

Drainage Remediation Plan

Hoffman Falls Wind Project

Towns of Fenner, Nelson, Eaton, and Smithfield

Madison County, New York

Prepared for:



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1. INTRODUCTION

1.1. Project Description

Hoffman Falls Wind LLC (the “Applicant” or “Hoffman Falls Wind”) proposes to construct and operate the Hoffman Falls Wind Project (the Facility), a utility-scale wind electric generating facility of up to 100 megawatts (MW) in the Towns of Fenner, Nelson, Eaton, and Smithfield, Madison County, New York. The Facility will include up to 24 wind turbines, with 12 located in the Town of Fenner, three in the Town of Smithfield, one in the Town of Nelson, and eight in the Town of Eaton. Associated support facilities will include an underground medium voltage collection system, gravel access roads, permanent meteorological tower, aircraft detection lighting system (ADLS) tower, temporary construction laydown areas, an operations and maintenance (O&M) facility, a concrete batch plant, a medium voltage-to-transmission voltage collection substation, a point of interconnection (POI) switchyard, and a short 115kV overhead transmission line that will connect the Facility to the high voltage electrical grid.

1.2. Plan Purpose and Goals

On behalf of the Applicant, Environmental Design & Research, Landscape Architecture, Engineering, & Environmental Services, D.P.C. (EDR) has prepared this Drainage Remediation Plan (the Plan) for the Facility. This Plan was prepared to describe the steps taken to identify surface and subsurface drainage system locations and establish procedures that the Applicant and its contractors will implement to avoid, minimize, and mitigate potential impacts to the drain tile and related drainage features, including diversion terraces, that could result from construction of the Facility. Updates to this Plan will be provided as the Applicant continues to secure information related to the location of the drain tile systems within the site.

2. IDENTIFICATION OF DRAINAGE SYSTEMS

Identifying existing surface and subsurface drainage systems early in the design process can help mitigate and reduce the incidence of interference and/or potential damage to drain tiles. The Applicant has taken several steps to survey and identify the location and extent of the existing drainage systems within the Facility site. The Applicant sent a survey to host landowners within the Facility site to identify agricultural land uses and the presence of agricultural infrastructure, including surface or subsurface drainage systems, and receive feedback on the Facility’s potential agricultural impacts (see Appendix 15-A). Included with the survey was a questionnaire that asked landowners to identify the location of any known drainage systems. The results of the survey are summarized in Exhibit 15.

The Applicant verified and supplemented the results of this survey to support the identification of drainage features within the Facility Site (e.g., diversion terraces) using publicly available elevation data, aerial imagery, and roadside surveys. As detailed in Exhibit 13 and Exhibit 14, wetland and stream delineations conducted at the Facility Site by the Applicant identified all surface waters (ponds; ephemeral, intermittent, and perennial streams; and wetlands) within and adjacent to the proposed Facility components.

The Applicant reached out to United States Department of Agriculture Natural Resources Conservation Service (NRCS) to obtain any available information on surface or subsurface drainage. NRCS responded stating that they do not keep records of any tile drainage systems.

To supplement these results within the 5-mile Study Area, a dataset from the National Center for Atmospheric Research was utilized. These data use multiple United States Department of Agriculture and United States Geological Survey datasets to show a 30-meter resolution layer of suspected drain tile areas (Valayamkunnath et. al., 2020).

Figure 1 shows the locations of all known surface and subsurface drainage systems, including diversion terraces, within the Facility Site.

3. AVOIDANCE AND MINIMIZATION MEASURES

Facility components have been located to avoid temporary and permanent impacts to surface waters and surface and subsurface drainages to the maximum extent practicable. Prior to construction, the locations of known drainage systems within the limits of disturbance will be identified in the field and flagged to facilitate impact avoidance and minimization during construction.

4. UNAVOIDABLE IMPACTS

The Applicant's efforts to identify the locations of drainage systems within the Facility Site and modify the Facility design accordingly, in combination with flagging known drainage systems prior to construction will avoid and minimize impacts to drainage systems. However, not all drainage systems can be identified prior to or avoided during construction. Unmapped drainage features may be encountered during construction and even under ideal circumstances, some damage during construction to identified features may be unavoidable.

Where Facility access roads and collection lines impact known drainage systems or if previously unidentified drainage systems are discovered during the construction of the Facility (e.g., where broken drain tiles are visible during excavation and grading activities), components of the drainage system that are damaged will be identified with flags or stakes until an initial evaluation can be completed by the agricultural monitor (AM). The initial evaluation by the AM will include using a GPS to mark the location of the damage, an investigation of the system and damage assessment, and a determination, made in consultation with appropriate stakeholders, regarding any necessary remedial measures (see Section 5 for a further discussion on remediation).

Damage to drain tiles during certain aspects of Facility construction may not be apparent immediately but may become more apparent over time. Unexpected surface water flow or ponding during dry conditions, formation of localized voids or sinkholes above drain tiles during low flow periods and upwelling of water during high flow periods are indicators of potential drain tile damage. Should such conditions be observed in the immediate vicinity of the Facility Site, the Applicant will use commercially reasonable efforts to

confirm the damage is related to Facility construction, and will take steps to repair these systems, as further described in Section 5.

