Appendix H: Decommissioning Plan

Wisconsin Power and Light Company
Docket No. IP7145/WS-24-349

A DECOMMISSIONING PLAN FOR

Bent Tree North Wind Farm

Freeborn, Waseca, and Steele Counties, Minnesota

JANUARY 17, 2025

MPUC DOCKET NO. IP7145/WS-349

PREPARED FOR:

Wisconsin Power & Light Company

PREPARED BY:

Westwood

Westwood

Decommissioning Plan

Bent Tree North Wind Farm

Freeborn, Waseca, and Steele Counties, Minnesota

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Project Number: R0035761.00
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Attachments

Log of Decommissioning Plans

Date of Plan	Description	eDocket Location
TBD	Initial Decommissioning Plan	*To be completed after filing*

1.0 Introduction

Wisconsin Light & Power (WPL; "Permittee" or "Owner") is proposing to construct and operate the Bent Tree North Wind Farm Project ("Project"), an up-to 153-MW nameplate wind energy capacity project located in Freeborn, Waseca, and Steele Counties, Minnesota. All of the proposed site components are located in Freeborn County, though portions of the wind turbine setback buffers extend into Waseca and Steele Counties.

The following provisions are intended to ensure that facilities are properly removed after their useful life. This Decommissioning Plan ("Plan") includes provisions for removal of all structures, foundations, underground cables, unused transformers and foundations; restoration of soil and vegetation; and a plan ensuring financial resources will be available to fully decommission the Project.

The Plan was prepared in accordance with the conditions described in the Minnesota Department of Commerce (DOC) Energy Environmental Review and Analysis (EERA) *Recommendations on Review of Solar and Wind Decommissioning Plans (March 16, 2020)*, and in accordance with the Minnesota Public Utilities Commission ("MPUC" or "Commission") Site Permit (MPUC Docket No. IP7145/WS-349) to be issued for the Project. The Freeborn County Zoning Ordinance, Article 14, Section 11 has also been considered in the development of this Plan.

1.1 Project Description

The Project is located near the town of Hartland, Minnesota. The total Project Area covers approximately 22,592 acres located across Freeborn, Waseca, and Steele Counties, as summarized in the table below. Prior to construction, the Project Area and surrounding areas were primarily used for agricultural production.

Table 1: Project Area Location

County	Township Name/City	Township	Range	Section(s)
Freeborn	Freeborn Twp.	T104N	R23W	1, 12, 13, 24
	Hartland Twp.	T104N	R22W	1-23
	Bath Twp.	T104N	R21W	3-9, 16-18
Waseca	Byron Twp.	105N	R23W	36
	New Richland Twp	105N	R22W	31-36
Steele	Berlin Twp.	105N	R21W	31-34

The portions of Project Area within Waseca and Steele counties are required to satisfy wind access buffers; no Project infrastructure is proposed within these counties. All Project facilities including the turbines, Project Substation, electrical collection lines, access roads, crane paths, the laydown yard, Aircraft Detection Lighting System (ADLS) tower, and meteorological towers will be located within the Project Area. The Project's aboveground facilities will occupy less than one percent of the Project Area.

The wind power generation Project proposed by WPL includes the construction of permanent facilities of thirty-four (34) Vestas V136 4.5-megawatt (MW) wind turbines with 136-meter rotor diameters and 120-meter hub heights, 12 miles of access roads, one meteorological evaluation tower (MET), one

aircraft detection lighting system (ADLS) tower, a substation, and 37.7 miles of underground collection lines. A transmission line will be constructed, owned, and operated by ITC Midwest to interconnect the Project to the transmission system. Due to the difference in ownership, the transmission line and point of interconnection are not covered by this Plan.

The anticipated commercial operation date is the fourth quarter of 2028.

1.2 Decommissioning Objective

The objective of decommissioning is to restore the site to a condition that will facilitate its pre-construction use at the end of operation. Wind facilities are expected to have a useful commercial lifespan of approximately thirty (30) years. The system must be decommissioned if: a) it reaches the end of system's serviceable life; or b) the system becomes a discontinued use. After the Site Permit term expires, the Project operation may be extended (upon Commission review and approval) or the Project ceases to operate. The Project Owner will be responsible for removal of all above ground equipment and underground equipment within the Project Area. The Owner will restore and reclaim the site to pre-construction topography and topsoil quality to the extent practical and assumes that most of the site will be returned to farmland and/or pasture after decommissioning.

