

December 2, 2021

Executive Director
North Dakota Public Service Commission
600 E. Boulevard, Dept. 408
Bismarck, ND 58505-0480



**Revegetation and Remediation Inspection Report - Glacier Ridge Wind Farm
Barnes County, ND
ND PSC Case No. PU-16-539**

In accordance with your request, Keitu Engineers & Consultants, Inc. (Keitu) is pleased to submit for your use two hard copies of the Glacier Ridge Wind Farm Revegetation and Remediation report.

Keitu appreciates the opportunity to work with you on this project and I hope this report meets with your complete approval. If you have questions or comments, please contact me at the phone number above or via email at jantognazzi@keitu.com.

Sincerely,



Jaimee Antognazzi
Operations Manager

Enclosure: Revegetation and Remediation Inspection Report (2)

149 PU-16-539 Filed: 12/2/2021 Pages: 17
Reclamation and Revegetation Inspection Report

Keitu Engineers & Consultants, Inc.

Reclamation and Revegetation Inspection Report

Glacier Ridge Wind Farm

Barnes County

Glacier Ridge Wind Farm, LLC

ND PSC Case No. PU-16-539

Prepared for:

North Dakota Public Service Commission
Public Utilities Division
State Capitol
600 East Boulevard – Dept. 408
Bismarck, ND 58505-0480



December 2021

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Executive Summary

The State of North Dakota, acting through its North Dakota Public Service Commission (Commission), Division of Public Utilities, has contracted Keitu Engineers & Consultants, Inc. (Keitu) to perform consulting services for reclamation and revegetation inspections. This report addresses the inspection findings concerning issues requiring resolution, areas of concern, recommendations for resolution of issues, and a determination whether the area affected by construction activities has been restored as near as practicable to the condition as it existed prior to the beginning of construction, including the establishment of desired plant species where applicable in Case No. PU-16-539.

The Glacier Ridge Wind Farm is located in Barnes County, North Dakota. The Commission issued its Findings of Fact, Conclusions of Law and Order and Certificate of Site Compatibility No. 51 to Glacier Ridge on December 7, 2016. Construction began in December, 2016 at 19 turbine locations. On December 14, 2016, Keitu staff was on-site to conduct a topsoil inspection when topsoil removal began for the Project. On December 22, 2016, excavation for the foundations of 19 turbines was completed. Silt fencing was installed and winter wheat was seeded on topsoil piles at the 19 turbine sites. On March 14, 2017, Glacier Ridge notified the Commission that monthly stormwater checks would be conducted and construction was anticipated to resume in 2018, pending the outcome of additional development processes pertaining to interconnection and power marketing. Glacier Ridge stated that PSC and Keitu would be notified prior to construction activities resuming.

On September 27, 2021, the Commission submitted a request of information to Glacier Ridge to inquire about the status of the Project. The Commission had not been notified if construction for the Project had resumed or would resume since the foundations for the 19 turbine sites were excavated in December 2016. The Commission requested that, by 30 days after receipt of the letter, a written update of the construction that has occurred on the Project since the March 16, 2017 progress report, and future plans for the Project.

On October 4, 2021, a Project representative submitted a response to the Commission's request for information and stated that the Project had been cancelled and construction work would not resume. The Commission was informed that all 19 turbine foundations that were excavated in December 2016 had been properly backfilled and restored to as near as practicable to the condition that existed prior to construction activities. Backfilling of topsoil at the turbine sites was completed in October 2020 and photos documenting the topsoil backfilling at these locations were attached.

The purpose of the reclamation and revegetation inspection was to ensure the Project was restored in compliance with the siting laws, rules, and the applicable First Amended Certificate of Site Compatibility No. 51 for Case No. PU-16-539 dated December 7, 2016 and September 6, 2017. Prior to the inspection, Keitu reviewed all Project documents to identify any and all aspects requiring site verification.

The site was visually inspected on November 22, 2021 by Keitu staff. It appears to be returned as near as practical to preconstruction conditions at the time of visit.

Introduction

The Project was approved on December 7, 2016 and construction began on December 14, 2016 consisting of excavating foundations for 19 turbines. The Project is a wind energy conversion facility in Barnes County, North Dakota. The wind project would have consisted of up to 87 turbines generating up to 300 megawatts. The Project is under the jurisdiction of the North Dakota Public Service Commission (Commission), which issued its Findings of Fact, Conclusions of Law and Order and First Amended Certificate of Site Compatibility No. 51 for Case No. PU-16-539 dated December 7, 2016 and September 6, 2017. The Project was cancelled and the foundation excavations for 19 turbines were backfilled with topsoil and restored to as near as practicable to pre-construction conditions in October 2020.

Purpose and Scope of Inspection

The North Dakota Energy Conversion and Transmission Facility Act (North Dakota Century Code Chapter 49-22) authorizes the Commission to determine that the location, construction, and operation of jurisdictional energy conversion and transmission facilities will produce minimal adverse effects on the environment and welfare of the citizens of North Dakota. Construction inspections ensure the Project is constructed in compliance with siting laws, rules, and the applicable Commission Order.

The Commission retained Keitu Engineers & Consultants, Inc. (Keitu) to complete a reclamation and revegetation inspection of the Project. The inspection process included a site visit and inspection of facilities; documentation of compliance; and a report summarizing findings. This report includes, but is not limited to, site visit observations, documentation of compliance deficiencies, and a summary of issues that should be addressed for the Project to be considered complete and in full compliance.

Methods

Keitu reviewed North Dakota siting laws and rules, the Application, Certification, and the Order for the Project to identify what Project-specific documentation was required for compliance. Keitu then reviewed Project documents in the Commission Online Case Search to identify those siting laws, rules, and Application and Order assertions that already had written verification, those that still required documentation, and those that required physical site verification.

