Exhibit I

Soil Conditions

Biglow Canyon Wind Farm
December 2025

Prepared for

Portland General Electric Company

Prepared by

TETRA TECH

Table of Contents

List of Tables

List of Figures

List of Attachments

Acronyms and Abbreviations

AC	alternating current
BCWF or Existing Facility	Biglow Canyon Wind Farm
BMP	best management practices
BIGL or Project Developer	BIGL bn, LLC
Certificate Holder or PGE	Portland General Electric Company
Council or EFSC	Oregon Energy Facility Siting Council
ESCP	Erosion and Sediment Control Plan
MW	megawatt
NRCS	Natural Resources Conservation Service
OAR	Oregon Administrative Rules
ODOE	Oregon Department of Energy
RFA	Request for Amendment
Site Certificate	Site Certificate on Amendment 3
Solar Components	photovoltaic solar energy generation and battery storage

1.0 Introduction

The Portland General Electric Company (PGE or Certificate Holder) submits this Request for Amendment (RFA) 4 to the Site Certificate on Amendment 3, issued October 31, 2008 (Site Certificate) for the Biglow Canyon Wind Farm (BCWF or Existing Facility) to add photovoltaic solar energy generation and battery storage (Solar Components) to the operating BCWF.

BCWF, owned and operated by PGE, is located within an approved site boundary comprising approximately 25,000 acres, approximately 4.5 miles northeast of the town of Wasco in Sherman County, Oregon. The BCWF operates under the Site Certificate from the Oregon Energy Facility Siting Council (Council or EFSC) as administered by the Oregon Department of Energy (ODOE). BCWF currently consists of 217 wind turbines, with a maximum blade tip height of 445 feet, and a peak generating capacity of 450 megawatts (MW).

In RFA 4, PGE proposes to add up to 125 MW alternating current (AC) generating capacity from photovoltaic solar arrays and 125 MW in battery storage capacity (Solar Components) in approximately 1,445 acres of land sited (Solar Area) within the existing BCWF site boundary Solar Micrositing Area (RFA 4 Site Boundary[1]).

The Solar Micrositing Area is approximately 1,924 acres and provides a conservative estimate of the maximum area needed for development, micrositing, and temporary disturbances from the Solar Components during construction, rather than the anticipated temporary and permanent disturbance footprint. Within the Solar Micrositing Area, the Certificate Holder has identified a reduced footprint where Solar Components will be concentrated (Solar Area; 1,445 acres). Solar Components will include solar arrays, inverters, battery energy storage system facilities and their subcomponents (i.e., inverters), a collector substation, approximately 600 feet of a new 230-kilovolt generation tie transmission line, medium voltage collector lines, operations and maintenance structures, site access roads, internal roads, perimeter fencing, facility entry gates, and temporary laydown areas. The maximum generating capacity from the Solar Components will be 125 MW AC, and the infrastructure will be fenced within the Solar Micrositing Area and will cover up to 1,445 acres (Solar Area).

PGE will own and operate the Solar Components as a part of the BCWF (together, Amended Facility or Facility), which, to date, have been developed by BIGL bn, LLC (BIGL or Project Developer). BIGL, in its capacity as the project developer, supports PGE in this RFA 4 and may construct and temporarily operate the Solar Components on behalf of PGE under a Build-Transfer Agreement.

The Council previously found the Certificate Holder has demonstrated an ability to construct, operate, and retire the Facility in compliance with Council standards and conditions of the Site Certificate. Exhibit I identifies soil conditions and land uses dependent on soil conditions that are in compliance with the soil standard found in Oregon Administrative Rules (OAR) 345-022-0022 and

[1] Note, as described in further detail in Section 4.1.1.2 of the RFA 4 Division 27 document, the Solar Micrositing Area is the equivalent of the RFA 4 Site Boundary.

follows the submittal requirements in 345-021-0010(1)(i). The information summarized in this exhibit and described in RFA 4 demonstrate that the Facility, as proposed, can be designed, engineered, constructed, operated, and retired in a manner that satisfies the applicable Council standards. The proposed changes in RFA 4 do not alter the Certificate Holder's ability to comply with the Council's earlier findings and applicable Site Certificate Conditions.

