

**ALBERTA TRANSPORTATION AND
ECONOMIC CORRIDORS
GEOHAZARD RISK MANAGEMENT PROGRAM
PEACE REGION (PEACE RIVER DISTRICT)
2025 INSPECTION**



Site Number	Location	Name	Hwy	km
SH031-1	Southwest of High Prairie	Road Gear Ranch	747:02	32.1-32.3
Legal Description		UTM Co-ordinates		
NE&SE32/NW&SW33-73-19-W5M		11U E 508,043	N 6,135,622	

	Date	PF	CF	Total
Previous Inspection:	5-Jun-2023	4	3	12
Current Inspection:	27-May-2025	4	1	4
Road AADT:	510		Year:	2024
Inspected By:	Kristen Tappenden, TEC Roger Skirrow, Thurber Mark Gallego, Thurber			
Report Attachments:	<input checked="" type="checkbox"/> Photographs <input checked="" type="checkbox"/> Plans <input type="checkbox"/> Maintenance Items			

Primary Site Issue:	Longitudinal cracking and subsidence of SBL lane and shoulder.	
Dimensions:	200 m long and embankment heights between 1.5 m and 2 m.	
Date of Remediation:	2020: Constructed earth fill toe berms on both sides of highway; remove and replace approach culverts; install new ACP	
Maintenance:	2016: ACP patching 2017: ACP patching 2018: ACP patching 2019: ACP patching	
Observations:	Description	Worsened?
<input checked="" type="checkbox"/> Pavement Distress	Transverse and longitudinal cracks noted in the middle portion of the site.	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Slope Movement	Slow creep movement significantly reduced with placement of toe berm	<input type="checkbox"/>
<input type="checkbox"/> Erosion	Previously observed defective erosion matting along the east ditch near the fence was fixed.	<input type="checkbox"/>
<input type="checkbox"/> Seepage		<input type="checkbox"/>
<input checked="" type="checkbox"/> Bridge/Culvert Distress	1800 mm culvert at south end of site – in good condition.	<input type="checkbox"/>
<input type="checkbox"/> Other		<input type="checkbox"/>
Instrumentation: None		
Assessment: Landslide activity was noted at this location in June 2016 following a period of higher-than-average rainfall in the preceding weeks. The significant thickness of asphalt through this portion of road would indicate that frequent patching was required in the past prior to the significant movements observed in 2016. At the time of the 2017 assessment, there were several parallel longitudinal cracks along the SBL and shoulder with vertical displacements up to 100 mm and crack widths up to 30 mm. At the time of the 2018 assessment, the longitudinal cracking had increased in frequency, length, and width and an arc-shape crack in the SBL shoulder with a corresponding toe bulge was observed. Vertical displacements along the SBL have increased from 2017 despite a recent patch. Correspondence from AT personnel after the assessment visit documented additional subsidence in the SBL. There was additional patching undertaken at this location in Spring 2019 which covered up many of the cracks in the SBL. Patching was not undertaken on the NBL, and crack widths, lengths, and differential had increased noticeably since 2018. The highway embankment appeared to be slumping toward both ditches.		

The Maintenance Contract Inspector at the time (Bruce Henderson) related that when this portion of highway was constructed, he recalled that the subgrade had been soft. In addition, the typical construction methods of the time involved stripping and placing the topsoil and poorer materials in the centre of the embankment and covering with better borrow material. Based on this information and the observed distress, it appeared that the sliding was relatively shallow and likely occurring along the base of the embankment fill and the weaker material in the core of the embankment.

In 2019, the site was drilled during engineering design (see Thurber Project 22188). The test holes drilled through the highway (locations shown on the drawings) encountered about 1.5 m to 3.8 m of gravel and clay fill overlying stiff, high plastic native clay which was underlain by clay till at about 6 m below ground surface.