Keitu staff visited the Project area on November 22, 2021 to visually inspect the site. Digital photographs were taken showing locations where turbine sites had been reclaimed and returned to pre-construction uses. During the field visit, reclamation activities were complete and reclaimed areas had all been returned to pastureland or tilled cropland.

Observations

Project areas occurring in crop lands appeared to be returned to pre-construction conditions at the time of the visit. A total of 18 turbine sites were located in areas that were utilized for crop production in 2021 and all crops had been harvested at the time of the inspection. Based on visual inspection of remaining stubble, crop density appeared to be similar to areas adjacent to the Project area. The Project had one turbine location occurring in range or pasture land that had approximately 80-100% ground cover, comprised primarily of grass species similar to the surrounding areas that had not been impacted by construction activities. The disturbed areas appeared to be stabilized and as near as practical to pre-construction activities.

Recommendations

Of the 19 total turbine site locations, 18 sites had been returned to active crop production, and 1 site located in non-tilled pastureland (Turbine Site T4) had over 70% established vegetation at the time of inspection. No further action is recommended.

Conclusion

Overall, the 19 turbine sites appeared to have been restored to as near practical to pre-construction conditions.

Management Review

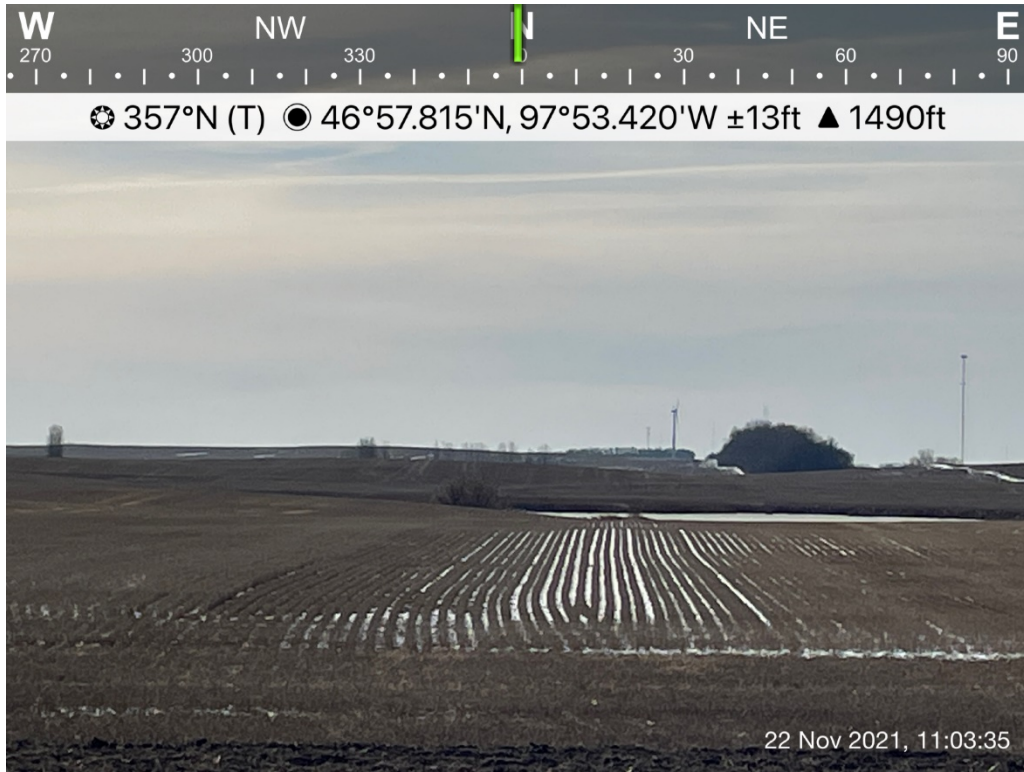
The services performed by Keitu and its staff for this project have been conducted in a manner consistent with the degree of care and technical skill appropriately exercised by professionals currently practicing in this area under similar time and budget constraints.

Recommendations and findings contained in this report represent our professional judgment and are based upon available information and technically accepted practices at the present time and location. Other than this, no warranty is implied or expressed.