Decommissioning includes removing the wind turbines, underground cables, ancillary equipment, and substation. Civil facilities, including substation security fencing and access roads, are also included in the scope. Standard decommissioning practices will be utilized, including dismantling and repurposing, salvaging/recycling, or disposing of the wind energy improvements.

After all equipment is removed, any holes or voids created by turbine pedestals, concrete pads and other equipment will be filled in with native soil to the surrounding grade, and the Project Area will be restored to pre-construction conditions, to the extent feasible. All access roads and other areas compacted by equipment will be de-compacted to a depth necessary to ensure adequate soil drainage and root penetration, then will be fine graded and tilled to a farmable condition.

In accordance with the Site Permit requirements, the Project will have been maintained with vegetation, which is expected to survive decommissioning activities. Consequently, efforts to restore the site, if the land is not returned to row crop agriculture, is expected to be limited to over-seeding. Over-seeding would be completed by a qualified native seeding contractor. Restoration efforts may also include temporary seeding as farmland or re-development of the land for other beneficial uses, based on consultation with the landowner(s).

2.0 Use of Generation Output

WPL plans to use the power generated from the Project to meet the electricity needs of its retail and wholesale customers in the state of Wisconsin. The Project will connect to the transmission grid by connecting to the existing Freeborn Switching Station owned by ITC Midwest, located on ITC Midwest's existing Hayward-Huntley 161 kV transmission line. From the Freeborn Switching Station, a 161-kV line will be constructed within an existing ITC 69-kV transmission right-of-way. ITC will design, permit, construct, own, and operate this line.

WPL currently has two MISO queue positions which may be utilized for the project: J2054 – 67 MW in

the DPP-2021-West cycle and J3029 – 200 MW in the DPP-2022-West cycle. Portions of either or both queue positions will be utilized based on timing and cost of the results. DPP-2021-West is currently finalizing DPP2 results. DPP-2022-West is in the DPP1 phase.

3.0 Proposed Future Land Use

Prior to the development of the Project, the land use of the Project Area was primarily agricultural, used for production of corn and soybeans. After affected areas are decommissioned, these areas will be restored to pre-construction conditions of agricultural land to the extent practicable in accordance with Site Permit requirements.

4.0 Notification

The Permittee anticipates operating the Project for 30 years after Site Permit issuance. At the end of the anticipated operation, the Project Owner will be responsible for removing the wind facilities as described in this Plan; however, the Project Owner reserves the right to continue to operate the Project, instead of decommissioning, by applying for an extension of required and applicable permits.

After the Project has reached the end of its useful life, and at least ninety (90) days prior to the start of decommissioning activities, the Project Owner will notify the Commission, participating landowners, landowners with wind buffer agreements, counties, and other local units of government in writing, of the intended decommissioning activities and schedule. Applicable permits and approvals will be obtained prior to the start of decommissioning work. These parties will again be notified once decommissioning activities have been completed.

5.0 Decommissioning Tasks and Timing

Decommissioning will include the removal and transportation of project components from the Project site. For the purposes of this Plan and cost estimate, it's assumed that all underground components, including equipment foundations and underground cables, will be removed to a depth of four (4) feet below ground. All dismantling, removal, recycling, and disposal of materials generated during decommissioning will comply with rules, regulations, and prevailing Federal, State, and local laws at the time decommissioning is initiated and will use approved local or regional disposal or recycling sites as available. Recyclable materials will be recycled to the furthest extent practicable. Non-recyclable materials will be disposed of in accordance with State and Federal law.

During decommissioning, the landowners will be consulted to identify the extent and type of work to be completed. Some Project infrastructure, such as the access roads and fencing, may be removed at the discretion of the landowner(s). Underground utility lines, if deeper than four (4) feet below ground surface elevation, may be left in place to minimize land disturbance and associated impacts to future land use.

5.1 Decommissioning of Project Components

5.1.1 Public Road Improvement and Access Road Modifications and Removal

As the cost estimate is based on scrapping and recycling turbine components where possible, sections of public roads that have insufficient strength to accommodate the construction traffic necessary for decommissioning may need to be improved prior to the start of hauling operations. Intersection turning radius modifications are not anticipated since turbine components will be cut to fit on standard semitrailer trucks. The roads subjected to decommissioning traffic will be restored to a condition equal to or better than the condition of the road prior to decommissioning activities. Aggregate removed from the Project access roads is a potential source for the public road restoration material. A pre-decommissioning road survey, similar to a pre-construction survey, may be prepared so that road conditions pre- and post-decommissioning can be accurately assessed.