In 2020, the site was remediated by constructing earth fill toe berms on both sides of the highway. Fill was placed on the embankment sideslopes to flatten the slopes and the ditches were regraded to improve drainage along the site. Existing approach culverts at the north end of the site were removed and replaced with new culverts. The repair work included a full width ACP overlay. Based on the 2021, 2023, and 2025 inspections the repairs seem to be performing well with no noted instability occurring. The cracks that have appeared could be related to settlement of fills placed during construction or small movements that can occur before the toe berms begin to resist the slide.

Recommendations:

Inspection:

This site has been scheduled for Geohazard inspection every two years on the current contract. Based on the 2021, 2023 and 2025 inspections, the repairs seem to be performing well and further inspections are not required at this time. It would be acceptable to remove this site from the GRMP program.

Closure

It is a condition of this letter report that Thurber's performance of its professional services will be subject to the attached Statement for Use and Interpretation of Report.

Roger Skirrow, P.Eng.
Senior Geotechnical Engineer

Mark Gallego, P.Eng.
Geotechnical Engineer

STATEMENT FOR USE AND INTERPRETATION OF REPORT

1. STANDARD OF CARE

This Report has been prepared in a manner consistent with that degree of care and skill ordinarily exercised by members of the same profession currently practicing under similar circumstances at the same time and in the same or similar locality and in compliance with all applicable laws.

2. COMPLETE REPORT

All documents, records, data and files, whether electronic or otherwise, generated as part of this assignment, including this Statement For Use and Interpretation of Report, are a part of the Report, which is of a summary nature and is not intended to stand alone without reference to the instructions given to Thurber by the Client, communications between Thurber and the Client, and any other reports, proposals or documents prepared by Thurber for the Client relative to the specific site described herein, all of which together constitute the Report.

IN ORDER TO PROPERLY UNDERSTAND THE SUGGESTIONS, RECOMMENDATIONS AND OPINIONS EXPRESSED HEREIN, REFERENCE MUST BE MADE TO THE WHOLE OF THE REPORT, AS DESCRIBED ABOVE. THURBER IS NOT RESPONSIBLE FOR USE BY ANY PARTY OF PORTIONS OF THE REPORT WITHOUT REFERENCE TO THE WHOLE OF THE REPORT.

3. BASIS OF REPORT

The Report has been prepared for the specific site, development, design objectives, and purposes that were described to Thurber by the Client. The applicability and reliability of any of the findings, recommendations, suggestions, or opinions expressed in the Report, subject to the limitations provided herein, are only valid to the extent that the Report expressly addresses proposed development, design objectives and purposes, and then only to the extent that there has been no material alteration to or variation from any of the said descriptions provided to Thurber, unless Thurber is specifically requested by the Client to review and revise the Report in light of such alteration or variation.

4. USE OF THE REPORT

The information and opinions expressed in the Report, or any document forming part of the Report, are for the sole benefit of the Client for the development, design objectives, and/or purposes described to Thurber by the Client. **NO OTHER PARTY MAY USE OR RELY ON THE REPORT OR ANY PORTION THEREOF FOR OTHER THAN THE CLIENT'S BENEFIT IN CONNECTION WITH THE PURPOSES DESCRIBED IN THE REPORT.** Any use which a third party makes of the Report is the sole responsibility of such third party and is always subject to this Statement for Use and Interpretation of Report. Thurber accepts no liability or responsibility for damages suffered by any third party resulting from use of the Report for purposes outside the reasonable contemplation of Thurber at the time it was prepared or in any manner unintended by Thurber.

