Slide Name: (GP 10) Hwy 43:06 S. of Sturgeon Lake

Inspection Date: June 19, 2006

Inspection by: Alberta Infrastructure & Transportation and KarlEng Staff listed on Page 1

1.0 BACKGROUND

The slide is located along a low fill embankment along flat lakeshore terrain of the Sturgeon Lake. The installation of a granular toe key (with geotextile underlay) and reconstruction of slope was carried out in 2001. Groundwater has been continually exiting from toe area of the slope into the ditch for the years since slope reconstruction. It is possible that a groundwater spring can be exiting beneath the highway embankment footprint.

Since the 2001 toe key construction, the minor settlement and pavement crack still persisted for 3-4 years to require yearly maintenance patching. This persistence of minor settlement can be due to "bath tub" effect a submerged toe key where drainage is difficult. Within recent 2 years 2004/2006, it was observed by local MCI that slide movement and pavement settlement has substantially decreased.

It appears that the site has stabilized at 4-5 years after installation of the toe key.

2.0 OBSERVATIONS

Along the ditch

- A new ditch swale was carved out along ditch to outfall the flow to a culvert
- Water still outflows from tile outlet at toe of reconstructed slope
- Low lying terrain prohibited drainage outfall from gravel key thus creating a bath-tub soaking and saturated gravel key situation

Along the roadway pavement

- Reflective crack still evident but movement has slow down (according to MCI Bruce Henderson)

3.0 RISK ASSESSMENT

The following assessment is updated, as appropriate, from previous AIT reports.

PF (4) * CF (2) = 8

Note:

- The risk assessment is provided based on a categorization of Hazard Probability Factor (PF) and Consequence Factor (CF) as provided by AIT's RFP 2000. The details are provided in Table II at front portion of this Report.

4.0 ACTION

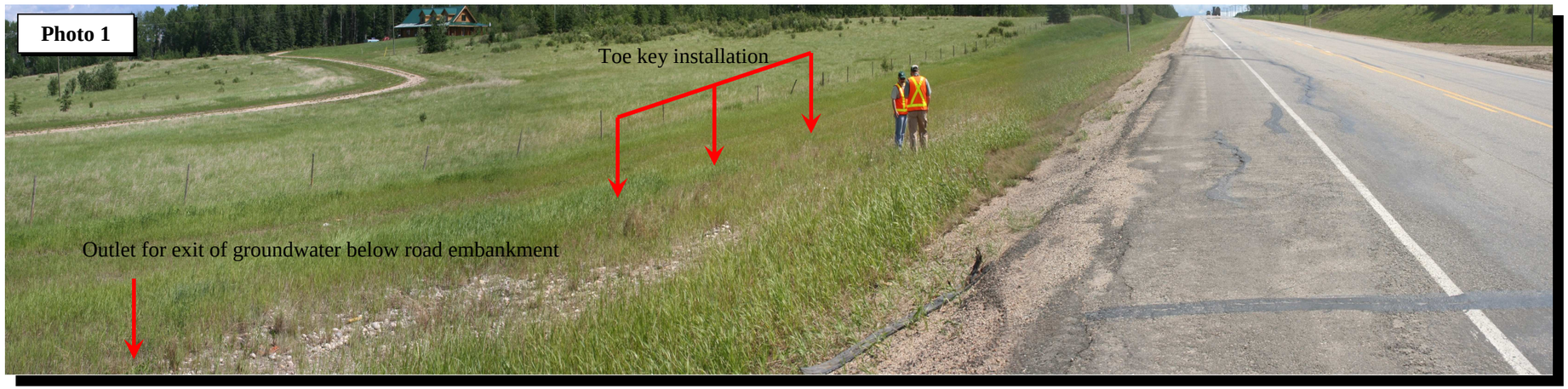
The site seemed to have improved as reported by the local MCI to require less patching. It will be wise to continue visual monitoring and inspection of the site.

AIT maintenance forces should continue to record patching frequency as well as patching quantities for assessment of site improvement with time.

