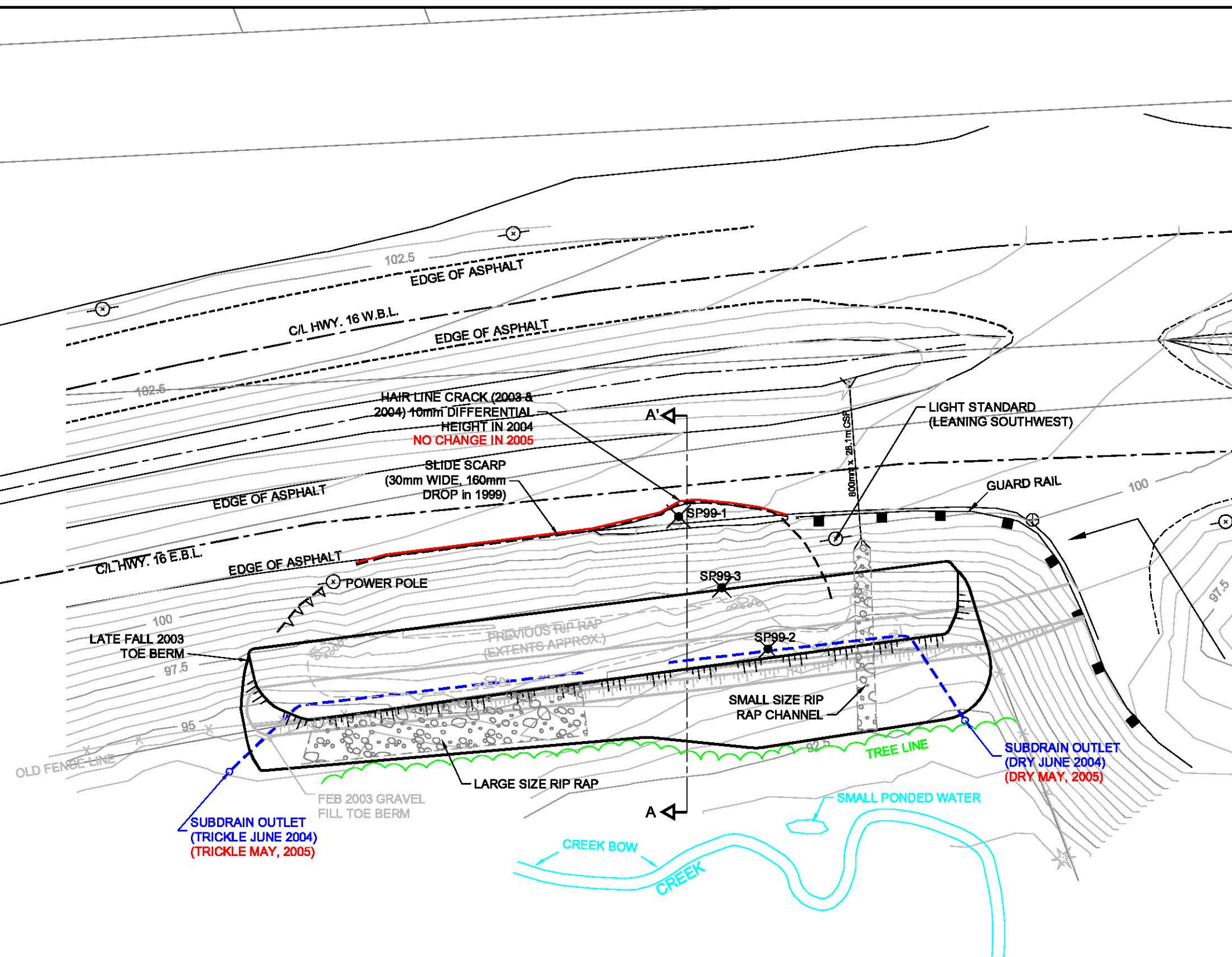
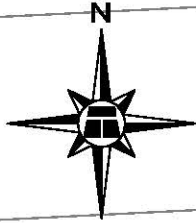
Yours very truly,
Thurber Engineering Ltd.
Dimitri Papanicolas, P.Eng.
Review Principal



Don Law, P.Eng.
Principal, Project Engineer
/slp

Attachments

cc: Mr. Roger Skirrow, P.Eng., Director of Geotechnical Services, AIT



LEGEND

- STANDPIPE (SP)
- ⊗ STANDPIPE DESTROYED
- SCARP OF LANDSLIDE (JUNE 2004 AND MAY 2005)
- - - SCARP OF LANDSLIDE (AUGUST 1999)

ELEVATION REFERENCED TO ASCM NO. 350660 WHICH WAS TAKEN AS ELEVATION 100.799m
 CONTOUR INTERVAL 0.5m
 2005 FEATURES SHOWN IN RED

SOFT RUTTED AREA (OBSERVED JUNE 2004) EXTENDS 55M WEST
 NOT REPAIRED AS OF MAY 31, 2005 SITE VISIT

Z:\1516-16-192-2004-NORTH CENTRAL REGION\NC20 Edison 25th Street\NC20-1.dwg - Jan. 20, 2006 9:24am

