

SECTION A – FILE REVIEW

Site Location

- ▶ This site is located on Highway 22, 11 km north of Highway 3. There are three locations where the creek is encroaching the highway (one on the west side of the highway embankment and two on the east side).
- ▶ North Site: E34-8-2W5; South Site: W35-8-2W5
- ▶ NTS Mapsheet 82G/9

Chronological Background

Table 1A provides a chronological background for this site.

Site Geology, Hydrogeologic and Geomorphologic Setting

The area is mainly farmland with gentle topography. Cow Creek approaches the highway from the northwest, crosses near Township Road 85A then parallels the highway. The north site is approximately 100 m north of the crossing and the south site is approximately 500 m south of the crossing (herein referred to as the North and South sites). The north site contains an encroachment area on the west side of the highway and can be considered to involve less than a 25 m section of the highway. The south site contains two encroachment areas and a slide failure on the east side of the highway and can be considered to altogether involve a 60 m section of the highway.

The highway is a fill section in both of the site areas. At the site area, the highway is a paved two-lane undivided roadway oriented north to south.

A hydrotechnical assessment was performed in October 2014 when the site was selected to be part of AT's Southern Region High Water Related Mitigation Project. A preliminary design was submitted to AT in April 2015 and can be located in Section G of this binder.

Description of Past Site Problems

There are no other records of previous repairs or other work implemented at these sites.

Description of Mitigative Measures Implemented

No major mitigative measures undertaken to date. Preliminary design options were submitted to Alberta Transportation in April 2015.

**Table A1 – S44 – Highway 22:06, Cow Creek Erosion Sites
 Chronological Background**

Date	Description
September 12, 2013	Site first inspected by AMEC as part of a call-out request. Several encroachment areas identified. Risk levels for the north and south sites were assigned as 11 and 36 respectively. Recommendations included cutting back the existing vertical bank, placing granular fill adjacent to the vertical bank, armouring the channel bank, installing a temporary barrier.
September 2014	Annual site inspection by AMEC and AT personnel. Ongoing bank erosion and significant retrogression towards the highway was evident. North site renamed Area A. South site renamed Area B and subdivided into Encroachment Areas B1, B2, and B3, and slide area B1. Risk level for Area A set to 12. Risk Level for Area B set to 39. Recommendations included installing a temporary barrier. A mitigation design concept was being working on.
October 2014	Site selected to be part of AT's Southern Region High Water Related Mitigation project. Aerial drone survey completed as part of a hydrotechnical assessment for preparation of design options.
April 2015	Preliminary Design Report submitted to AT as part of the Southern Region High Water Related Mitigation project. Report can be located in Section G of this binder.
May 2015	<p>Annual site inspection by AMEC and AT personnel. Ongoing bank erosion and retrogression evident. Site areas renamed and each assigned the following risk levels:</p> <p>Site A (previously Area A): 39 Site B (previously Slide Area B1): 5 Site C-South (previously Encroachment Area B2): 5 Site C-North (previously Encroachment Area B1): 9 Site D (previously Encroachment Area A1): 12</p> <p>Recommendations included installing a temporary barrier at Site D and selecting a design option as part of the high water mitigation project including Longitudinal Peak Stone Toe Protection (LPSTP), brush layer of willow cuttings and compacted granular fill.</p>