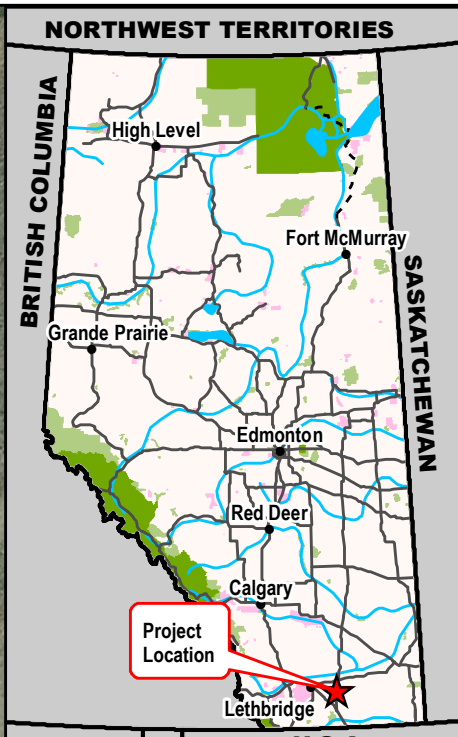


|  |  |                                |  |   |
|--|--|--------------------------------|--|---|
| SITE NUMBER AND NAME:<br><b>S005 Chin Coulee</b>                                     |  | HIGHWAY & KM:<br>36:02, 37.101 | PREVIOUS INSPECTION DATE:<br>June 16, 2016 | INSPECTION DATE:<br><b>May 31, 2017</b> |
| LEGAL DESCRIPTION:<br>10-36-007-17 W4M   | NAD 83 COORDINATES:<br>UTM Northing Easting<br>11 5495465 414771 |                                | RISK ASSESSMENT:<br>PF: 9 CF: 2 TOTAL: 18  |   |
| AVERAGE ANNUAL DAILY TRAFFIC (AADT):<br>920 (north), 920 (south), Ref No. (70000182) |  |                                | CONTRACTOR MAINTENANCE AREA (CMA):<br>24   |   |

|   |   |
|---|---|
| SUMMARY OF SITE INSTRUMENTATION:<br><br>Instrumentation destroyed during highway realignment<br><br>LAST READING DATE: September 2016   | INSPECTED BY:<br>Chris Gräpel (KCB)<br>Peter Roy (KCB)<br>Ross Dickson (AT)<br>Roger Skirrow (AT)<br>Ammar Zaidi (AT) |
| PRIMARY SITE ISSUE: Large deep seated, retrogressive, translational earth slide. Head scarp no longer affecting road surface due to highway realignment.  |   |
| APPROXIMATE DIMENSIONS: Overall slope is approximately 100 m above Chin Coulee Reservoir and overall has a slope of approximately 3H:1V from head scarp to reservoir level.   |   |
| DATE OF ANY REMEDIAL ACTION: Highway re-alignment completed in fall 2016. The highway shoulder is now located approximately 10 m north from the extents of previous asphalt cracking. Ditch constructed on south side of highway. Slide area at the top of the embankment graded. Masonry block wall removed. |   |

| ITEM              | CONDITION EXISTS |    | DESCRIPTION AND LOCATION  | NOTICABLE CHANGE FROM LAST INSPECTION |    |
|-------------------|------------------|----|---|---------------------------------------|----|
|                   | YES              | NO |   | YES                                   | NO |
| Pavement Distress |                  | x  | None since realignment.   | X                                     |    |
| Slope Movement    | x                |    | Previous head scarp at road surface graded. Movement ongoing downslope. | X                                     |    |
| Erosion           |                  | x  |   |                                       | X  |
| Seepage           |                  | x  | None seen (inspection did not include slide mass)                       |                                       | X  |
| Culvert Distress  |                  | x  |   |                                       | X  |

|  |
|--|
| <b>COMMENTS</b>  |
| The slide is large with multiple back scarps, reverse grabens and a large neutral zone. The size of this slide infers a deep-seated translational failure mode on a sub-horizontal weak layer. Toe of slide below fluctuating reservoir level may influence slide mobilization. These kinematic failure modes can be prone to large and high mobility retrogression. |
| Erosion control measures performing with mixed results. Mulch on backslope not working well to promote grass growth. Check dams in ditches have too steep of an upstream slope and may constitute a traffic hazard if a car hits the upstream slope.   |
| Visit site once every second year during annual inspections. AT to contact regional offices to assess when or if geotechnical instrumentation will be installed by the design consultant. AT mentioned longer term plans to reroute road several hundred meters to the west.   |



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

**Legend**

- GPS Track (May 31, 2017)
- Erosion
- Crack
- Back Scarp
- Main Scarp
- Slope Incliner
- Standpipe Piezometer



NOTES:  
 1. HORIZONTAL DATUM: NAD83  
 2. GRID ZONE: UTM Zone 12N  
 3. IMAGE SOURCE: World Imagery from ESRI ArcGIS Online  
 Source date January 15, 2015  
 4. Instrument locations are approximate.

CLIENT

|         |   |         |
|---------|---|---------|
| PROJECT | SOUTHERN REGION GEOHAZARD RISK MANAGEMENT PROGRAM       |         |
| TITLE   | Site Plan<br>S005 - Chin Coulee<br>Hwy 36:02, km 37.101 |         |
| SCALE   | PROJECT No.   | FIG No. |
| 1:2,000 | A05115A03   | 1       |

Time: 11:10:13 AM  
 Date: August 02, 2017  
 File: Z:\AEDM\A05115A03\ABT Southern Region GRMP\400 Drawings\2017\Section BIMXD\S005\_170802.mxd

**Photo 1** Highway realigned north of slide area into embankment. Head scarp graded. Photo taken facing northeast from south side of Chin Coulee Reservoir on May 31, 2017.



**Photo 2** New highway alignment north of slide area. Photo taken facing west on May 31, 2017.



**Photo 3** Head scarp of slide graded, south of highway. Photo taken facing northeast on May 31, 2017



**Photo 4** Location of slope below former highway and realigned section of highway. Photo taken facing west on May 31, 2017.

