

## **Oliver Wind IV Wind Energy Center**

### **Oliver County**

### **Construction Inspection Report**

***Docket Number: PU-23-317***

Prepared for North Dakota Public Service Commission



October 2024

Construction Inspection Report

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# 1 Executive Summary

The North Dakota Public Service Commission (Commission) retained Meadowlark Environmental, LLC (Meadowlark) to complete a construction inspection for the Oliver Wind IV Wind Energy Center (Project) in Oliver County, North Dakota (ND), constructed by NextEra Energy (NextEra). The purpose of the inspection is to ensure the project is constructed in compliance with siting laws and rules and the applicable PSC Orders for the Project.

The construction inspection was conducted on October 16 and October 22, 2024. The inspection occurred when the wind turbine structures were in various stages of construction. At the time of the inspection, all 73 turbine foundations were completed and approximately 25% of the turbines were completed with regards to construction. Other turbines were either partially constructed or had the turbine components staged at the turbine sites for construction.

Issues were noted in regard to topsoil and subsoil segregation, garbage and fences buried during reclamation, damage to trees not cleared during construction, and SWPPP BMPs. These issues will be discussed in greater detail in **Section 4** of this report.

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## 2 Background and Scope

### 2.1 Introduction

The Oliver Wind IV Energy Center (Project) is being constructed by NextEra to include an up to 200 megawatt (MW) wind energy facility known as the Oliver Wind IV Energy Center consisting of up to 73 wind turbine generators and associated facilities including three alternative turbine locations, access roads, underground electrical collection and communications systems, two aircraft detection lighting systems (ADLS), a collection substation, an operations and maintenance (O&M) facility, a permanent and a temporary meteorological evaluation tower (MET), and temporary workspaces for a construction laydown yard and a concrete batch plant. The Project area encompasses approximately 22,291 acres in Oliver County, North Dakota. Oliver Wind IV expects the Project to be placed in service by December 2024.

Construction for the Project began with the removal of topsoil for the approximately 20-acre construction laydown yard and location for O&M facilities on May 9, 2024. The construction inspection was conducted on October 16 and October 22, 2024.

The Project is under the jurisdiction of the North Dakota Public Service Commission (PSC), which issued its Finding of Fact, Conclusions of Law, and Order on April 29, 2024, and issued the Certificate of Site Compatibility No. 67 for Case No. PU-23-317.

### 2.2 Regulatory Purpose and Need

The North Dakota Energy Conversion and Transmission Facility Act (North Dakota Century Code Chapter 49-22) charges the Public Service Commission with determining that the location, construction, and operation of jurisdictional energy conversion and transmission facilities will produce minimal adverse effects on the environment and the welfare of citizens of North Dakota. Inspections during construction ensure that such projects are built in compliance with the siting laws (North Dakota Century Code Chapter 49-22) and rules (North Dakota Administrative Code Article 69-06) and the applicable Commission Orders.

### 2.3 Scope of Work

The North Dakota Public Service Commission retained Meadowlark to perform a construction inspection of the Project. Meadowlark's scope of work was to complete and document an on-site inspection during the construction of the wind energy center to verify that the project was in compliance with the siting laws, rules, and applicable Commission Orders. This report contains site visit observations and a summary of findings and issues that should be addressed for the Project.

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## 3 Findings of Site Inspection

### 3.1 Methods

Zach Peterson, Project Manager/Field Inspector for Meadowlark visited the Project site on October 16 and October 22, 2024, to conduct the construction inspection. Mr. Peterson visited the Project site on October 16, 2024 to observe areas where potential issues had been brought to the attention of the PSC. On October 22, 2024, Mr. Peterson visited the Project site and observed turbines in various stages of completion, along with access roads and collection lines across the entire Project area.

Mr. Peterson observed construction of turbine components and MET towers, collection line pits and connections, and reclamation of completed turbine sites. The majority of the project was visited during the inspections. Representative turbine sites across the Project area were observed and photos were taken (iPhone 15) with a GIS overlay and without the overlay for each photo.