REF: EXH ENG. SERVICES LTD. DWG. NO. 991168-SITE, 11/99

THURBER PROJECT #15-16-192

ENGINEER	DJL
DRAWN	CMH
DATE	NOVEMBER, 2005
APPROVED	
SCALE	1:750

ALBERTA INFRASTRUCTURE AND TRANSPORTATION

SITE PLAN SHOWING INSTABILITY FEATURES

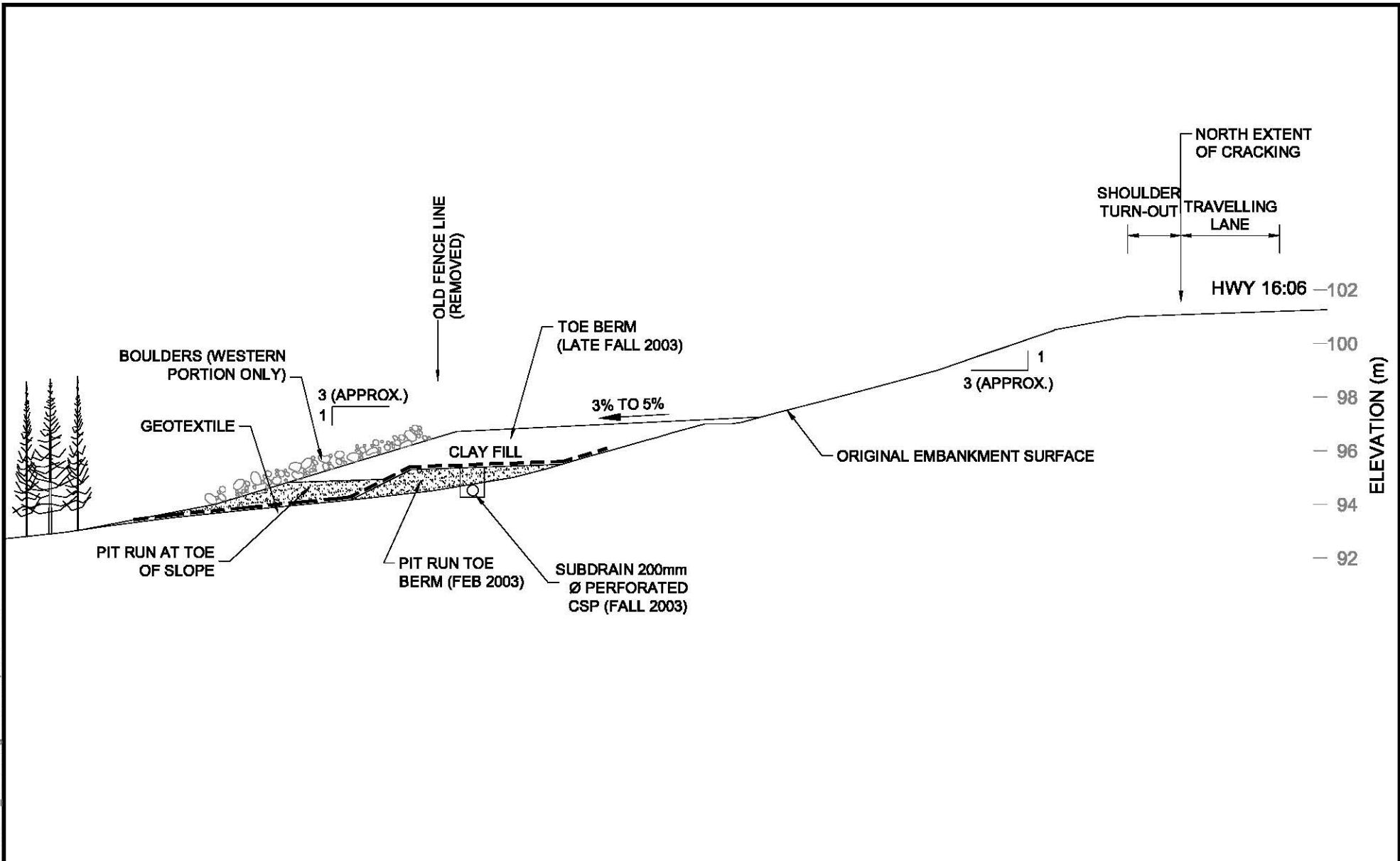
NORTH CENTRAL
 GEOHAZARD ASSESSMENT

THURBER

DRAWING No.
FIGURE NC20-1

SE 23 - 53 - 17 - W5M
 HWY. 16:06 AT 25 STREET
 EDSON, AB

Z:\15\15-85-11-NC\NC20 Edson 25th Street\15-85-11_NC20-2.dwg - 1 - Jan. 18, 2008 11:20am



THURBER PROJECT #15-85-11


ALBERTA INFRASTRUCTURE & TRANSPORTATION		 THURBER ENGINEERING LTD. GEOTECHNICAL • ENVIRONMENTAL • MATERIALS		
CROSS-SECTION A-A'				
NORTH CENTRAL 2005 GEOHAZARDS ASSESSMENT		ENGINEER: DJL	DRAWN: ZD	APPROVED:
HWY 16:06 AT 25 STREET EDSON, AB		DATE: JULY 2005	SCALE: 1:200 (APPROX.)	DRAWING No. FIGURE NC20-2A



Photo 1 - Looking west at pavement distress area.

May 31, 2005



Photo 2 – Looking east at main crack location.

May 31, 2005



Photo 3 – Berm and toe area (looking west).

May 31, 2005