2.0 Analysis Area

Consistent with OAR 345-027-0360(3), ODOE concurred with the Certificate Holder's use of a defined portion of the approved BCWF site boundary (i.e., Solar Micrositing Area/RFA 4 Site Boundary) to establish study area boundaries for RFA 4 under OAR 345-001-0010(35). The RFA 4 Site Boundary reflects the Solar Micrositing Area, and all study areas within the meaning of ORS 345-001-0010(35) are measured from the RFA 4 Site Boundary. The analysis area for soil resources is the Solar Micrositing Area[2] (Figure I-1).

3.0 Identification and Description of Soil Types – OAR 345-021-0010(1)(i)(A)

OAR 345-021-0010(1)(i) Information from reasonably available sources regarding soil conditions and uses in the analysis area, providing evidence to support findings by the Council as required by OAR 345-022-0022, including:

OAR 345-021-0010(1)(i)(A) Identification and description of the major soil types in the analysis area;

Response:

3.1 Major Soil Types

The Soil Survey Geographic Database for Sherman County in Oregon (Natural Resources Conservation Service [NRCS] 2024) was used to identify the near-surface soils in the analysis area. The survey describes the soils in the top 7 feet of subsurface and the area's land-use classifications. According to the NRCS (2024), there are 10 major soil types (soil units) in the analysis area (Figure I-1, Table I-1).

Of the soil units found within the analysis area, five soil units (Anderly silt loam 1B, Anderly silt loam 1C, Walla Walla silt loam 31B, Walla Walla silt loam 31C, and Walla Walla silt loam 32D) make up 5 percent or more of the analysis area and are described by the NRCS as follows:

[2] ODOE concurred with excluding the remaining BCWF site boundary that does not overlap with the Solar Micrositing Area from analysis in RFA 4 because no changes are proposed to any BCWF components in the remaining BCWF site boundary as part of RFA 4.

- **Anderly silt loam (1C and 3D)** – These are moderately deep, well-drained silt loams formed in loess overlying basalt. This soil is typically found in upland plateaus with slopes ranging from 1 to 35 percent and have 20 to 40 inches depth to lithic bedrock, typically basalt. Anderly silt loams have moderate permeability and slow to rapid runoff.
- **Walla Walla silt loam (31B, 31C, and 32D)** – These are deep to very deep, well-drained silt loams formed in loess overlying basalt. This soil is typically found in upland plateaus with slopes ranging from 0 to 35 percent and have 20 to 66 inches depth to lithic bedrock, typically basalt. Walla Walla silt loams have a moderate permeability and slow to rapid runoff.

3.2 Sensitive Soils

Sensitive soils are the soil units identified where additional best management practices (BMP) and considerations may be required. The metrics used for this determination are Hazard for Erosion (Off-road, Off-trail), Hazard for Erosion (Road, Trail), Fugitive Dust Resistance, and Soil Compaction Resistance. Based on descriptions for each of the metrics as well as the ratings of each soil unit for these metrics presented in Table I-1, the following can be inferred (Figure I-2):

- Anderly silt loams (1C and 3D), Lickskillet-Rock outcrop complex (18E), Nansene-Rock outcrop complex (21E), and Walla Walla silt loams (31C, 32D, and 33D) have a severe Hazard for Erosion (Road, Trail) implying that any roads and trails constructed within these soil units must include measures that address the high potential to erosion by water;
- Most soil units within the analysis area have low Fugitive Dust Resistance and indicate the need for appropriate BMPs that address their favorability for the formation of dust; and
- Lickskillet very stony loam (16D) and Lickskillet-Rock outcrop complex (18E) have low Soil Compaction Resistance and necessitate compaction-related BMPs during and post construction.