5.1.2 Crane Path and Crane Pad Preparation and Removal

This cost estimate is based on the felling of all turbines, which eliminates the need for large industrial cranes and the associated crane paths and crane pads.

5.1.3 Wind Turbine Felling

This cost estimate assumes that the turbines not being resold will be brought to the ground using the technique of "felling." Once on the ground, the turbines will be disassembled and processed for recycling. The felling technique has been used on numerous wind decommissioning projects and has several advantages over disassembly using large crawler cranes. Felling of a turbine eliminates the use of crane paths and crane pads that are otherwise necessary to disassemble the components of a turbine. In addition to avoiding costs associated with preparing crane paths and pads, this method will reduce the total disturbed area that needs to be reclaimed and restored during the decommissioning process. The elimination of the use of large cranes also reduces the number of trucks delivering and removing equipment and reduces the time required for decommissioning. Felling consists of disconnecting electrical connections and draining oil, hydraulic fluid, and any other liquids from the turbine. A long cable is attached to the nacelle and to a heavy piece of equipment, such as a bulldozer, positioned on the access road. Wedge shaped areas are then cut out of the tower steel using cutting torches to create a hinge that will direct the turbine to fall on the access road when pulled by the dozer.

5.1.4 Wind Turbine Removal

Each wind turbine consists of steel tower segments, a nacelle, a rotor and hub assembly, and three blades. These modular components can be disassembled and then processed into pieces small enough (less than 40 feet by eight feet and less than 20 tons) to be loaded onto standard semitrailer trucks and transported off site. The components of the wind turbines that are not designated for resale will be cut into pieces sized to meet recycling requirements so the scrap value may be maximized. The components will then be loaded on tractor-trailers and transported to a licensed recycling facility. This Plan and cost estimate assume that the blades will be hauled to the REGENFiber Facility, which is owned by a subsidiary of Alliant Energy and located in Fairfax, Iowa. There, the blades will be processed and ground into reinforcement fibers that can be reused in the construction industry.

5.1.5 Turbine Foundation Removal and Restoration

The turbine foundations are constructed from concrete and rebar. For the purposes of this Plan and cost estimate, it's assumed that little topsoil stripping will be required since the portion of the foundation less than four (4) feet deep is within the gravel ring around each turbine. The foundation will first be exposed using backhoes or other earth moving equipment. The pedestal (upper part of the turbine foundation) will then be removed to a depth of at least four feet below grade using hydraulic vibratory hammers to break up the concrete. The rebar can be cut with torches or cutoff saws. The concrete will be broken into pieces sized for transport. The foundation debris will be hauled off site to be recycled or disposed of, depending on market prices for aggregate at the time of decommissioning. The rebar will be recycled.

Following removal of the turbine foundation, the resulting void will be backfilled with native subsoils and compacted to at least 90% of the fill material's standard Proctor density. Topsoil will be reapplied to the site and graded to match surrounding grade to preserve existing drainage patterns. The topsoil and subsoil will be decompacted to a minimum depth of 18 inches and revegetated to match pre-construction conditions.

5.1.6 MET and ADLS Towers

Following disconnection of electrical components, towers will be gradually lowered to the ground for disassembly. The steel structures will be cut into pieces sized to meet recycling requirements so the scrap value may be maximized. The components will then be loaded on tractor-trailers and transported to a metal recycling facility.

The concrete pads, along with any anchoring components, will be excavated to a depth of four (4) feet. Concrete will be broken into transportable pieces and hauled off site. Following removal of the foundations, subsoil will be decompacted to a minimum depth of 18 inches. Topsoil will be reapplied to match the surrounding grade.

5.1.7 Access Roads

Removal of access roads will entail removal of the road base aggregate and any other materials used for constructing the roads. During removal, the topsoil adjacent to both sides of the roads will be stripped and stockpiled in a windrow paralleling the road. The road base materials will then be removed by bulldozers, wheeled loaders, or backhoes and hauled off site in dump trucks to be recycled or disposed of at an off-site facility. On-site processing may allow much of the aggregate to be re-used to improve public roads. The aggregate base can often be used by local landowners for driveway or clean fill. Another option is to use the aggregate base as "daily cover" at a landfill, where it is usually accepted without cost. If geotextile fabric was utilized under the aggregate base, it will be removed and disposed of in a landfill off site. The access road removal will proceed from the turbine area to the public roads to limit tracking and provide stable access during removal. Following removal, topsoil will be reapplied and graded to blend with surrounding contours to promote pre-construction drainage patterns. Topsoil to cover the access roads, turbine rings, and met tower rings will be acquired from the areas where it was stockpiled (or wasted) during the original construction. Since topsoil stayed with each landowner during the construction of the wind farm, there will be adequate topsoil to restore each area to its pre-construction condition. The soil and topsoil will then be decompacted to a minimum depth of 18 inches

and restored to pre-construction tillable conditions or revegetated.