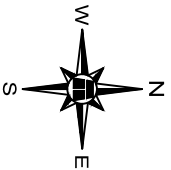
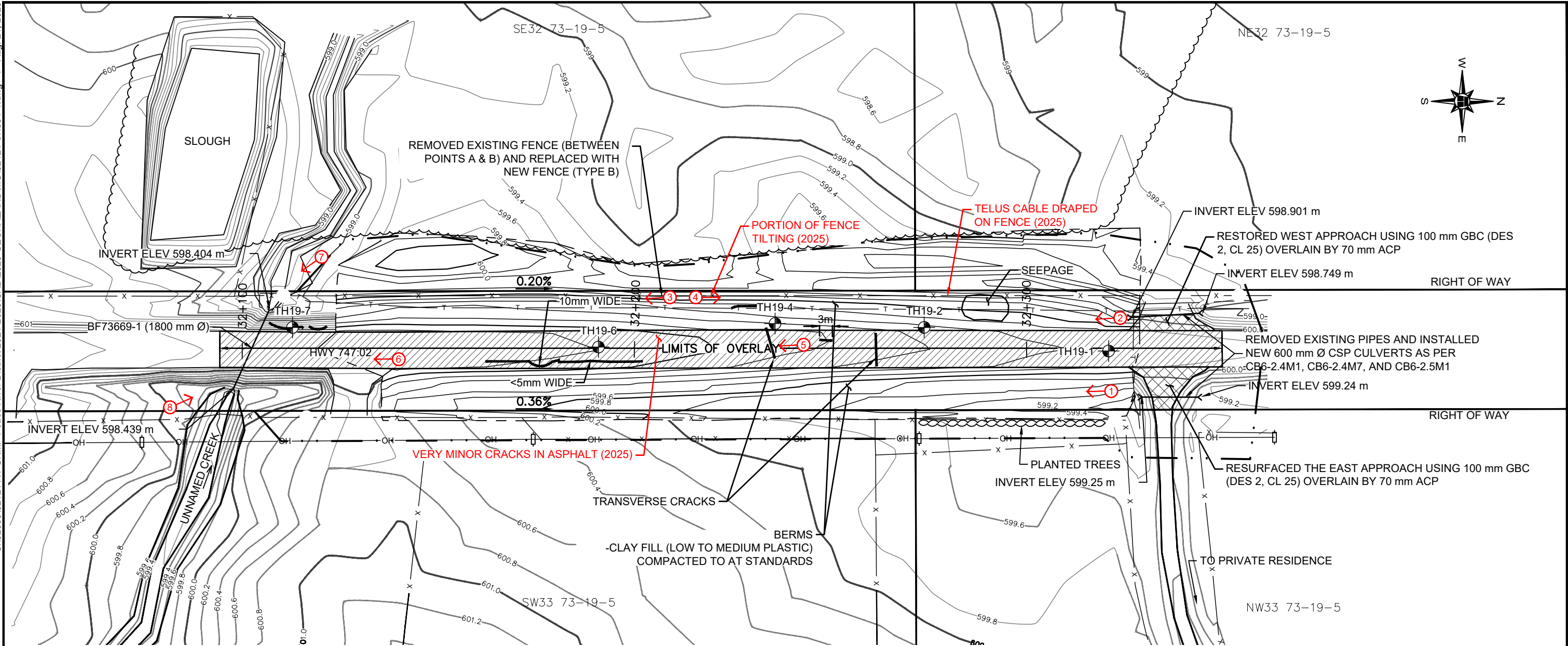
5. INTERPRETATION OF THE REPORT