### 3.2 On-Site Inspection Observations

During the construction inspections, the most prevalent issue noted was the improper segregation of topsoil and subsoil from excavated and stripped areas. It was noted that several pits excavated for collection lines and transformers had excavated subsoil on top of and mixed in with excavated topsoil. Photos of these areas are shown in **Photos 9, 12, and 14** in the photo log of this report. This issue relates to **Certification #14** which states *"Company understands and agrees that topsoil, up to 12 inches, or topsoil to the depth of cultivation, whichever is greater, over and along trench areas, roadways, and location of associated facilities must be carefully stripped and segregated from the subsoil. Any area on which excavated subsoil will be placed must first be stripped of topsoil. The stripped topsoil must not be stockpiled in natural drainages and must be protected from water erosion. Care must be taken to protect topsoil from unnecessary compaction by heavy machinery. Unless otherwise approved by the Commission, topsoil must be removed before topsoil freezes in the late fall/early winter to the point that frost inhibits proper soil segregation. After backfilling with subsoil is completed, any excess subsoil must be placed over the excavation area, blending the grade into existing topography. Topsoil must be replaced over areas from which it was stripped only after the subsoil is replaced."*

Another issue noted during the construction inspections included an area in which human garbage and fence material were covered up with soil during the reclamation process. **Photo 11** in the photo log of this report shows a portion of barbed wire fence protruding from the soil spread during the reclamation of the turbine site. This issue relates to **Certifications #'s 20, 24, and 28** of the Commission's Order. **Certification 20** states *"Company agrees that it shall, as soon as practicable upon the completion of the construction of the energy conversion facility, restore the area affected by the activities to as near as practicable to the condition as it existed prior to the beginning of construction."* **Certification 24** states *"Company will repair all fences and gates removed or damaged during all phases of construction and operation of the proposed energy conversion facility."* **Certification 28** states *"Company understands and agrees that it shall remove all waste that is a product of construction and operation, restoration, and maintenance of the site, and properly dispose of it on a regular basis."*

Other minor issues noted during the construction inspection included trees damaged by heavy equipment but not removed according to the Tree and Shrub Mitigation Plan, and SWPPP BMPs in need of repair. These issues are shown in **Photos 10** and **13** in the photo log of this report.

Besides the issues noted above, the Project appeared to be built in compliance with the PSC's Orders and regulations.

## 4 Issues to Resolve and Recommendations

Construction activities were noted to be acceptable apart from the issues described in Section 3 of this report. The table below describes the issues noted during the construction inspection.

Issue	Recommendations
<b>Topsoil Segregation</b>	Any removed topsoil from stripped areas and connection line pits must be segregated from removed subsoil.
<b>Buried Garbage and Fence Material</b>	Any human waste must be cleaned up and disposed of prior to reclamation of a site. Any fence material must be replaced prior to reclamation of an area and any unused material from original fences and gates must be removed prior to reclamation of the site.
<b>Damaged Trees</b>	If trees are damaged during construction activities, the trees must be inventoried, removed, and replaced according to the Tree and Shrub Mitigation Plan.
<b>SWPPP BMPs</b>	Silt fence, waddles and other erosion devices will need to be monitored until vegetation is reestablished along ROW and replaced when necessary.

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# 5 Signatures

The services performed by Meadowlark staff for this project have been conducted in a manner consistent with the technical skill and degree of care exercised by professionals currently practicing in this discipline under similar time and budget constraints. Findings and recommendations represent our professional judgement and are based on available information and accepted practices. No warranty is implied or expressed beyond this.