5.1.8 Underground Electrical Collection Lines

The electrical cables and fiber optic conduits contain no material known to be harmful to the environment and will be left in place, non-functional. Any cables at a depth of less than four (4) feet, such as cables entering and exiting the turbine foundations, junction boxes, or substation components, will be removed. Following any necessary removal, the area affected will be restored by reapplication of topsoil to match the surrounding grade and preserve existing drainage patterns. The topsoil and subsoil will be decompacted to a minimum depth of 18 inches and tilled to farmable conditions.

5.1.9 Substation

Decommissioning of the facility substation will be performed with the rest of the Project. All steel, conductors, switches, transformers, and other components of the substation will be disassembled and taken off site to be recycled or reused. Foundations and underground components will be removed to a depth of four (4) feet. The rock base will be removed using bulldozers and backhoes or front loaders. The material will be hauled from the site using dump trucks to be recycled or disposed at on off-site facility. Additionally, any permanent stormwater treatment facilities (e.g., infiltration ponds and engineered drainage swales) will be removed. Topsoil will be reapplied to match surrounding grade to preserve existing drainage patterns. Topsoil and subsoil will be decompacted to a minimum depth of 18 inches and the site will be revegetated to match pre-construction conditions.

5.1.10 Operations and Maintenance (O&M) Facility

The Project will use the existing O&M facility that is current used for operation of the Bent Tree Wind I facility (PUC Docket No. ET6657/CN-07-1425). As such, decommissioning of the O&M facility is not included in this Plan or cost estimate.

5.2 Component Disposal

Project components removed from the Project site will be resold, reused, recycled, or scrapped to the greatest extent possible. Reuse or disposal sites may change over time. Assumptions regarding selected reuse and disposal sites will be reviewed and updated when the Plan is updated.

- Metal components will be processed to size, sorted, and hauled to a recycling facility (I-35 Auto Recycling in Clarks Grove, Minnesota, approximately 14 miles from the Project site) to be processed as scrap. This includes:
    - Steel components, including the steel turbine components, chain-link fencing, structural steel from the substation, and smaller components from recycled equipment.
    - Underground collection and grounding cables, typically composed of aluminum and copper.
    - Copper windings from transformers and the copper ground grid from the substation.
- Other electrical equipment may be assessed for its condition and either sold for reuse or scrapped from its components.
- Fluids, such as transformer oils, will be drained and shipped off-site to an approved recycling facility.
- If possible, clean gravel removed from the site may be re-used to improve public roads or used

by local landowners to improve driveways or be used as clean fill. For the purposes of this cost estimate, it's assumed that the gravel will be hauled to a landfill, where it may be accepted as "daily cover" at no charge.

- This Plan and cost estimate assume that the blades will be hauled to the REGENFiber Facility, which is owned by Alliant Energy and located in Fairfax, Iowa, for recycling. At the REGENFiber Facility the blades will be processed and ground into reinforcement fibers that can be reused in the construction industry.

Project components that are not recyclable may include concrete, items composed of mixed materials, certain plastic components, materials that have been contaminated, and certain general municipal wastes. For the purposes of this Plan, it is assumed that these materials will be hauled to SKB Environmental located in Lansing, Minnesota, approximately 36 miles from the Project site. The landfill currently has capacity to take in materials from a project of this magnitude and has various permitting options for expansion over the next 30 years.