Table I-1. General Description of Mapped Soil Units in the Analysis Area (NRCS 2024)

Soil Type ID	Soil Unit	Approximate Thickness	Formation Setting	Percent of Analysis Area	K-factor[1]	Wind Erodibility Group[2]	Hazard for Erosion (Off-road, Off-trail)[3]	Hazard for Erosion (Road, Trail)[4]	Fugitive Dust Resistance[5]	Soil Compaction Resistance[6]
1B	Anderly silt loam, 1 to 7 percent slopes	20 to 40 inches to lithic bedrock	Loess over fractured basalt	4.1%	0.43	5	Slight	Moderate	Low resistance	Moderate resistance
1C	Anderly silt loam, 7 to 15 percent slopes	20 to 40 inches to lithic bedrock	Loess over fractured basalt	10.2%	0.43	5	Moderate	Severe	Low resistance	Moderate resistance
3D	Anderly silt loam, 15 to 35 percent south slopes	20 to 40 inches to lithic bedrock	Loess over fractured basalt	26.2%	0.43	5	Moderate	Severe	Low resistance	Moderate resistance
16D	Lickskillet very stony loam, 7 to 40 percent south slopes	12 to 20 inches to lithic bedrock	Loess mixed with colluvium from basalt	0.1%	0.2	7	Moderate	Moderate	Moderate resistance	Low resistance
18E	Lickskillet-Rock outcrop complex, 40 to 70 percent south slopes	12 to 20 inches to lithic bedrock	Loess mixed with colluvium from basalt	0.4%	0.2	7	Moderate	Severe	Moderate resistance	Low resistance
21E	Nansene-Rock outcrop complex, 35 to 70 percent north slopes	40 to 60 inches to lithic bedrock	Loess over fractured basalt	0.4%	0.37	5	Moderate	Severe	Low resistance	Moderate resistance
31B	Walla Walla silt loam, 1 to 7 percent slopes	Greater than 7 feet	Loess over fractured basalt	40.4%	0.49	5	Slight	Moderate	Low resistance	Moderate resistance
31C	Walla Walla silt loam, 7 to 15 percent slopes	Greater than 7 feet	Loess over fractured basalt	28.0%	0.49	5	Moderate	Severe	Low resistance	Moderate resistance
32D	Walla Walla silt loam, 15 to 35 percent north slopes	Greater than 7 feet	Loess over fractured basalt	6.0%	0.49	5	Moderate	Severe	Low resistance	Moderate resistance
33D	Walla Walla silt loam, 15 to 35 percent south slopes	Greater than 7 feet	Loess over fractured basalt	4.2%	0.49	5	Moderate	Severe	Low resistance	Moderate resistance

1. K-factor: Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water.
2. Wind Erodibility Group: A wind erodibility group (WEG) consists of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible.
3. Hazard for Erosion (Off-road, Off-trail): This rating indicates the hazard of soil loss from off-road and off-trail areas after disturbance activities that expose the soil surface. The ratings are based on slope, soil erosion factor K, and an index of rainfall erosivity (R). A rating of "slight" indicates that erosion is unlikely under ordinary climatic conditions; "moderate" indicates that some erosion is likely and that erosion-control measures may be needed; "severe" indicates that erosion is very likely and that erosion-control measures, including revegetation of bare areas, are advised; and "very severe" indicates that significant erosion is expected, loss of soil productivity and off-site damage are likely, and erosion-control measures are costly and generally impractical.
4. Hazard for Erosion (Road, Trail): The ratings in this interpretation indicate the hazard of soil loss from unsurfaced roads and trails. The ratings are based on soil erosion factor K, slope, and content of rock fragments. A rating of "slight" indicates that little or no erosion is likely; "moderate" indicates that some erosion is likely, that the roads or trails may require occasional maintenance, and that simple erosion-control measures are needed; and "severe" indicates that significant erosion is expected, that the roads or trails require frequent maintenance, and that costly erosion-control measures are needed.
5. Fugitive Dust Resistance: This rating indicates the vulnerability of a soil for eroded soil particles to go into suspension upon disturbance. Rating class terms indicate the extent to which all of the soil features affect the formation of dust. "Low resistance" indicates that the soil has features that are very favorable for the formation of dust. "Moderate resistance" indicates that the soil has features that are favorable for dust formation. "High resistance" indicates that the soil has features that are unfavorable for dust formation.
6. Soil Compaction Resistance: This rating indicates the ability of the soil to resist compaction. “High resistance" indicates that the soil has features that are very favorable to resisting compaction. "Moderate resistance" indicates that the soil has features that are favorable to resisting compaction. "Low resistance" indicates that the soil has one or more features that favor the formation of a compacted layer.