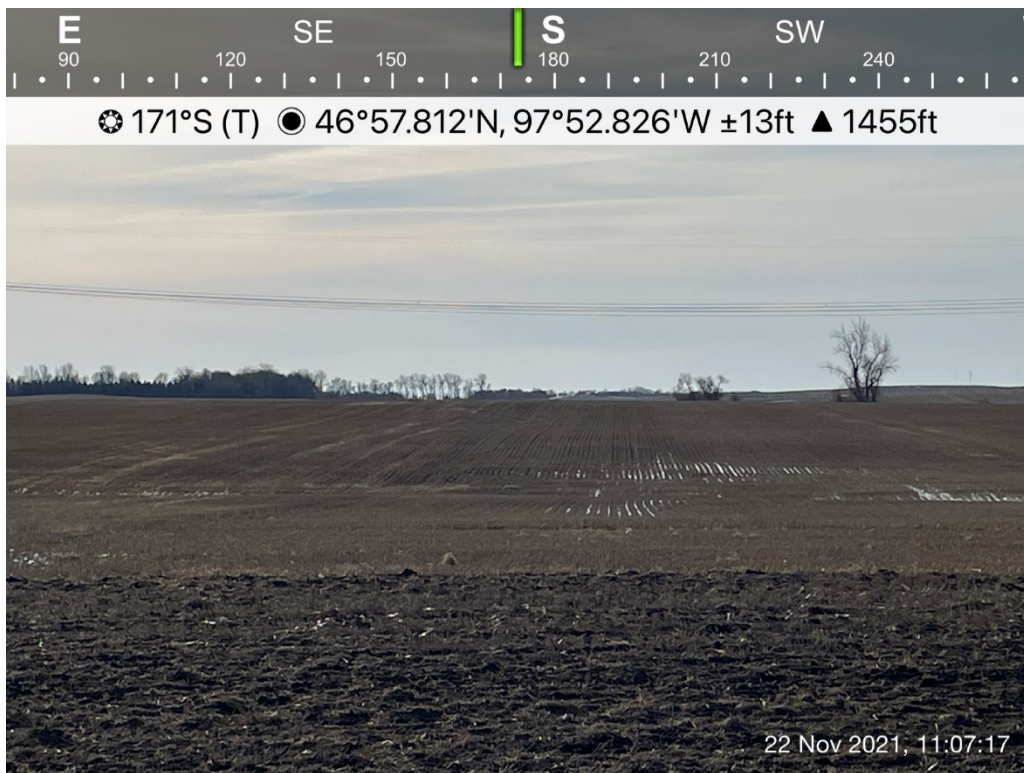
Jaimee Antognazzi, Operations Manager

Date

Report Photo #1: Turbine Site T1



Report Photo #2: Turbine Site T2



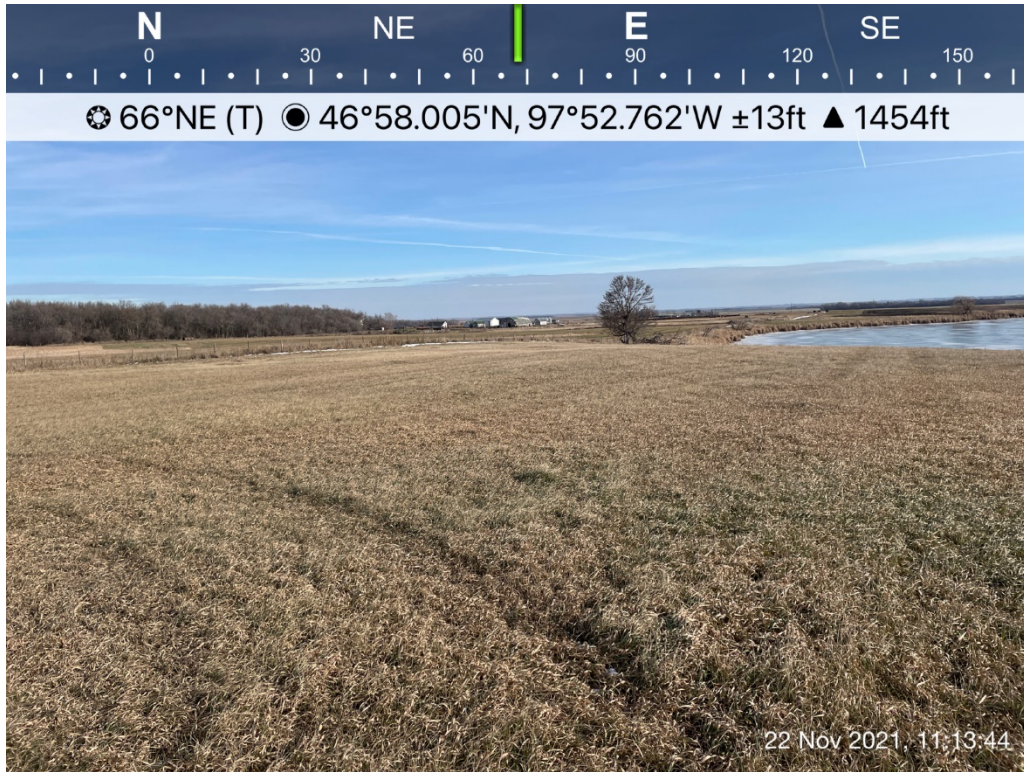
Report Photo #3: Turbine Site T3



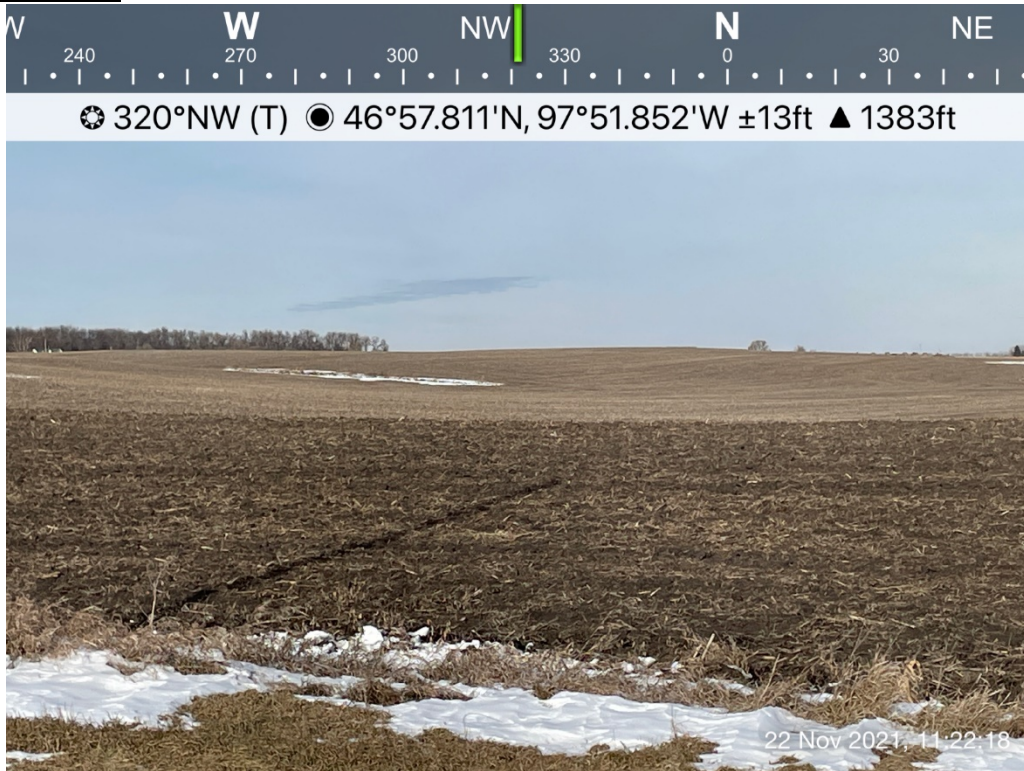