5.3 Reclamation

The Owner will restore and reclaim the site to the pre-Project condition consistent with the site lease agreements. The Owner assumes that most of the Project site will be returned to farmland after decommissioning and will implement appropriate measures to facilitate such uses. Smaller areas that consisted of non-agricultural vegetation prior to construction of the Project will be restored and reseeded to match pre-construction conditions to the greatest extent possible. If no specific use is identified, the Owner will plant unvegetated portions of the site with a seed mix specified in the approved Stormwater Pollution Prevention Plan (SWPPP). The goal of restoration will be to restore natural hydrology and plant communities to the greatest extent practicable, while minimizing new disturbance and removal of native vegetation or vegetation established during operation of the facility. The decommissioning effort will implement construction stormwater best management practices (BMPs) to minimize erosion and to contain sediment on the Project to the extent practicable, including the following:

1. Minimize new disturbance and removal of native vegetation to the greatest extent practicable.
2. Remove wind turbines, support facilities, and all access roads up to a minimum depth of 48", backfill with subgrade material, and cover with suitable topsoil to allow adequate root penetration for plants, and so that subsurface structures do not substantially disrupt ground water movements.
3. Any topsoil that is removed from the surface for decommissioning will be stockpiled to be reused when restoring plant communities or agricultural land. Once decommissioning activity is complete, topsoil will be re-spread to assist in establishing and maintaining plant communities.
4. Stabilize soils and return them to agricultural use, according to the landowner direction.
5. During and after decommissioning activities, install erosion and sediment control measures, such as silt fences, bio-rolls, and ditch checks in all disturbance areas where potential for erosion and sediment transport exists, consistent with storm water management objectives and requirements.
6. Remediate any petroleum product leaks and chemical releases from equipment operation and electrical transformers prior to completion of decommissioning.

6.0 Permitting

All decommissioning and restoration activities will comply with applicable federal, state, and local permit requirements. Decommissioning activities will likely disturb more than one acre of soil and trigger the need for a National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) Construction Stormwater General Permit. A SWPPP will be developed prior to filing a Notice of Intent.

If necessary for decommissioning activities, wetlands and waters permits will be obtained as needed from the US Army Corps of Engineers (USACE), Minnesota Department of Natural Resources (MNDNR), and the local government unit (LGU) that implements the Minnesota Wetland Conservation Act (WCA) program. A Spill Prevention, Control and Countermeasures (SPCC) Plan for decommissioning will likely be required. A Minnesota Pollution Control Agency (MPCA) form to report Subsurface Sewage Treatment Systems (SSTS) abandonment may need to be submitted to Faribault County within 90 days of removal of the septic system at the O&M building. In addition, a new Minnesota Department of Health (MDH) Well Disclosure Certificate may be required if the number and status of wells within the Project O&M building facility has changed since the last certificate was filed.

All permits required through local jurisdictions will be obtained as needed. These may include Roadway Access Permits, Driveway Permits, Working in Right-of-Way Permits, or Overweight Permits through Freeborn County and/or the townships.

7.0 Decommissioning Schedule

Decommissioning of the wind farm will be initiated if the event of Facility Abandonment, defined in the County Ordinance as a 12-month period in which the Owner fails to pay property taxes or generated electricity. It is anticipated that the decommissioning activities for the project can be completed in an 18-month period. The estimated costs for decommissioning are tied to assumptions about the amount of equipment mobilized, the crew sizes, weather and climate conditions, and the productivity of the equipment and crews.

8.0 Decommissioning Costs

The cost estimate for decommissioning and reclamation of the Project was prepared in current dollars, with the salvage value of equipment or materials calculated separately. The estimate includes:

(i) An analysis of the physical activities necessary to implement the approved reclamation plan, with physical construction and demolition costs based on applicable Department of Transportation unit bid prices from surrounding states and RS Means material and labor cost indices;
(ii) The level of effort or number of crews required to perform each of the activities;
(iii) Costs for mobilizing crews and equipment, and hauling costs to transport decommissioned components and materials to appropriate recycling or disposal facilities; and
(iv) An amount to cover contingencies above the calculated cost.

The total estimated cost of decommissioning the Bent Tree North Wind Farm is approximately $7,580,516 ($222,956 per turbine). Estimated salvage/scrap value of the turbines, cables, and other materials is approximately $4,277,388. The net decommissioning costs after accounting for resale and salvage values is approximately $3,303,128, or $97,151 per turbine.

9.0 Financial Surety

The Project anticipates operating the Project for 30 years or until the Site Permit expires. The Permittee reserves the right to continue to operate the Project, instead of decommissioning, by applying for an extension of required permits.

The Project Owner will be responsible for all costs to decommission the Project and associated facilities. A Financial Assurance equal to the net decommissioning costs to ensure proper decommissioning will be provided, with Freeborn County listed as the beneficiary.