Zach Peterson, Inspector

11/4/2024

Date

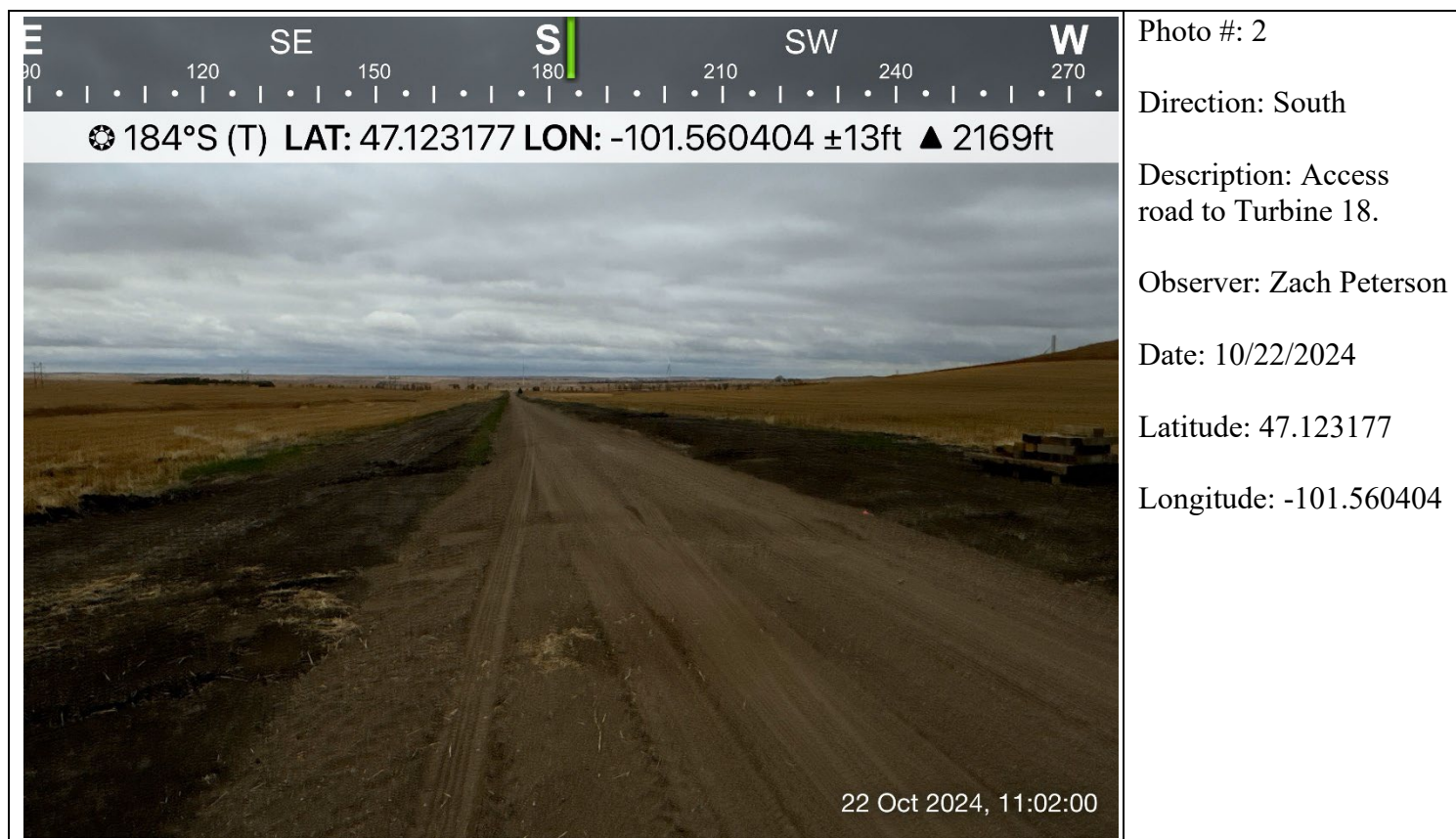
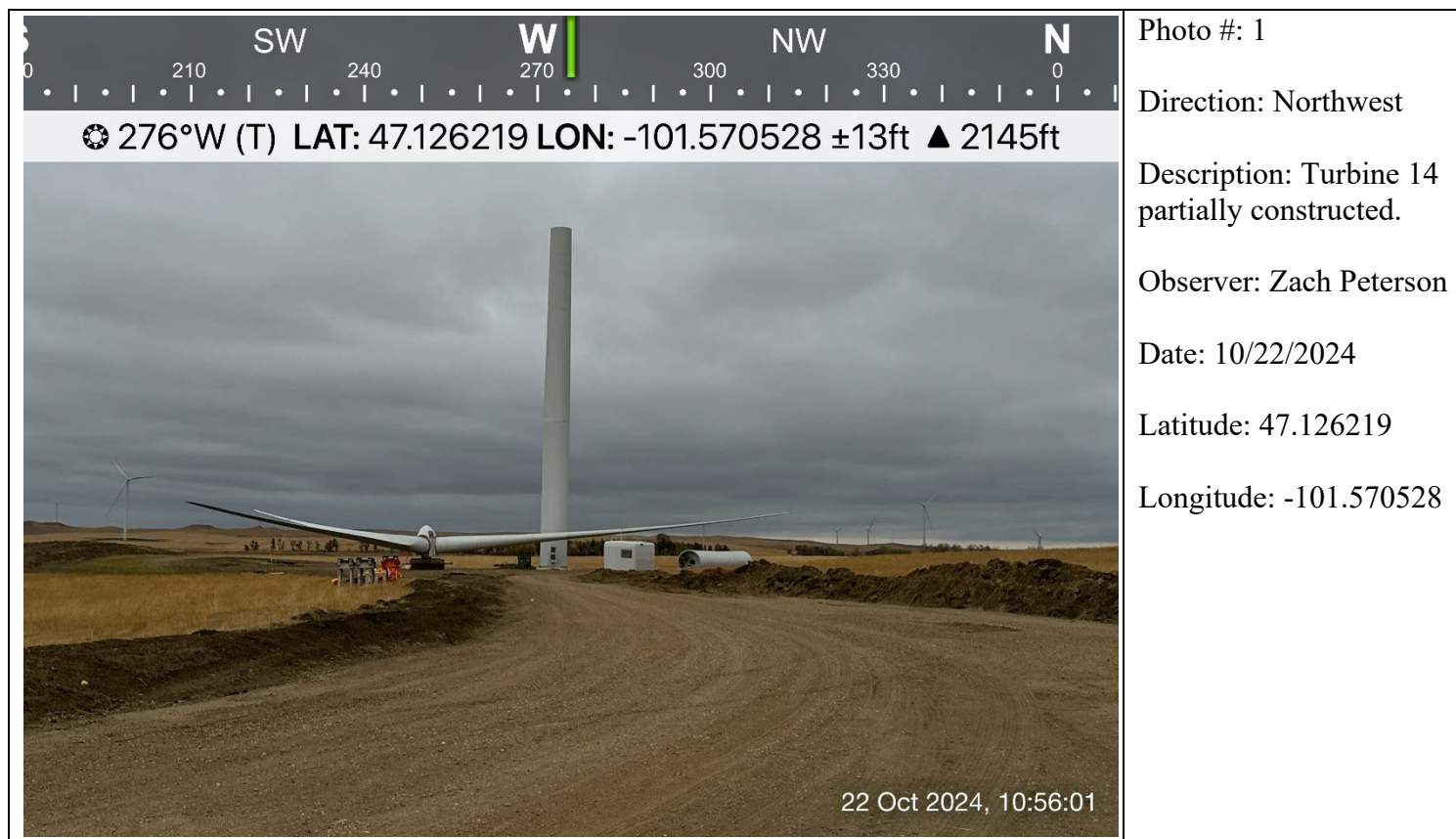
## Appendices