5. REMEDIATION

5.1. Subsurface Drainage System Restoration/Repair

5.1.1. Drainage Systems Servicing Properties Owned by Participating Landowners

The Applicant will keep records of any damages to drain tile systems that are identified during construction of the Facility. Drain tile systems that service agricultural lands that will remain in production during the operation of the Facility will be repaired as follows:

- If water is flowing through the damaged tile line to be repaired, the Applicant will immediately and temporarily repair the tile line until such time that the Applicant can make permanent repairs. If the damaged tile line to be repaired is dry and temporary repairs are not necessary, permanent repairs can be completed by the Applicant in a timely manner in coordination with the landowner. The Applicant will use commercially reasonable efforts to hire a local reputable and qualified drain tile contractor to make the drain tile repairs. The drain tile contractor will be properly licensed, insured, and able to satisfy standard minimum qualifications established by the Applicant or the Applicant's general contractor or subcontractors. Until repairs are complete, the exposed tile line will be screened or otherwise protected to prevent the entry of foreign materials or animals into the tile line.
- All subsurface drains subject to repair will be repaired or replaced with materials of equal or higher quality and of equal or larger inside diameter as those which were damaged or removed.
- Commercially reasonable efforts will be made to maintain the tile line's original alignment/gradient.
- If the affected landowner agrees to not have a field tile system repaired, the Applicant will confirm that the field tile systems of adjacent landowners are unaffected by the non-repair of the landowner's field tile system.
- If the Applicant becomes aware during operation of circumstances indicating that the Facility has damaged functioning drain tile that are adversely affecting adjacent landowners or public drains (e.g., through unexpected water flows or ponding), then the Applicant will promptly investigate the matter and use commercially reasonable efforts to promptly address and mitigate any such negative impacts to adjacent landowners or public drains resultant from the construction of the Facility. These mitigation efforts may include drainage routing, or correction of stormwater flows through retention facilities, or other means.
- For a period of 24 months following completion of the work, the Applicant will be responsible for correcting or paying for the correction of the performed tile repairs that fail post-construction. The Applicant will not be responsible for tile line repairs performed

independently by the landowner unless previously agreed to under a separate agreement between the Applicant and landowner.

- Drain tile systems that service lands where Facility components will be located and are not being returned to agricultural use during Facility operation may not be replaced or repaired until the Facility is decommissioned. Once the Facility is decommissioned, any drain tile system that was damaged during construction and not repaired, will be restored to its pre-construction condition to support future agricultural production, if deemed necessary by the landowner. The Applicant will be responsible for correcting or paying for the correction of the tile repairs. The Applicant will not be responsible for any drain tile repairs performed independently by the landowner unless previously agreed to under a separate agreement between the Applicant and landowner.

5.1.2. Drain Tile Systems Servicing Properties Owned by Non-participating Landowners

The Applicant is not aware of any drain tile systems that will be impacted by the Facility that extend outside the Facility Site into non-participating parcels. If any drain tile systems with connections to non-participating parcels are impacted by the construction of the Facility, the Applicant will repair any damages as soon as reasonably practicable. The Applicant will perform repairs to these damaged drain tile systems as described above.

5.2. Surface Drainage System Restoration/Repair

The Facility has been designed to maintain existing drainage patterns to the extent practicable, as outlined in the Stormwater Pollution Prevention Plan (SWPPP) (see Appendix 13-C). Existing drainage features have been avoided, where possible, and stormwater management has been designed to avoid downstream impacts. All surface waters and drainage features temporarily impacted during construction will be restored to preconstruction conditions to the extent practicable. The Applicant will also consider the need to implement any corrective measures throughout the operation of the Project, including in response to any issues identified through the complaint resolution process described in the Applicant's Complaint Management Plan which will be submitted as a pre-construction compliance filing consistent with 19 New York Codes, Rules and Regulations (NYCRR) §900-10.2 (e)(7) requirements.

6. POST-CONSTRUCTION MONITORING

Any drainage system issues resulting from construction of the Facility will be identified during post-construction restoration monitoring in accordance with the Agricultural Plan (Appendix 15-B). The Agricultural Monitor will visually inspect restored agricultural areas in search of pervasive wet conditions and/or stunted crop growth due to seasonal saturation not previously experienced at the site and not resulting from the agricultural producer's irrigation or excessive rainfall. Identified areas will be compared to the nearest undisturbed adjacent areas on substantially equivalent terrain and under a similar crop management plan. Drainage observations will be evaluated to determine if Facility construction or restoration activities affected surface or sub surface drainage. Any drainage issues resulting from Facility

construction that are affecting or likely to reduce crop productivity of the adjacent areas will be remediated through surface or subsurface drainage repair, or equivalent measures.