4.0 Current Land Use within the Analysis Area – OAR 345-021-0010(1)(i)(B)

OAR 345-021-0010(1)(i)(B) Identification and description of current land uses in the analysis area, such as growing crops, that require or depend on productive soils;

Response: The analysis area is zoned Exclusive Farm Use by Sherman County (see Exhibit K). Most of the analysis area and the vicinity consists of private agricultural land used for dryland wheat production. Within the agricultural land, "out areas", or areas where agriculture is not feasible, exist due to factors including steep slopes, sides of ditches and drainages, and shallow soils. Some sections of the analysis area are planted into a grassland mix. See Exhibit K for definition and detailed analysis of land use within the analysis area.

5.0 Project Soil Impacts – OAR 345-021-0010(1)(i)(C)

OAR 345-021-0010(1)(i)(C) Identification and assessment of significant potential adverse impact to soils from construction, operation and retirement of the facility, including, but not limited to, erosion and chemical factors such as salt deposition from cooling towers, land application of liquid effluent, and chemical spills;

Response:

5.1 Soil Impacts During Construction

5.1.1 General Soil Impacts

Solar Components construction will require many activities that could adversely impact soils including:

- Clearing and grubbing vegetation around temporary construction areas, solar arrays, the collector lines, the battery energy storage system foundations, collector circuits, substation construction areas, and new access roads;
- Grading and excavation activities;
- Constructing new access roads;
- Operating and moving cranes;
- Using heavy equipment and hauling trucks to delivery aggregates, concrete, water, solar components, and construction supplies; and
- Fueling or maintaining construction equipment or vehicles.

The portions of the analysis area that will be graded are expected to result in a balanced cut-and-fill quantity of earthwork to maintain the existing conditions to the extent practicable for the protection of the equipment and facilities.

Acres of temporary and permanent disturbance by disturbance type are identified in Section 4.4.3 of RFA 4's Division 27 document (Request for Amendment 4 to the Site Certificate for the Biglow Canyon Wind Farm). Impacts to soil, such as erosion, resulting from construction activities would be limited through the implementation of BMPs including but not limited to those identified in relevant Site Conditions in the Third Amended Site Certificate (Council 2008) as noted below. Measures that will be implemented include the following:

- Implement appropriate BMPs to control any dust generated by construction activities, such as applying water or stabilizers to roads and disturbed soil areas (Condition 34, Council 2008).
- Limit truck traffic to designated existing and improved road surfaces, and newly constructed roads, to avoid soil compaction to the extent possible (Condition 27, Council 2008).
- Conduct all construction work in compliance with the erosion and sediment control BMPs in the final Erosion and Sediment Control Plan (ESCP), as required by the National Pollutant Discharge Elimination System Construction Stormwater Discharge General permit 1200-C (see Attachment I-1 for the draft/example ESCP; the engineering, procurement, and construction (EPC) contractor will apply for the permit before construction via the Oregon Department of Environmental Quality's online Your DEQ Online platform and will update the ESCP according to the finalized layout[3]). The ESCP shall include any procedures necessary to meet local erosion and sediment control requirements or stormwater management requirements (Condition 26, Council 2008) as well as any additional elements of the Solar Components that must be addressed. The ESCP shall include any procedures necessary to meet local erosion and sediment control requirements or stormwater management requirements (Condition 26, Council 2008) as well as any additional elements of the Solar Components that must be addressed.
- Implement appropriate existing BMPs to prevent and address spill and contamination risk (Conditions 80 to 88, Council 2008) in addition to the existing Spill Prevention, Control, and Countermeasures Plan in place at the BCWF.
- In addition to the applicable Site Conditions in the Third Amended Site Certificate, the Certificate Holder will implement appropriate site restoration practices following construction, including decompaction and revegetation, as described in the draft ESCP (Attachment I-1) and the Comprehensive Solar Revegetation and Soil Management Plan (Attachment I-2).

[3] https://ordeq-edms-public.govonlinesaas.com/pub/login?web=1

5.1.2 Impacts to Sensitive Soils

Soil types identified as sensitive within the analysis area have severe Erosion Hazard from water, high Fugitive Dust Resistance, and/or low Soil Compaction Resistance and may likely be impacted in certain areas. Therefore, the implementation of erosion control practices to address any potential temporary or permanent impact to sensitive soils is integral at all phases of construction. Refer to Attachment I-1 for the ESCP, which will outline measures to specifically limit the impact to sensitive soils during construction.