10.0 Scheduled Updates

According to EERA recommendations, a revised decommissioning estimate shall be submitted prior to construction and every 5 years following the beginning of commercial operation or any time there is a change in ownership or permit amendment. Each revised plan will reflect advancements in construction techniques, reclamation equipment, and decommissioning standards. The decommissioning cost estimate will also be reassessed and revised to reflect any identified changes in the costs, including current salvage values of materials and equipment. The amount of the Financial Assurance will be adjusted accordingly to offset any increases or decreases in decommissioning costs and salvage values determined during each plan reassessment.

Attachment A

Decommissioning Cost Estimate

Bent Tree Wind North

Decommissioning Cost Estimate

Number of Turbines	34	Each		
	Quantity	Unit	Unit Cost	Total Cost
Mobilization/Demobilization	1	Lump Sum	$443,000.00	$443,000
Permitting				
County/Municipal Permits	1	Lump Sum	$10,000.00	$10,000
State Permits (SWPPP, SPCC)	1	Lump Sum	$25,000.00	$25,000
Subtotal Permits				**$35,000**
Wind Turbine Generators				
Disconnect Turbine Wiring	34	Each	$3,060.80	$104,067
Fell Turbine	34	Each	$2,043.25	$69,471
Process to Size and Load Turbine Components	12,748	Tons	$169.92	$2,166,140
Haul Turbine Components Offsite for Recycling (except blades)	12,748	Tons	$5.61	$71,516
Haul Turbine Components For Disposal (except blades)	2,639	Tons	$9.55	$25,202
Turbine Component Disposal (except blades)	2,639	Tons	$81.00	$213,759
Haul Fiberglass Blades For Disposal (Fairfax, IA)	765	Tons	$47.77	$36,544
Fiberglass Blades Recycling	765	Tons	$600.00	$459,000
Excavate Around Turbine Foundation	34	Each	$18.10	$615
Remove Turbine Foundation and Load	1,582	Cubic Yards	$261.68	$413,978
Backfill Excavation Area from Turbine Foundation Removal	34	Each	$196.82	$6,692
Haul Concrete (Turbine Foundation)	3,204	Tons	$13.09	$41,940
Disposal of Concrete from Turbine Foundation	1,582	Cubic Yards	$12.00	$18,984
Decompact Wind Turbine Generator Site	34	Each	$160.81	$5,468
Grade Wind Turbine Generator Site	34	Each	$2,665.03	$90,611
Erosion and Sediment Control at Turbine/Transformer Site	34	Each	$1,244.07	$42,298
Topsoil and Revegetation at Turbine/Transformer Sites	34	Each	$2,644.17	$89,902
Till to Farmable Condition	24.5	Acres	$177.52	$4,349
Subtotal Wind Turbine Generators				**$3,860,537**
Met and ADLS Towers				
Disconnect Tower Wiring	2	Each	$1,530.40	$3,061
Dismantle, Disassemble, and Load Tower Components	2	Each	$5,208.79	$10,418
Haul Tower Components Off Site	8.0	Tons	$5.61	$45
Excavate Around Tower Foundation	2	Each	$4.80	$10
Remove Tower Foundation and Load	2.3	Cubic Yards	$261.68	$602
Haul Concrete (Tower Foundation)	0.17	Tons	$13.09	$2
Disposal of Concrete from Tower	0.17	Tons	$12.00	$2
Grade Tower Site	2	Each	$1,492.96	$2,986
Erosion and Sediment Control at Tower Site	2	Each	$396.00	$792
Topsoil and Revegetation at Tower Site	0.10	Acre	$3,666.30	$367
Subtotal Met Towers				**$18,284**
Electrical Collection/Transmission System				
Removal of Underground Collector System Cables	198,898	Linear Feet	$0.88	$175,249
Haul Underground Collector System Cables	1,375	Tons	$5.61	$7,715
Disposal of Removed Cables (See Salvage Value)	448	Tons	$0.00	$0
Removal of Junction Box	8	Each	$100.00	$800
Erosion and Sediment Control for Cable Removal	9,945	Feet	$3.96	$39,382
Topsoil and Revegetation at Removed Cable Locations	14	Acres	$3,666.30	$50,222
Erosion and Sediment Control at Junction Box Location	320	Feet	$3.96	$1,267
Topsoil and Revegetation at Junction Box Locations	0.07	Acres	$3,666.30	$269
Subtotal Electrical Collection/Transmission System				**$274,904**