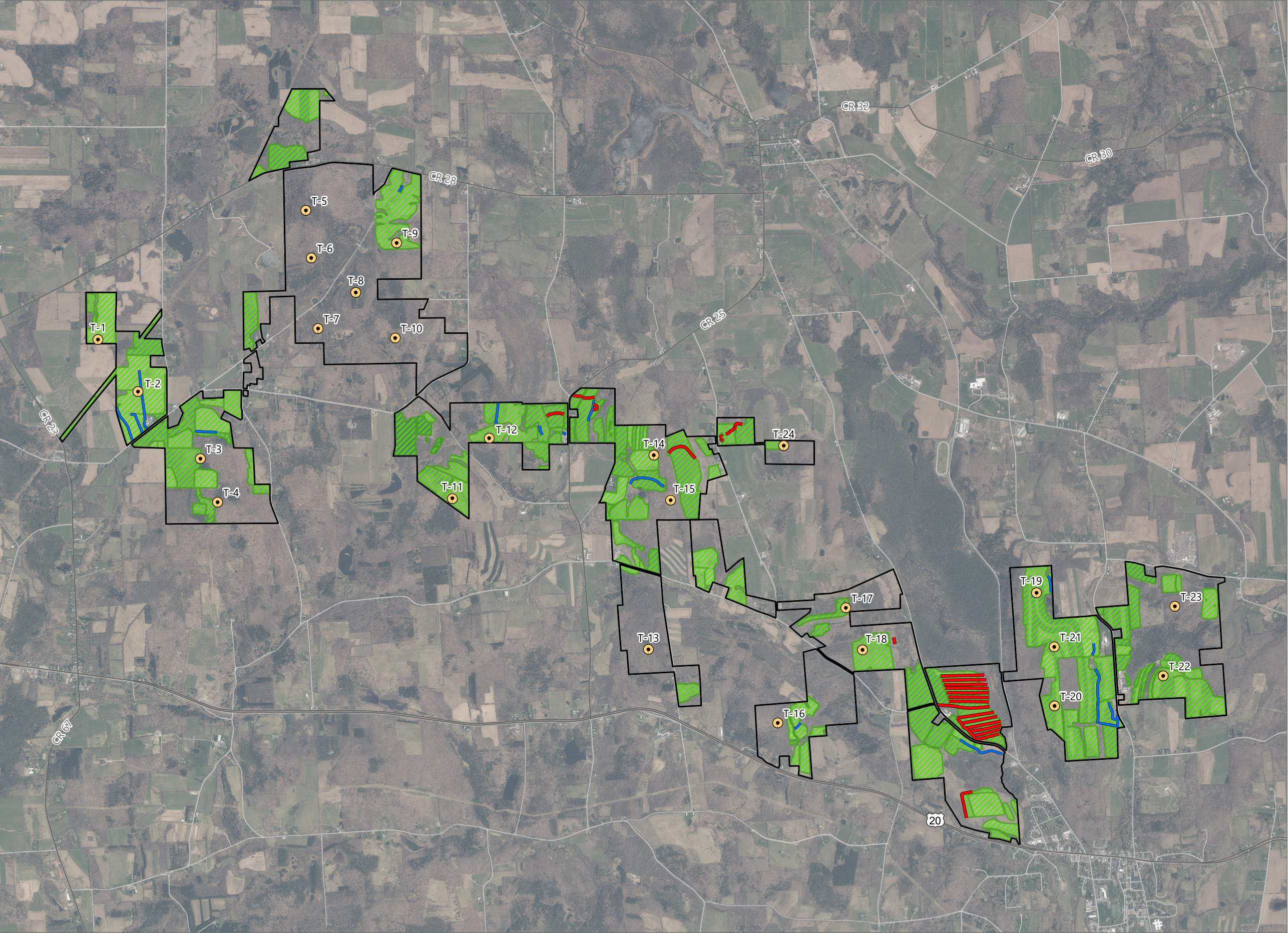
7. COMPLAINT RESOLUTION

The Applicant is committed to addressing landowner concerns regarding drain tile repair and maintenance during construction, operation, and decommissioning of the Facility. In accordance with §900-10.2(e)(7) of the 94-c regulations, the Applicant will prepare a Compliant Resolution Plan for the Facility that will include guidance on registering a complaint, contact information, public notification procedures, compliant resolution procedures, and guidelines for tracking complaints. Landowners may express their concerns via email, phone call, or the project website (<https://liberty-renewables.com/hoffmanfallswind/>) and the Applicant will work to address landowner concerns related to drainage in a timely manner, in accordance with the Compliant Resolution Plan.

8. 7.0 REFERENCES

Valayamkunnath, P., Barlage, M., Chen, F. et al. *Mapping of 30-meter resolution tile-drained croplands using a geospatial modeling approach*. Sci Data 7, 257 (2020). <https://doi.org/10.1038/s41597-020-00596-x>

Figure 1. Agricultural Drainage Features



Hoffman Falls Wind

Towns of Eaton, Fenner, Nelson and
Smithfield, Madison County,
New York

**Appendix 15-C. Drainage
Remediation Plan**

- Wind Turbine
- Non-jurisdictional Agricultural
Surface Drainage Feature
- Non-jurisdictional Agricultural
Subsurface Drainage Feature
- Active Agricultural Land
- Facility Site



0 1,000 2,000 4,000
Feet

Prepared February 2, 2024
Basemap: USDA NAIP "2022 New York 60cm" orthoimagery map
service