5.2 Soil Impacts During Operation

5.2.1 General Soil Impacts

Solar array operation would not impact soil erosion. Solar Components operations are not expected to cause any additional ground disturbances. Following Condition 30 in the Third Amended Site Certificate (Council 2008), the Certificate Holder will routinely inspect and maintain all Solar Components and maintain or repair erosion and sediment control measures as needed. Vehicles will stay on constructed access roads to avoid unnecessary compaction and erosion (Condition 27; Council 2008). The potential for soil contamination would be limited by implementing Conditions 80 to 88 as described in Exhibit G, and by observing appropriate safety measures during maintenance procedures (Council 2008).

5.2.2 Impacts to Sensitive Soils

The implementation of erosion control practices and avoidance of soils prone to compaction is necessary to prevent any potential temporary or permanent impact to sensitive soils during operation. During operation, the analysis area will be monitored until soils are stabilized and evaluate whether construction-related impacts to soils are being adequately addressed by the mitigation procedures described in the ESCP (Site Certificate Conditions 26) and as described in the Comprehensive Solar Revegetation and Soil Management Plan (Exhibit I, Attachment I-2), which addresses topsoil management and describes a monitoring program for evaluating and addressing impacts to long-term soil stability, may be used to determine the interval and criteria for monitoring.

If stormwater management infrastructure and erosion control features are installed during construction, they will, as needed, be left in place to continue functioning during operation and be upkept when necessary. Such features may include straw bales, roadside ditches, infiltration swales, and retention basins. If any such features are left behind post-construction to continue functioning, they may be inspected during the same instance as the monitoring effort for assessing revegetation efforts and soil stability. These features shall be removed when it is determined that the site has been stabilized.

5.3 Soil Impacts During Decommissioning

5.3.1 General Soil Impacts

In the event of decommissioning, erosion hazards would be similar to construction. Measures like those used in construction and operation through required Site Certificate Conditions would be used to prevent and control erosion, mitigate soil compaction, prevent spills, and revegetate disturbed areas.

5.3.2 Impacts to Sensitive Soils

The implementation of erosion control practices to address any potential temporary or permanent impact to sensitive soils is integral during decommissioning, which will be similar to the erosion control practices implemented during construction. Refer to Attachment I-1 for the ESCP, which will outline measures to specifically limit the impact during decommissioning to sensitive soils.

6.0 Mitigation Measures – OAR 345-021-0010(1)(i)(D)

6.1 Minimization and Best Management Practices

OAR 345-021-0010(1)(i)(D) A description of any measures the applicant proposes to avoid or mitigate adverse impact to soils; and

Response: As noted above, many Site Certificate Conditions require the use of minimizing measures and BMPs throughout the construction, operation, and decommissioning (if necessary) of the Solar Components. The graded portions of the analysis area are expected to create a balanced cut-and-fill quantity of earthwork to maintain the existing conditions and protect equipment and facilities. Some BMPs that may be implemented (depending on seasonal conditions, final siting, etc.) along with other measures identified in the ESCP, including to the sensitive soils within the analysis area, are:

- **Stabilized Construction Entrances/Exits –** Stabilized construction entrances or exits will be installed where construction vehicles move from newly constructed roads or disturbed areas to paved roads. The stabilized construction entrances and exits will be inspected and maintained for the life of the Solar Components.
- **Dust Abatement Measures –** Compact filling and appropriate dust abatement measures such as restricting vehicle speeds; watering active areas, stockpiles, and roadways; track-out control at site exits; and other measures may be used.
- **Preserving Existing Vegetation –** To the extent practicable, existing vegetation will be preserved. Where vegetation clearing is necessary, root systems would be conserved if possible.