Access Roads				
Remove and Load Gravel Surfacing from Access Roads	24,966	Cubic Yards	$2.85	$71,204
Haul Gravel Removed from Access Roads	40,446	Tons	$13.09	$529,433
Disposal of Gravel Removed from Access Roads	40,446	Tons	$0.00	$0
Remove and Load Geotextile Fabric	140,436	Square Yards	$0.91	$128,245
Haul Geotextile Fabric	31	Tons	$13.09	$404
Dispose of Geotextile Fabric	31	Tons	$12.00	$371
Remove and Load Culvert from Beneath Access Roads	24	Each	$448.00	$10,752
Haul Culvert Removed from Access Roads	8	Tons	$13.09	$101
Disposal of Culverts	8	Tons	$12.00	$92
Remove Low Water Crossing from Access Roads	10	Each	$3,400.00	$34,000
Haul Low Water Crossing Materials Removed from Access Roads	10	Each	$13.09	$131
Disposal of Low Water Crossing Materials	10	Each	$24.00	$240
Decompact Access Road Corridor	63,196	Linear Feet	$0.08	$5,176
Grade Access Road Corridor	63,196	Linear Feet	$1.57	$98,977
Erosion and Sediment Control Along Access Roads	47,397	Linear Feet	$3.96	$187,693
Topsoil and Revegetation on Removed Access Road Area	35	Acres	$3,666.30	$127,657
Subtotal Access Roads				**$1,194,476**
Substation				
Disassembly and Removal of Main Power Transformer(s)	1	Each	$4,500.00	$4,500
Freight Transformer(s) Offsite	1	Each	$504.90	$505
Disposal of Transformer (Including Oil; Assume Salvage Value)	1	Each	$0.00	$0
Excavate Around Transformer Foundation(s)	1	Each	$1,629.02	$1,629
Remove Complete Transformer Foundation(s)	1	Each	$19,114.20	$19,114
Backfill Excavation Area from Transformer Foundation Removal	1	Each	$259.77	$260
Haul Concrete (Transformer, Switch Gear, etc. Foundations)	170	Tons	$13.09	$2,227
Disposal of Concrete from Transformer Foundation	170	Tons	$12.00	$2,041
Demolish Substation Site Improvements (fences, etc.)	1	Lump Sum	$3,500.00	$3,500
Demolish Control Building and Foundation	1	Lump Sum	$12,000.00	$12,000
Remove Medium/High Voltage Equipment	1	Lump Sum	$3,500.00	$3,500
Remove Structural Steel Substation Frame	1	Lump Sum	$3,500.00	$3,500
Haul - Demolition Materials, Removed Equipment & Structural Steel	1	Lump Sum	$1,122.00	$1,122
Disposal of Demolition Materials, Removed Equipment and Structural Steel (Salvage)	1	Lump Sum	$0.00	$0
Remove and Load Gravel Surfacing from Substation Site	3,907	Cubic Yards	$2.85	$11,143
Haul Gravel Removed from Substation Site	6,330	Tons	$13.09	$82,854
Disposal of Gravel from Substation Site	6,330	Tons	$0.00	$0
Decompact Substation Site	4.8	Acre	$222.97	$1,080
Grade Substation Site	4.8	Acre	$4,258.27	$20,625
Erosion and Sediment Control at Substation Site	1,378	Linear Feet	$3.96	$5,457
Topsoil and Revegetation at Substation Site	4.8	Acre	$3,666.30	$17,758
Subtotal Substation				**$192,814**
Public Roads Restoration	18	Miles	$44,000.00	$792,000
Contingency (10%)	10%	Percent		$681,101
Crop Loss (68 Acres)	68	Acres	$1,300.00	$88,400
Total Cost				**$7,580,516**
Salvage/Recycle				
Turbine Towers (Structural Steel)	9841	Tons	$270.00	$2,657,202
Turbine Nacelles (Structural Steel)	2393	Tons	$270.00	$646,137
Met and ALDS Towers (Structural Steel)	7.6	Tons	$270.00	$2,064
Substation (Structural Steel)	10	Tons	$270.00	$2,700
Turbine Generators	4,272,557	Pounds	$0.19	$790,423
Aluminum Electrical Conductor (Supported)	896,929	Pounds	$0.19	$165,932
Transformers (copper windings)	9000	Pounds	$0.27	$2,430
Transformers (oil)	15000	Gallons	$0.70	$10,500
Subtotal Salvage				**$4,277,388**
Total Demolition Minus Resale and Salvage Value				**$3,303,128**

