



March 3, 2023

Victor Schock
Director, Public Utilities Division
North Dakota Public Service Commission
600 E Boulevard Ave, Dept 408
Bismarck, ND 58505-0480

RE: PSC Case No. PU-22-391 Notice of Filings and Public Hearing

Mr. Schock:

As per my email of February 2, section 8.2.4 in Summit Carbon Solutions' *Consolidated Application for a Certificate of Corridor Compatibility and Route Permit* (SCS-0700-ENV-05-PE-008-A) cites a generic US Geological Survey publication regarding landslides in North Dakota (Jones et al., 2019, USGS Landslide Hazard Inventory), but does not cite any of the ND Geological Survey's landslide maps. These 1,464 detailed (1:24,000 scale) landslide maps cover all of North Dakota and were compiled by interpreting LiDAR and recent aerial imagery.

Since it is not clear that these landslide maps were utilized for this project, and time is of the essence, I asked our surface geologists to compare the shapefiles of our landslide layer with the pipeline route shapefiles that our paleontology section acquired in the fall of 2022. The attached table lists 14 possible landslide pipeline route intercepts and three nearby landslides. The three nearby landslides (15-17) have scarps that are projected to advance towards the pipeline route in the future. Each of these 17 localities should be evaluated to determine whether or not they pose a potential future risk to the pipeline.

Please contact me if you have any questions on our review.

Sincerely,

Edward C. Murphy
State Geologist

Attachment: Route Review Findings

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Agency Correspondence
North Dakota Mineral Resources - Geological Survey
Edward Murphy

ND GEOLOGICAL SURVEY SUMMIT PIPELINE ROUTE REVIEW

Id	Comments	Latitude	Longitude
1	Anthropogenic slope disturbance and/or landslide	47.05451642990	-101.19710043200
2	Landslide	47.05523186430	-101.20085407400
3	Anthropogenic slope disturbance and/or landslide	47.05388138450	-101.19306999000
4	Anthropogenic slope disturbance and/or landslide	47.05298157270	-101.19265701800
5	Possible mature landslide, muted expression from slopewash	47.05100710750	-101.19065099000
6	Landslide	47.01775564800	-101.18983444700
7	Possible mature landslide, muted expression from slopewash	46.95703819400	-101.03918881400
8	Anthropogenic slope disturbance and/or landslide	46.95133576410	-100.86527698800
9	Anthropogenic slope disturbance and/or landslide	46.95143576450	-100.85659357600
10	Landslide - mature rotational bedrock slump	46.94190863570	-100.79247750100
11	Landslide - shallow slide and/or soil creep	46.94223339340	-100.78388024900
12	Landslide	46.57195602000	-97.09242855670
13	Anthropogenic slope disturbance and/or landslide	46.57436417400	-97.09488631290
14	Landslide - active bank failure	46.74509319950	-97.20657048100
15	Nearby landslide scarp advancing toward route	46.85467571380	-100.58370544600
16	Nearby landslide scarp advancing toward route	47.05462289640	-101.19538293700
17	Nearby landslide scarp advancing toward route	46.75062042120	-97.20890013720