## Photo Log and Observation Maps

## On-Site Photographs

## Oliver Wind IV Wind Energy Center Project- Oliver County





## On-Site Photographs



## Oliver Wind IV Wind Energy Center Project- Oliver County

<div> <div>NW 300 330 N 0 30 NE 60 E 90</div> <div>☀ 19°N (T) LAT: 47.124494 LON: -101.616520 ±13ft ▲ 2002ft</div> </div>  <div>22 Oct 2024, 11:28:06</div>	<p>Photo #: 3</p> <p>Direction: Northeast</p> <p>Description: Completed MET tower and Turbine 1.</p> <p>Observer: Zach Peterson</p> <p>Date: 10/22/2024</p> <p>Latitude: 47.124494</p> <p>Longitude: -101.616520</p>
<div> <div>SW 240 W 270 NW 300 330 N 0 30 NE</div> <div>☀ 315°NW (T) LAT: 47.111458 LON: -101.559666 ±13ft ▲ 2150ft</div> </div>  <div>22 Oct 2024, 11:35:21</div>	<p>Photo #: 4</p> <p>Direction: Northwest</p> <p>Description: Partially constructed Turbine 17 with access road and SWPPP BMPs in good condition.</p> <p>Observer: Zach Peterson</p> <p>Date: 10/22/2024</p> <p>Latitude: 47.111458</p> <p>Longitude: -101.5596647.</p>



## On-Site Photographs

## Oliver Wind IV Wind Energy Center Project- Oliver County

<p>NW 300 330 N 0 30 NE 60 E 90</p> <p>☼ 23°NE (T) LAT: 47.147364 LON: -101.532144 ±19ft ▲ 2169ft</p>  <p>22 Oct 2024, 12:41:09</p>	<p>Photo #: 5</p> <p>Direction: Northeast</p> <p>Description: Tower constructed on east side of 49<sup>th</sup> Ave SW near Turbine 31.</p> <p>Observer: Zach Peterson</p> <p>Date: 10/22/2024</p> <p>Latitude: 47.147364</p> <p>Longitude: -101.532144</p>
<p>S 180 210 SW 240 W 270 NW 300 330</p> <p>☼ 249°W (T) LAT: 47.176461 LON: -101.498025 ±13ft ▲ 2175ft</p>  <p>22 Oct 2024, 13:08:14</p>	<p>Photo #: 6</p> <p>Direction: West</p> <p>Description: Reclamation ongoing at Turbine 48.</p> <p>Observer: Zach Peterson</p> <p>Date: 10/22/2024</p> <p>Latitude: 47.176461</p> <p>Longitude: -101.498025</p>