Cost Estimate Assumptions

To develop a cost estimate for the decommissioning of the Bent Tree North Wind Project, Westwood engineers made the following assumptions and used the following pricing references. Costs were estimated based on current pricing, technology, and regulatory requirements. The assumptions are listed in order from top to bottom of the estimate spreadsheet. When publicly available bid prices or Minnesota Department of Transportation bid summaries were not available for particular work items, we developed time- and material-based estimates considering composition of work crews and equipment and material required. While materials may have a salvage value at the end of the project life, the construction activity costs and the hauling/freight costs are separated from the disposal costs or salvage value to make revisions to salvage values more transparent.

1. Project quantities are based on the project layout dated June 6, 2024. Project quantities not yet determined in the Civil Permitting Plans were extrapolated from projects of similar size and location.
2. Unit pricing obtained from RS Means for the Mankato, MN area for Quarter 2 of 2024.
3. Common labor will be used for the majority of tasks, supplemented by electricians, steel workers, and equipment operators where labor rules may require. The labor rates reflect union labor rates.
4. Mobilization was estimated at approximately 7% of total cost of other items.
5. Permit applications will require the preparation of a Stormwater Pollution Prevention Plan (SWPPP) and a Spill Prevention, Control, and Countermeasure (SPCC) Plan.
6. The selected disposal facility (SKB Environmental) is located in Lansing, Minnesota, approximately 36 miles from the project site. Hauling costs to the landfill are estimated to be $13.09 per ton.
7. The selected metal recycling facility (I-35 Auto Recycling) is located in Clarks Grove, MN approximately 14 miles from the project site. Hauling costs to the recycling facility are approximately $0.40 per ton mile, or $5.61 per ton.
8. Wind turbines are assumed to be removed from the site using the felling method. Felling of a turbine eliminates the use of crane paths and crane pads necessary to disassemble the components of a turbine. This method will also reduce the total disturbed area that needs to be restored during the decommissioning process.
9. Fiberglass blades will be hauled for recycling at the REGENFiber recycling plant located in Fairfax, Iowa.
10. Subsurface turbine components will be removed to a depth of 4 feet below ground surface. This will include removal of the top 4 feet of the turbine pedestal.
11. Medium voltage AC collection lines comprise 3-phase aluminum cables plus an aluminum grounding conductor and fiber optic cable. The underground collector system cables are placed in trenches with a minimum of 18 inches of cover. Several cables/circuits are placed side by side in each trench. The conduits and cables can be removed by trenching.
12. Road gravel removal was estimated on a time and material basis. Since the material will not remain on site, a hauling cost is added to the removal cost. Clean aggregate can typically be used as “daily cover” at landfills without incurring a disposal cost. The road gravel may also be used to fortify local driveways and roads, lowering hauling costs but incurring placing and compaction costs. The hauling costs to a landfill represents an upper limit to costs for disposal of the road gravel.
13. Erosion and sediment control along road reflects the cost of silt fence on the downgradient side of the proposed roads. As such, the length of controls has been estimated to be approximately 50% of

the road length.

14. Topsoil is required to be stockpiled on site during construction, so no topsoil replacement is expected to replace the road aggregate. Subsoiling cost to decompact roadway areas is estimated as $222.97 per acre, and tilling to an agriculture-ready condition is estimated as $177.52 per acre.
15. Metal salvage prices (steel, aluminum, copper) are based on June 2024 quotes from www.scrapmonster.com for the Midwest. Posted prices are three months old. These prices are based on delivery to the recycling facility with the material prepared to meet size, thickness, cleanliness, and other specifications.
16. A reduction of 25% has been taken from all pricing obtained from www.scrapmonster.com to reflect the processing by the contractor to meet the specifications.
17. The salvage value for steel uses pricing from the Midwest United States at $360 per ton.
18. The collection lines are priced assuming copper conductor wire for the direct current circuits and aluminum wire for the alternating current circuits. The prices reflect a reduced yield of copper or aluminum resulting from the stripping of insulation and other materials from the wire prior to recycling. The estimate uses the Midwest prices of insulated copper wire with a 85% recovery rate ($1.41/pound) and E.C. Aluminum Wire ($0.99 /pound).
19. Care to prevent damage and breakage of equipment, must be exercised, but removal assumes unskilled common labor under supervision.