Report Photo #4: Turbine Site T4



Report Photo #5: Turbine Site T4



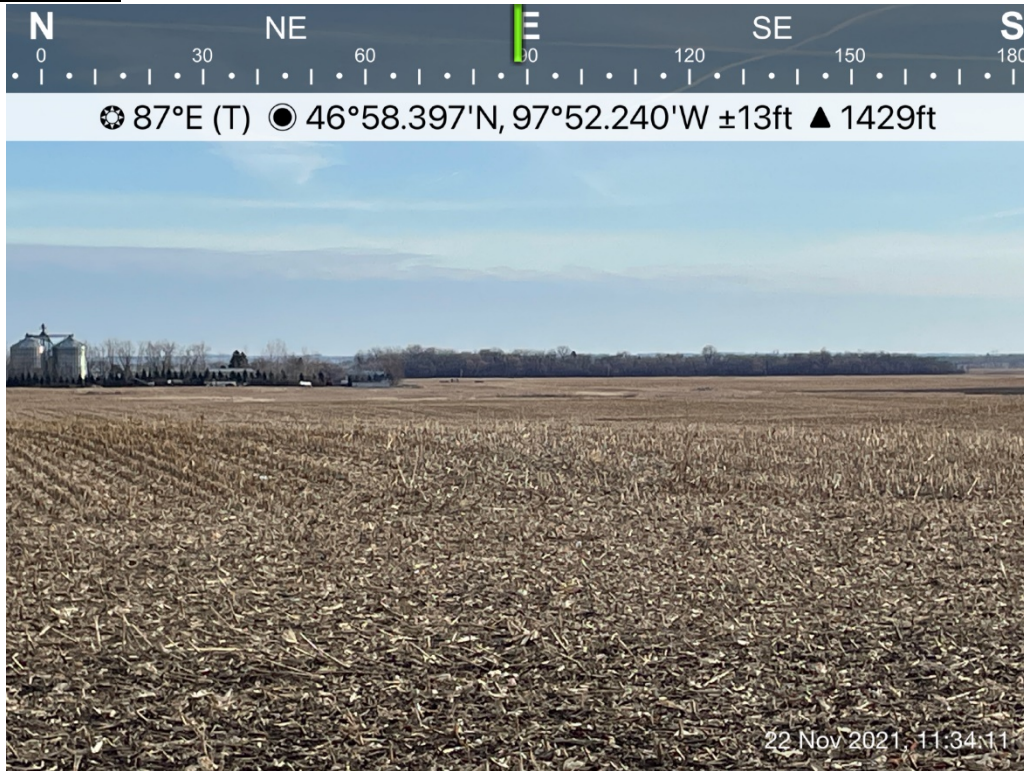
Report Photo #6: Turbine Site T5



Report Photo #7: Turbine Site T6



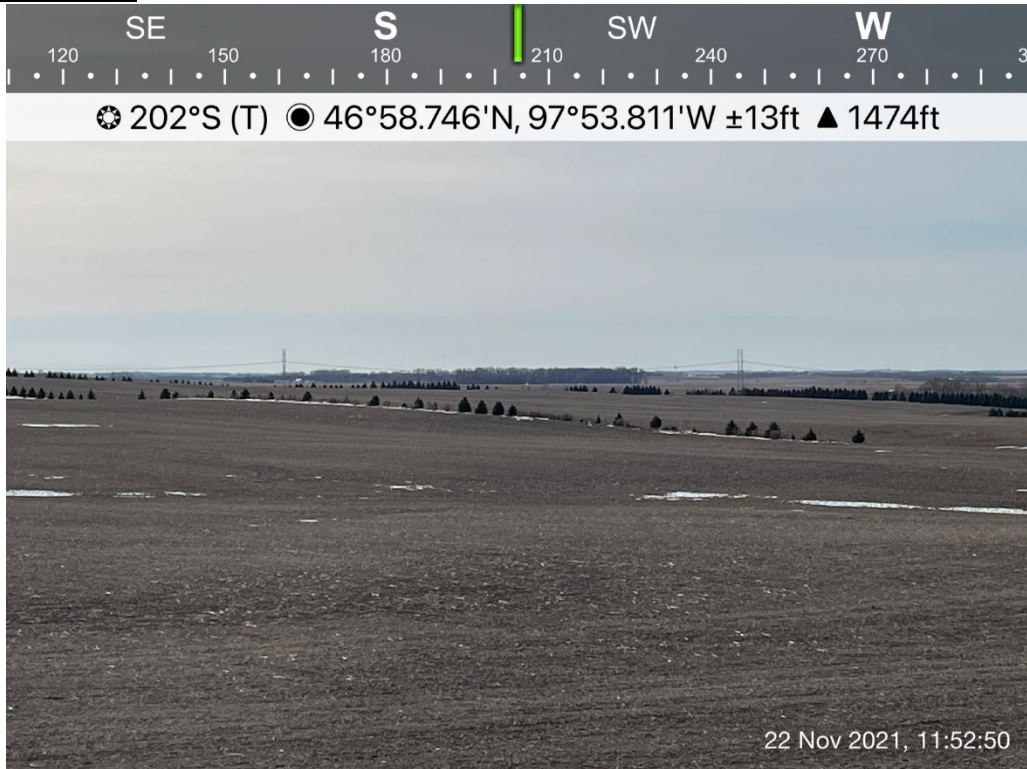
Report Photo #8: Turbine Site T7