END

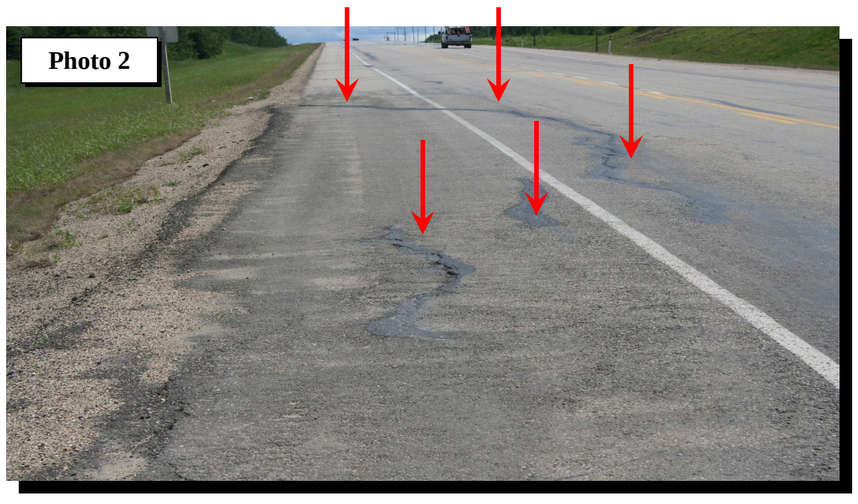
Figure 1

General Site Plan South of Sturgeon Lake



Looking east (towards valley-view) along north ditch

- Slide previously (~2000) repaired with granular toe berm with geotextile underlay
- Settlement of repaired slope has greatly slowed down within recent 2 years (2004/06)
- Slide headscarp crack still reflected through pavement after 5 years (since 2000) due to entrapped groundwater within toe key constructed over low flat terrain of soft, wet lakeshore clay sub-grade and presence of an underground spring
- Groundwater still actively exiting (since 2000 construction) from toe of slope (at left lower corner of photo) as a result of water entrapped within the granular toe berm



Another view of pavement crack

Close up view of crack

Photo taken on June 2006

Looking west (away from valley-view)
- Reflective crack of pavement
- Another view

Swale along ditch to drain groundwater to away from slope toe area

Outlet for exist of groundwater through a culvert spout at edge of toe key berm

Photo taken on June 2006

KARLENG Karl Engineering Consultants Ltd.

Figure 1

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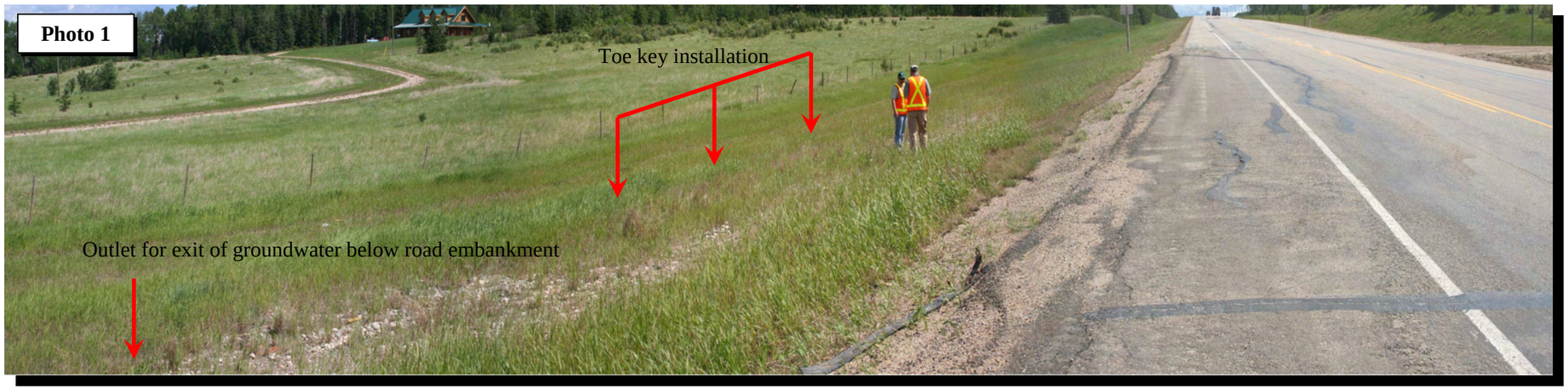

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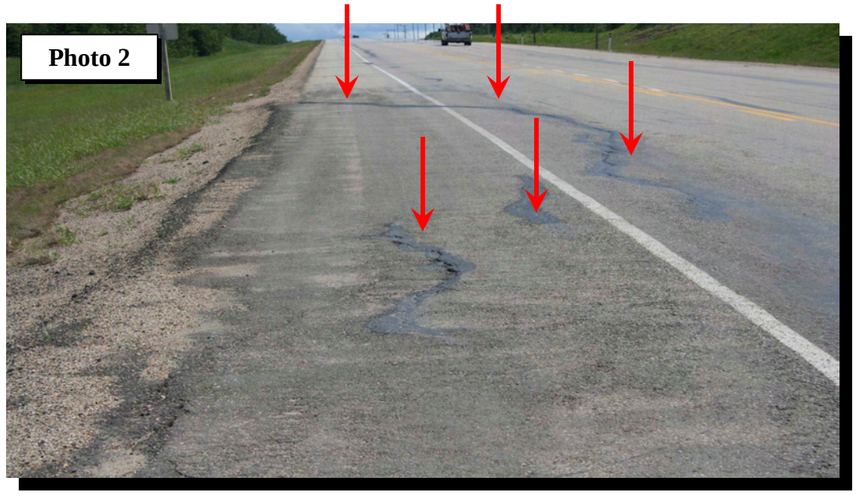

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