- **Silt Fencing –** Silt fencing will be installed throughout the construction area as a perimeter control, material stockpile perimeter control, and on the contour downgradient of excavations.
- **Straw Wattles –** Straw wattles may be used to decrease the velocity of sheet flow stormwater to prevent erosion. Wattles will be used along the downgradient edge of access roads adjacent to slopes or sensitive areas.
- **Mulching –** Mulch may be used to stabilize areas of soil disturbance quickly and during reseeding.
- **Stabilization Matting –** Jute matting, straw matting, or turf reinforcement matting may be used with mulching to stabilize steep slopes exposed during access road installation.
- **Soil Binders and Tackifiers –** Soil binders and tackifiers may be used on exposed slopes to stabilize them until vegetation is established.
- **Concrete Washout Area –** Concrete chutes and trucks will be washed out in dedicated areas near foundation construction locations. This will keep concrete washout water in a localized area.
- **Stockpile Management –** Soil from excavations will be temporarily stockpiled and used onsite. Soils will be stockpiled and reused to prevent productive topsoils from mixing with deeper subsoils. Silt fence or straw wattles will be installed around the stockpile material as a perimeter control. Mulch or plastic sheeting will be used to cover the stockpiled material, if needed. Stockpiles will be watered, if needed, to reduce erosion.
- **Revegetation –** The site will be revegetated with an approved seed mix after construction activities. When required, the seed will be applied with mulch or stabilization matting to protect the growing grass seed. Revegetation will occur as soon as is practicable following construction.
- **Pollutant Management –** During construction, source control measures will be implemented to minimize the likelihood of chemicals polluting surface water or groundwater. Chemical pollution could occur as a release of diesel fuel or lubricating oils or improper debris and waste handling. Small quantities of fuels and oils may be kept onsite in a dedicated area during construction and operation. Construction vehicles will be fueled and maintained only in dedicated areas. Any spills would be cleaned up immediately.
- **Construction Timing –** Whenever possible, construction activities will be scheduled in the dry season when soils are less susceptible to compaction.

7.0 Monitoring Program – OAR 345-021-0010(1)(i)(E)

OAR 345-021-0010(1)(i)(E) The applicant's proposed monitoring program, if any, for adverse impact to soils during construction and operation.

Response: As discussed in Section 5.1, Condition 26 in the Third Amended Site Certificate requires the Certificate Holder to implement a final ESCP including construction monitoring requirements as approved by Oregon Department of Environmental Quality (Council 2008). In addition, Section 5.2 identified Condition 30 in the Third Amended Site Certificate, which requires the Certificate Holder to inspect and maintain all Existing Facility components routinely, and, as necessary, maintain or repair erosion and sediment control measures (Council 2022).

8.0 Conclusion

During construction, the potential for soil erosion and compaction will be minimized by implementing appropriate BMPs to minimize impacts to the extent practicable, specifically to problematic and sensitive areas, and by adhering to the Site Certificate Conditions outlined above. Specific construction and site restoration practices will mitigate construction impacts on soil productivity and measures may be taken as appropriate during operation and decommissioning to address any temporary or permanent impacts if they occur. No adverse impacts are expected on productive farmland soils. Considering the existing Site Certificate Conditions, the Council may conclude that the design, construction, and operation of the proposed Solar Components is unlikely to have a significant, adverse, and long-term impact on soils.

9.0 References

Council (Oregon Energy Facility Siting Council). 2008. Third Amended Site Certificate for the Biglow Canyon Wind Farm. Energy Facility Siting Council, Salem, Oregon. October 2008.

NRCS (Natural Resources Conservation Service). 2024. Web Soil Survey. United States Department of Agriculture, Natural Resources Conservation Service. https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx. Accessed July 2024.

Figures

Biglow Canyon Wind Farm Request for Amendment #4

Figure I-1
NRCS Soils Map

SHERMAN COUNTY, OR

Soil Map Unit (Symbol, Name)

- 16D, Lickskillet very stony loam, 7 to 40 percent south slopes
- 18E, Lickskillet-Rock outcrop complex, 40 to 70 percent south slopes
- 1B, Anderly silt loam, 1 to 7 percent slopes
- 1C, Anderly silt loam, 7 to 15 percent slopes
- 21E, Nansene-Rock outcrop complex, 35 to 70 percent north slopes
- 31B, Walla Walla silt loam, 1 to 7 percent slopes
- 31C, Walla Walla silt loam, 7 to 15 percent slopes
- 32D, Walla Walla silt loam, 15 to 35 percent north slopes
- 33D, Walla Walla silt loam, 15 to 35 percent south slopes
- 3D, Anderly silt loam, 15 to 35 percent south slopes

