SECTION A – FILE REVIEW

Site Location

- This site is located along Highway 3A:06, approximately 3 km westbound along Highway 3A from the town of Lundbreck, AB and east of Lundbreck Falls.
- UTM coordinates: Easting 702772, Northing 5496469 (NAD 83, Zone 11U)
- SW-27-7-2 W5M
- NTS mapsheet 82 G/9

Chronological Background

Table A1 provides a chronological background for this site.

Site Geology, Hydrogeologic And Geomorphologic Setting

The highway is oriented roughly east/west at this site and is located across the upper portion of a north-facing slope above the south bank of the Crowsnest River. The total height of the slope is in the order of 30 m and the overall crest-to-toe slope angle is in the order of 15 to 20°. The highway is a two lane roadway with relatively narrow shoulders. There is a Canadian Pacific Railway track parallel to and approximately 10 to 15 m upslope of the highway. The photos from the 2007 and 2008 site inspections (copies attached in Section F) show overall views of the site and its position on the valley slope above the river channel. A plan view of the site and a cross-section of the slope through the damaged segment of the highway is also included in Section F.

There are shallow bedrock outcrops in the valley slope a short distance east of the site and it is likely that landslide movement at this site is seated in the underlying bedrock of the Belly River – St. Mary River Succession (consisting of several rock types including weak, bentonitic marine clay shales).

There is no hydrogeologic data for this site. Overall, the groundwater table in the valley slope is likely linked to the water level in the adjacent Crowsnest River. However, the bedrock in this area is folded and steeply dipping and the local groundwater elevations and flow patterns are likely governed by the bedrock structure and would need to be assessed with a subsurface investigation.

Description Of Past Site Problems
and
Description Of Past Investigations
and
Description Of Mitigative Measures Implemented

It is understood that landslide damage to the road surface had been noted by AT personnel for a few years prior to the 2007 site inspection. It is also understood that no previous geotechnical investigation or repair work has been performed for the apparent landslide damage to the highway at this site. However, there is an old timber pile wall visible along the downslope (north) side of the highway a short distance northeast of the damage to the highway surface that was noted in the 2007 and 2008 inspections. The depth and history of this pile wall is not known, i.e. whether or not it was installed as part of the highway construction or as part of a repair, and the depth to which the piles were driven before encountering bedrock.

Table A1 – S26 – Highway 41:03, South Of Elkwater, AB
Chronological Background

Date	Description
Approx. 2005 to 2007	Landslide damage to the road surface noted by AT personnel.
June 2007	Site inspection by AT and AMEC personnel. Landslide damage was noted along an approximately 100 m long segment of the highway, and appeared to be seated in the bedrock within the valley slope. Recommended Risk Level of 24, along with an airphoto review, site survey and borehole drilling, instrument installations and readings to characterize the site conditions and develop repair options.
June 2008	Site inspection by AT and AMEC personnel. No significant changes since the 2007 inspection. Recommended Risk Level maintained at 24, along with the recommendations for a site investigation.