- a) **Nature and Exactness of Soil and Contaminant Description:** Classification and identification of soils, rocks, geological units, contaminant materials and quantities have been based on investigations performed in accordance with the standards set out in Paragraph 1. Classification and identification of these factors is inherently judgement-based. Comprehensive sampling and testing programs implemented with the appropriate equipment by experienced personnel may fail to locate some conditions. All investigations utilizing the standards of Paragraph 1 will involve an inherent risk that some conditions will not be detected and all documents or records summarizing such investigations will be based on assumptions of what exists between the actual points sampled. Actual conditions may vary significantly between the points investigated and the Client and all other parties making use of such documents or records with or without our express written consent need to be aware of this risk and the Report is delivered subject to the express condition that such risk is accepted by the Client and such other parties. Some conditions are subject to change over time and those making use of the Report need to be aware of this possibility and understand that the Report only presents the interpreted conditions at the sampled points at the time of sampling. If special concerns exist, or the Client has special considerations or requirements, the Client must disclose them so that additional or special investigations may be undertaken which would not otherwise be within the scope of investigations made for the purposes of the Report.
- b) **Reliance on Provided Information:** The evaluation and conclusions contained in the Report have been prepared based on conditions in evidence at the time of site inspections and based on information provided to Thurber. Thurber has relied in good faith upon representations, information and instructions provided by the Client and others concerning the site. Accordingly, Thurber does not accept responsibility for any deficiency, misstatement or inaccuracy contained in the Report resulting from misstatements, omissions, misrepresentations, or fraudulent acts of the Client or other parties providing information relied on by Thurber. Thurber is entitled to rely on such representations, information and instructions and is not required to carry out investigations to determine the truth or accuracy of such representations, information and instructions.
- c) **Design Services:** The Report may form part of design and construction documents for information purposes even though it may have been issued prior to final design being completed. Thurber is recommended to be retained to review final design, project plans and related documents prior to construction to confirm that they are consistent with the intent of the Report. Any differences that may exist between the Report's recommendations and the final design need to be reported to Thurber immediately so that Thurber can address potential conflicts.
- d) **Construction Services:** During construction Thurber should be retained to provide field reviews. Field reviews consist of performing sufficient and timely observations of encountered conditions to confirm and document that the site conditions do not materially differ from those conditions considered in the preparation of the report. Adequate field reviews are necessary for Thurber to provide letters of assurance, in accordance with the requirements of many regulatory authorities.

6. INDEPENDENT JUDGEMENTS OF CLIENT

The information, interpretations and conclusions in the Report are based on Thurber's interpretation of conditions revealed through limited investigation conducted within a defined scope of services. Thurber does not accept responsibility for independent conclusions, interpretations, interpolations and/or decisions of the Client, or other parties who may come into possession of the Report, or any part thereof, which may be based on information contained in the Report. This restriction of liability includes, but is not limited to, decisions made to develop, purchase, or sell land, unless such decisions expressly form part of the stated purpose of the Report as described in Paragraph 3.

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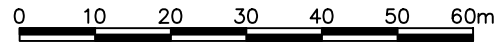


LEGEND

- TEST HOLE LOCATION
- CRACK
- LIMITS OF 2019 ACP OVERLAY (70 mm THICK)
- FENCE
- OVERHEAD POWER LINE AND POWER POLE
- TELUS LINE
- TREE LINE
- TEMPORARY CONSTRUCTION LIMITS
- DIRECTION AND NUMBER OF PHOTO

NOTES:

- ORIGINAL SURVEY COMPLETED BY WSP ON FEBRUARY 5, 2019
- AS-BUILT SURVEY COMPLETED BY WSP ON JULY 25, 2020
- ALL DISTURBED AREAS COVERED WITH SALVAGED TOPSOIL AND SEEDED
- MAY 2025 OBSERVATIONS SHOWN IN RED.



PEACE REGION (PEACE RIVER DISTRICT)

SH031-1: HWY 747:02 km 32.1 TO km 32.3
2025 SITE INSPECTION PLAN

DWG No. 32121-SH031-1

DRAWN BY	ML
DESIGNED BY	MG
APPROVED BY	RKS
SCALE	1:1000
DATE	AUGUST 2025
FILE No.	32121





Photo 1 – Looking south along east ditch at the north end of the site.



Photo 2 – Looking south along west ditch at the north end of the site.



Photo 3: Looking south along west ditch at portion of fence that is tilting.



Photo 4: Looking north along west ditch where Telus cable was draped on fence.



Photo 5: Looking south along southbound lane.



Photo 6: Looking south along northbound lane at south end of site.



Photo 7: Looking southeast at SWSP culvert outlet.



Photo 8: Looking northwest at SWSP culvert inlet.