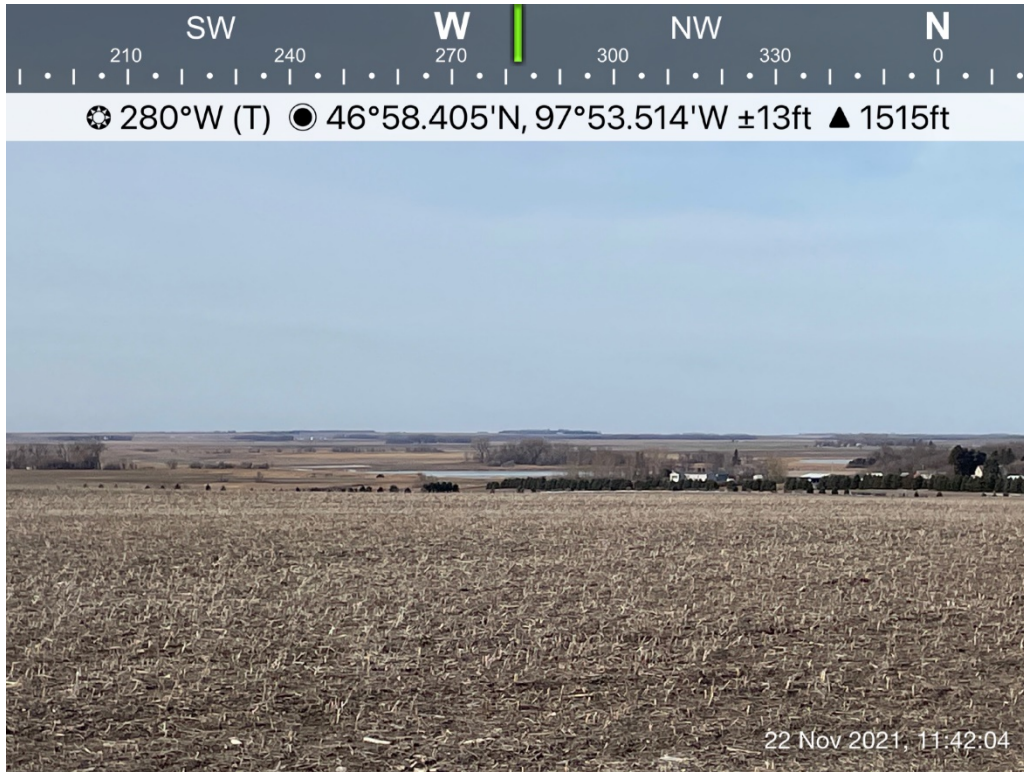
Report Photo #9: Turbine Site T12



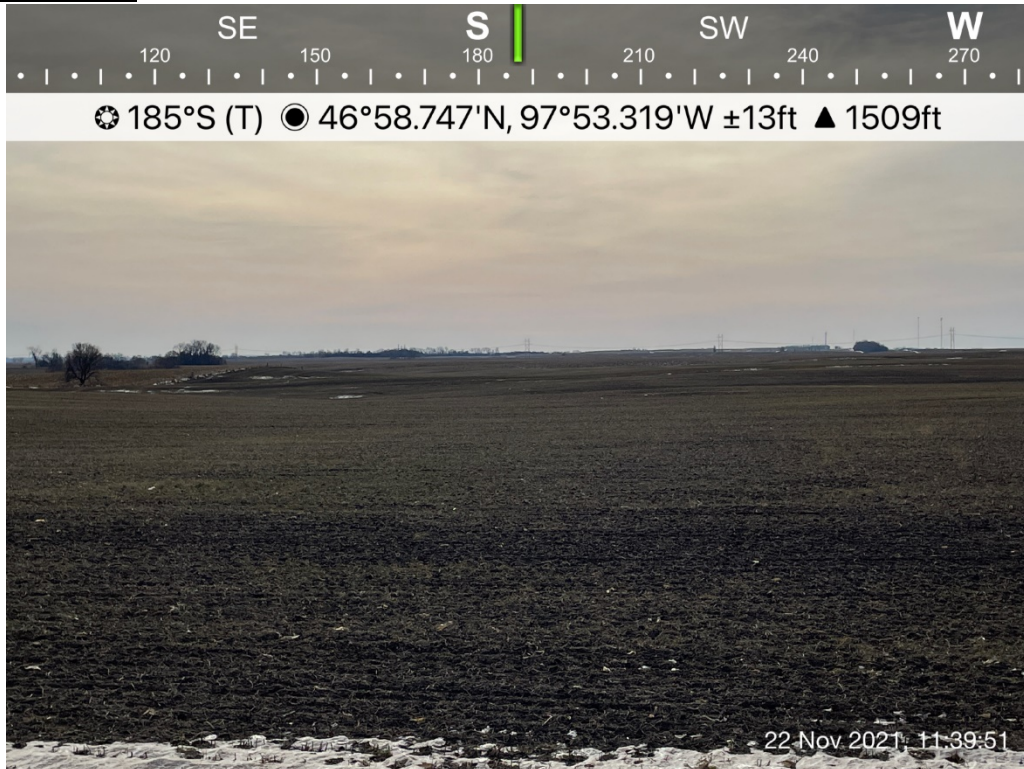
Report Photo #10: Turbine Site T13



Report Photo #11: Turbine Site T14



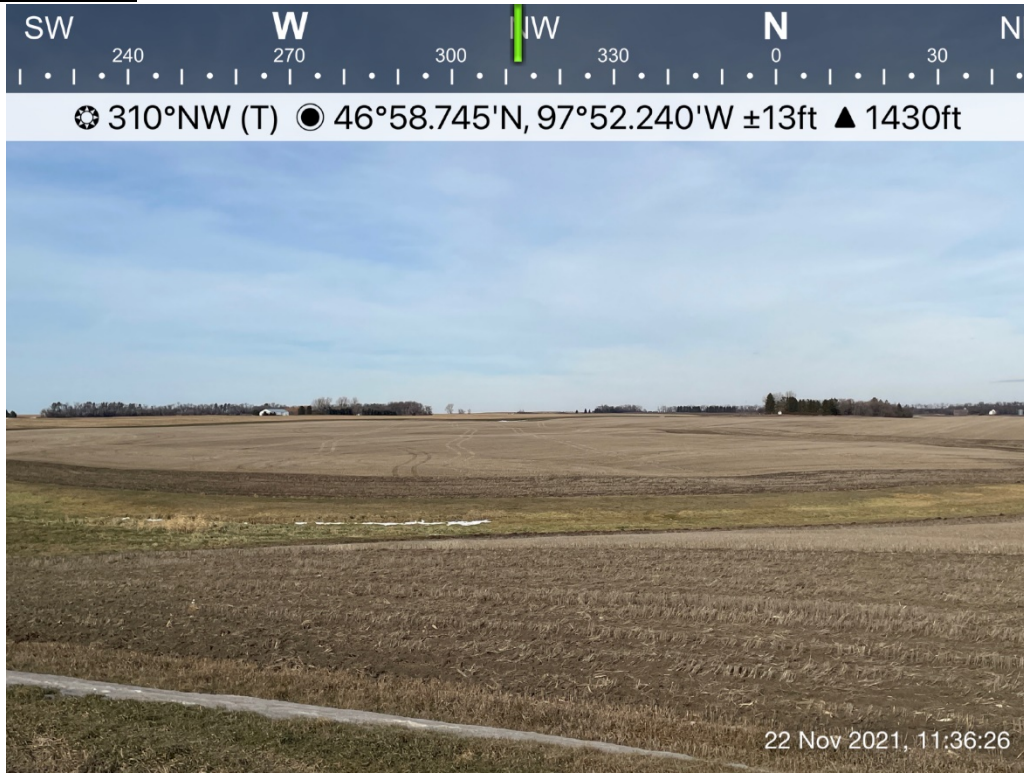