## On-Site Photographs



## Oliver Wind IV Wind Energy Center Project- Oliver County

<div> <div> <div>E</div> <div>SE</div> <div>S</div> <div>SW</div> </div> <div> <div>60</div> <div>90</div> <div>120</div> <div>150</div> <div>180</div> <div>210</div> <div>240</div> </div> </div> <div> <div>☼ 151°SE (T) LAT: 47.176394 LON: -101.500406 ±13ft ▲ 2180ft</div> </div> <div> <div>22 Oct 2024, 13:10:07</div> </div>	<p>Photo #: 7</p> <p>Direction: South</p> <p>Description: Turbine 47 and collection line running through corn field.</p> <p>Observer: Zach Peterson</p> <p>Date: 10/22/2024</p> <p>Latitude: 47.176394</p> <p>Longitude: -101.500406</p>
<div> <div> <div>SW</div> <div>W</div> <div>NW</div> <div>N</div> </div> <div> <div>210</div> <div>240</div> <div>270</div> <div>300</div> <div>330</div> <div>0</div> </div> </div> <div> <div>☼ 285°W (T) LAT: 47.192543 LON: -101.511176 ±13ft ▲ 2148ft</div> </div> <div> <div>22 Oct 2024, 13:22:30</div> </div>	<p>Photo #: 8</p> <p>Direction: West</p> <p>Description: Turbine 39 and access road with gate.</p> <p>Observer: Zach Peterson</p> <p>Date: 10/22/2024</p> <p>Latitude: 47.192543</p> <p>Longitude: -101.511176</p>



## On-Site Photographs

## Oliver Wind IV Wind Energy Center Project- Oliver County

<p>W 270 NW 300 330 N 0 NE 60 E 90</p> <p>☀ 359°N (T) LAT: 47.125872 LON: -101.447314 ±9ft ▲ 2191ft</p>  <p>16 Oct 2024, 09:21:34</p>	<p>Photo #: 9</p> <p>Direction: North</p> <p>Description: Open pit for collection line with no fence and mixed pile of topsoil and subsoil.</p> <p>Observer: Zach Peterson</p> <p>Date: 10/16/2024</p> <p>Latitude: 47.125872</p> <p>Longitude: -101.447314</p>
<p>SE 120 S 180 SW 240 W 270</p> <p>☀ 196°S (T) LAT: 47.118923 LON: -101.440521 ±13ft ▲ 2145ft</p>  <p>16 Oct 2024, 09:41:05</p>	<p>Photo #: 10</p> <p>Direction: South</p> <p>Description: Russian Olive shelter belt damaged by heavy equipment near Turbine 70.</p> <p>Observer: Zach Peterson</p> <p>Date: 10/16/2024</p> <p>Latitude: 47.118923</p> <p>Longitude: -101.440521</p>



## On-Site Photographs





## Oliver Wind IV Wind Energy Center Project- Oliver County

 <p>Photo #: 11</p> <p>Direction: West</p> <p>Description: Portion of buried barbed wire fence protruding from reclaimed area near Turbine 69.</p> <p>Observer: Zach Peterson</p> <p>Date: 10/16/2024</p> <p>Latitude: 47.117086</p> <p>Longitude: -101.447336</p>	
 <p>Photo #: 12</p> <p>Direction: West</p> <p>Description: Collection transformer box with mixed topsoil and subsoil pile and concrete washout on soil surface.</p> <p>Observer: Zach Peterson</p> <p>Date: 10/16/2024</p> <p>Latitude: 47.131198</p> <p>Longitude: -101.467806</p>	



## On-Site Photographs

## Oliver Wind IV Wind Energy Center Project- Oliver County



 <p>☼ 263°W (T) LAT: 47.131231 LON: -101.479134 ±52ft ▲ 2075ft</p> 	<p>Photo #: 13</p> <p>Direction: West</p> <p>Description: Sediment runoff from widened access road between Turbines 56 and 57.</p> <p>Observer: Zach Peterson</p> <p>Date: 10/16/2024</p> <p>Latitude: 47.131231</p> <p>Longitude: -101.479134</p>
 <p>☼ 30°NE (T) LAT: 47.136226 LON: -101.484147 ±1853ft ▲ 2292ft</p> 	<p>Photo #: 14</p> <p>Direction: Northeast</p> <p>Description: Piles of mixed topsoil and subsoil near collection line pit at Turbine 57.</p> <p>Observer: Zach Peterson</p> <p>Date: 10/16/2024</p> <p>Latitude: 47.136226</p> <p>Longitude: -101.484147</p>



# Oliver Wind IV Wind Energy Center

PU-23-317  
Construction Inspection Photo Map

## Legend

-  Oliver IV Wind Energy Laydown Yard
-  Photo