Report Photo #12: Turbine Site T15



Report Photo #13: Turbine Site T16



Report Photo #14: Turbine Site T17



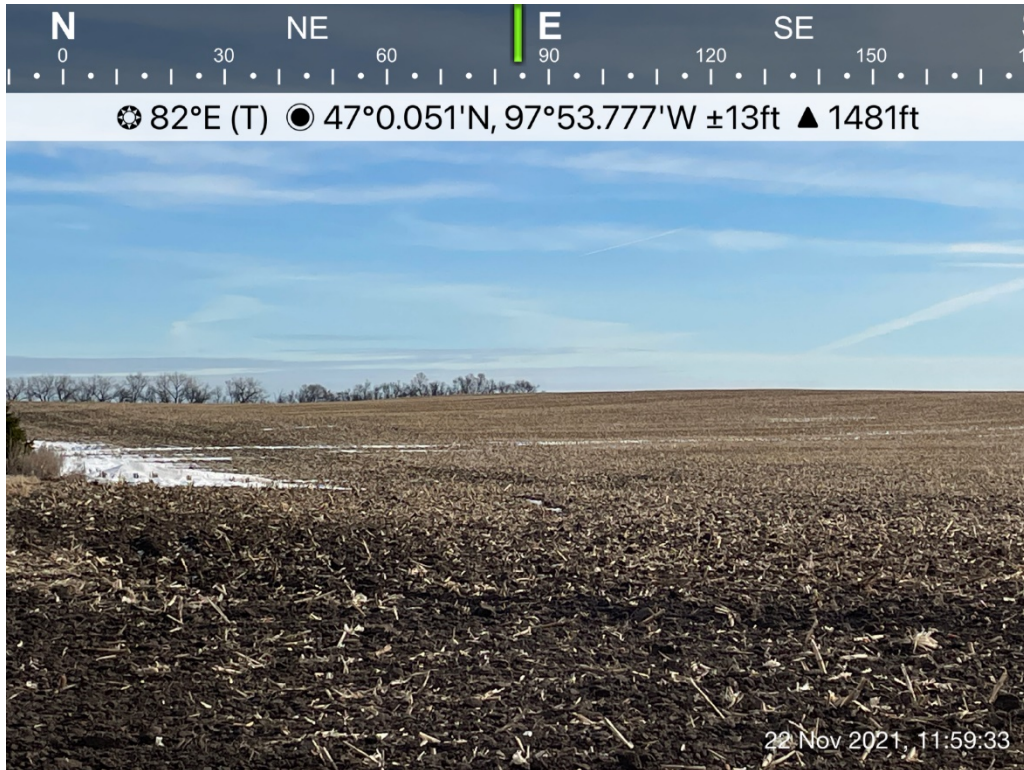
Report Photo #15: Turbine Site T21



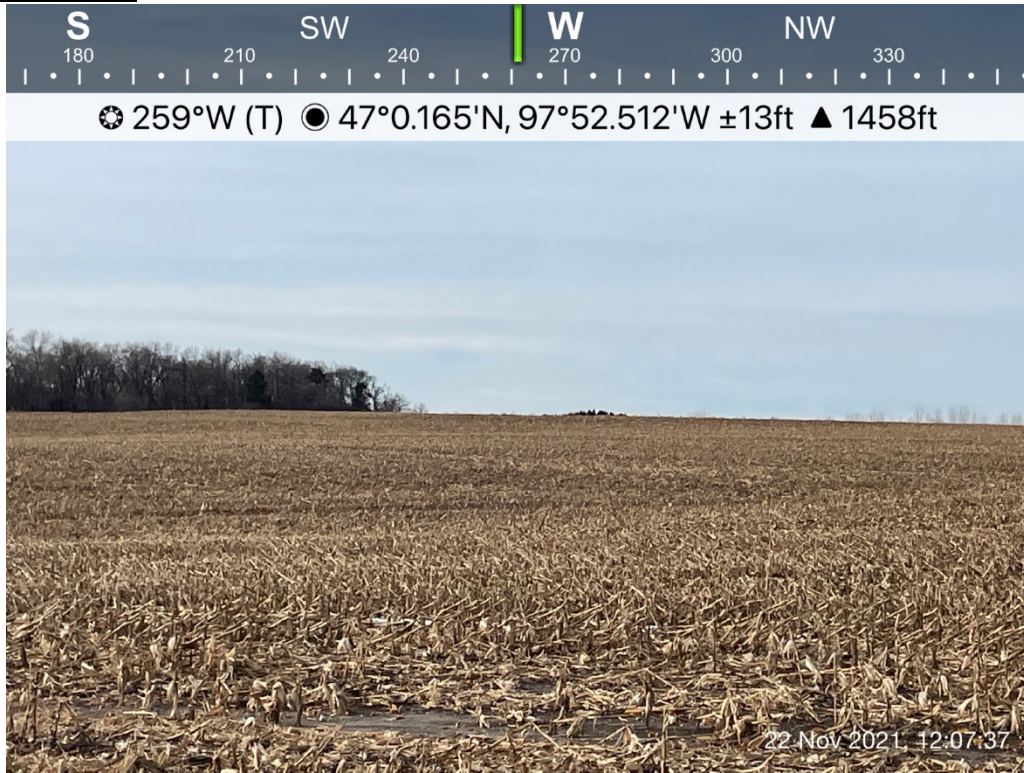
Report Photo #16: Turbine Site T22



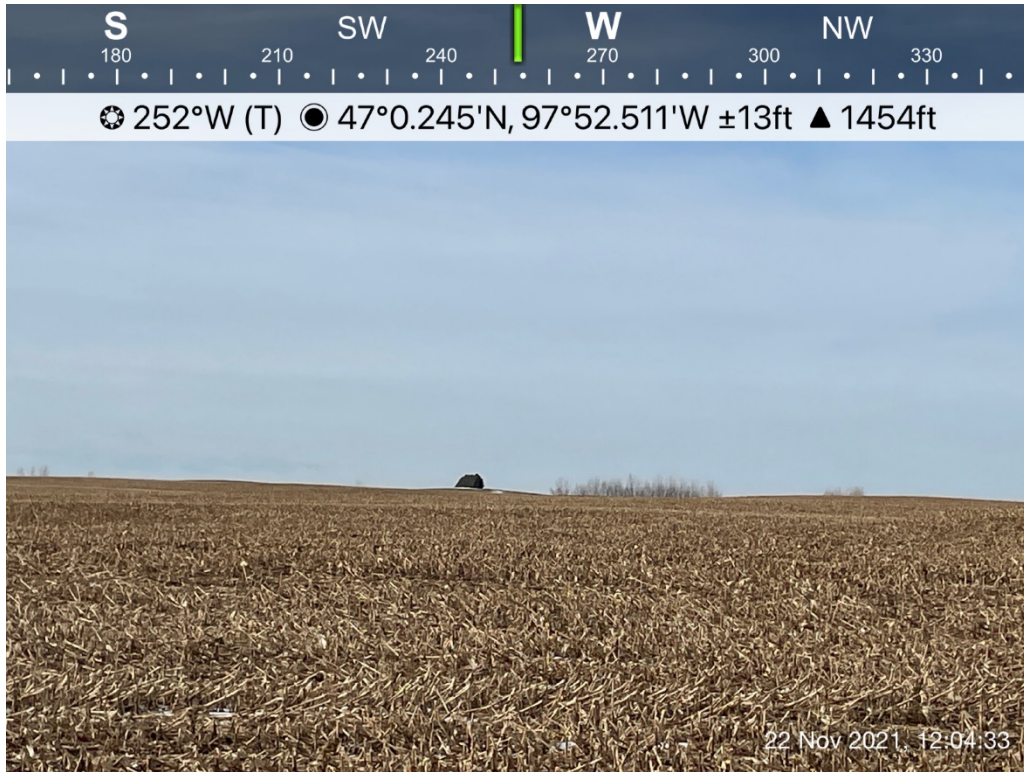
Report Photo #17: Turbine Site T24



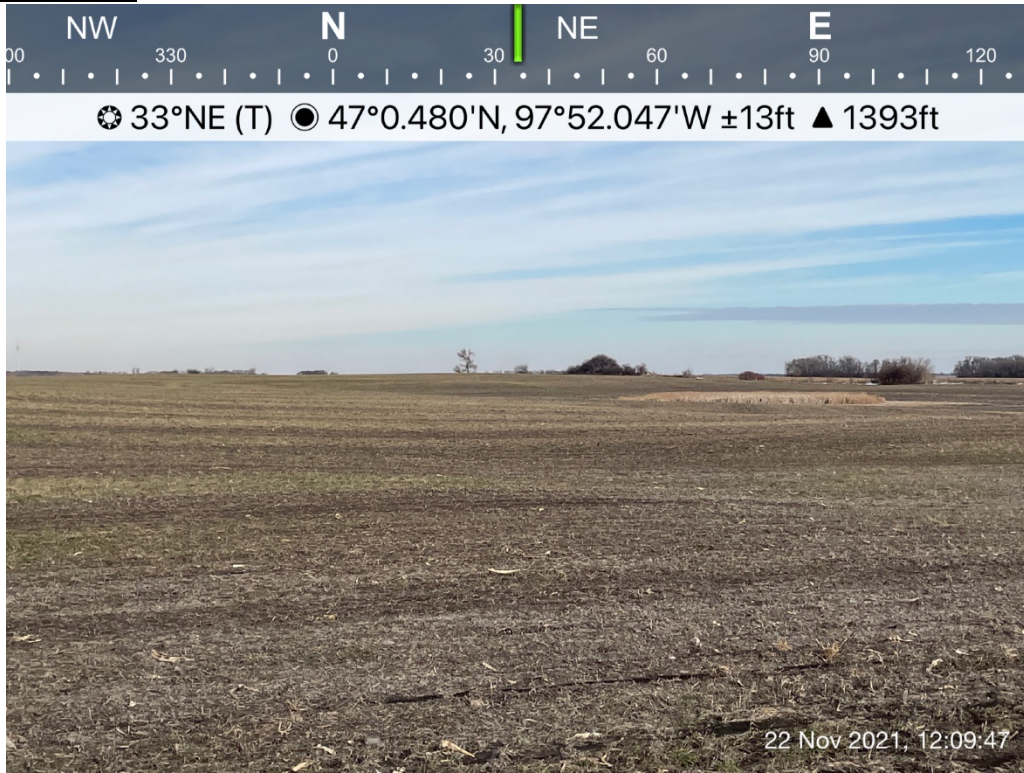
Report Photo #18: Turbine Site T25



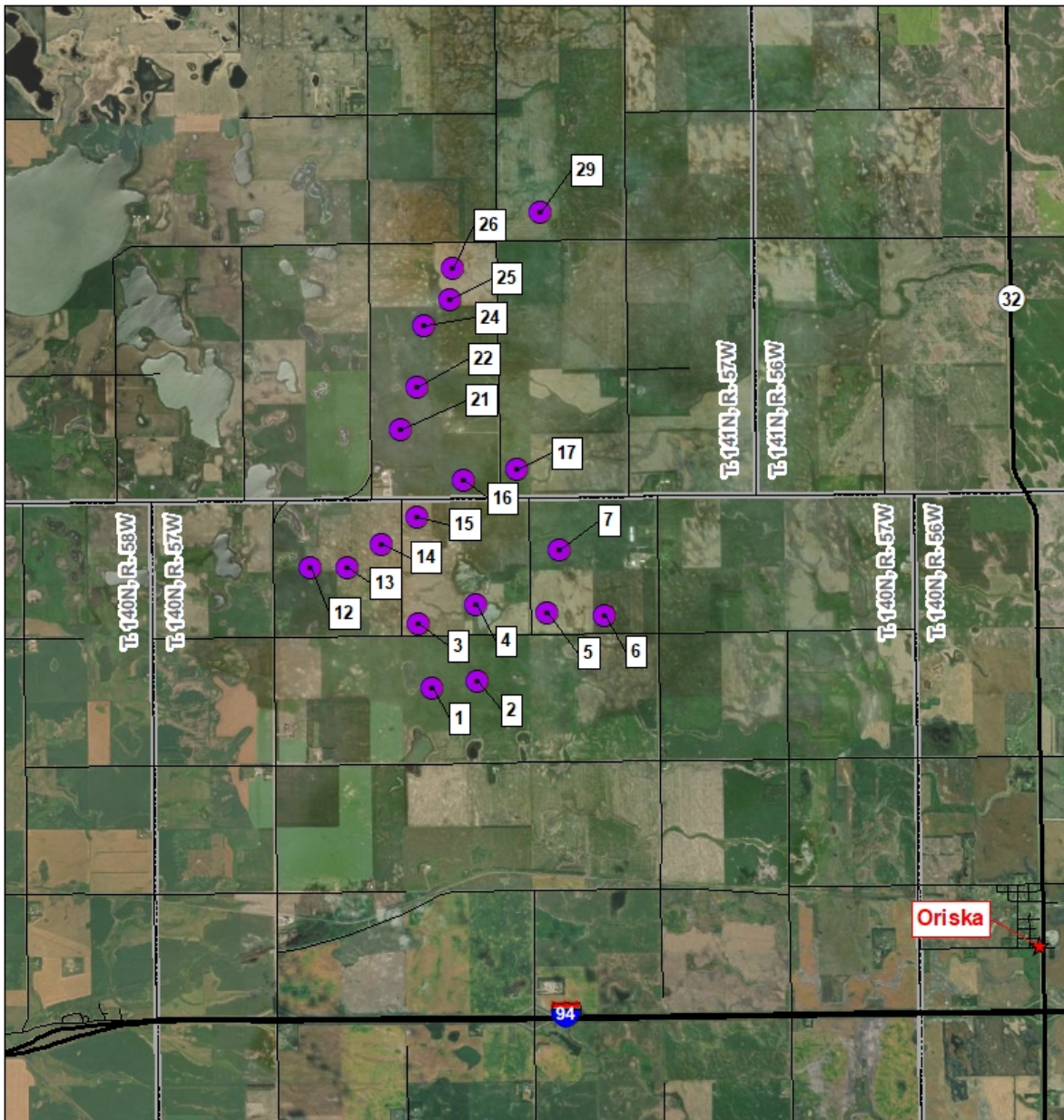
Report Photo #19: Turbine Site T26



Report Photo #20: Turbine Site T29



Project Photo Location Map:



Glacier Ridge Wind Farm

★ Town	— Local Roads
● Reclaimed Turbine Sites	▭ Township/Range Boundary
— Major Roads	

N

**T. 141N, R. 57W
and T. 140N, R. 57W
Barnes County, North Dakota**

0 1 2 Miles
0 1.5 3 Kilometers