- Solar Micrositing Area
- County Boundary
- City/Town

TETRA TECH

PGE

Reference Map

1:17,000

WGS 1984 UTM Zone 10N

0 0.5 1 2 Miles

NOT FOR CONSTRUCTION

\\tt.local\GIS\US\CES\Projects\PDX\BrightNight\BiglowCanyonMaps__fRFA4\Exhibit_I\PGE_BiglowCanyon_Exhibit_I_20251119.aprx

Biglow Canyon Wind Farm Request for Amendment #4

Figure I-2
Sensitive Soils

SHERMAN COUNTY, OR

- Solar Micrositing Area
- County Boundary
- City/Town
- Severe Hazard for Erosion (Road, Trail)
- Low Fugitive Dust Resistance
- Low Soil Compaction Resistance

TETRA TECH

PGE

Reference Map

1:17,000

WGS 1984 UTM Zone 10N

0 0.5 1 2 Miles

NOT FOR CONSTRUCTION

\\tt.local\GIS\US\CES\Projects\PDX\BrightNight\BiglowCanyon\Maps___fRFA4\Exhibit_I\PGE_BiglowCanyon_Exhibit_I_20251119.aprx

Attachment I-1. Draft Erosion and Sediment Control Plan

BIGL bn, LLC
BIGLOW SOLAR PROJECT - PRELIMINARY
EROSION AND SEDIMENT CONTROL PLAN (ESCP) DRAWINGS

TETRA TECH
www.tetratech.com

STANDARD EROSION AND SEDIMENT CONTROL PLAN DRAWING NOTES:

1. ONCE KNOWN, INCLUDE A LIST OF ALL CONTRACTORS THAT WILL ENGAGE IN CONSTRUCTION ACTIVITIES ON SITE, AND THE AREAS OF THE SITE WHERE THE CONTRACTOR(S) WILL ENGAGE IN CONSTRUCTION ACTIVITIES. REVISE THE LIST AS APPROPRIATE UNTIL PERMIT COVERAGE IS TERMINATED (SECTION 4.4.C.I). IN ADDITION, INCLUDE A LIST OF ALL PERSONNEL (BY NAME AND POSITION) THAT ARE RESPONSIBLE FOR THE DESIGN, INSTALLATION AND MAINTENANCE OF STORMWATER CONTROL MEASURES (E.G. ESCP DEVELOPER, BMP INSTALLER (SEE SECTION 4.10), AS WELL AS THEIR INDIVIDUAL RESPONSIBILITIES. (SECTION 4.4.C.II)
2. VISUAL MONITORING INSPECTION REPORTS MUST BE MADE IN ACCORDANCE WITH DEQ 1200-C PERMIT REQUIREMENTS. (SECTION 6.5)
3. INSPECTION LOGS MUST BE KEPT IN ACCORDANCE WITH DEQ'S 1200-C PERMIT REQUIREMENTS. (SECTION 6.5.Q)
4. RETAIN A COPY OF THE ESCP AND ALL REVISIONS ON SITE AND MAKE IT AVAILABLE ON REQUEST TO DEQ, AGENT, OR THE LOCAL MUNICIPALITY. (SECTION 4.7)
5. THE PERMIT REGISTRANT MUST IMPLEMENT THE ESCP. FAILURE TO IMPLEMENT ANY OF THE CONTROL MEASURES OR PRACTICES DESCRIBED IN THE ESCP IS A VIOLATION OF THE PERMIT. (SECTIONS 4 AND 4.11)
6. THE ESCP MUST BE ACCURATE AND REFLECT SITE CONDITIONS. (SECTION 4.8)
7. SUBMISSION OF ALL ESCP REVISIONS IS NOT REQUIRED. SUBMITTAL OF THE ESCP REVISIONS IS ONLY UNDER SPECIFIC CONDITIONS. SUBMIT ALL NECESSARY REVISION TO DEQ OR AGENT WITHIN 10 DAYS. (SECTION 4.9)
8. SEQUENCE CLEARING AND GRADING TO THE MAXIMUM EXTENT PRACTICAL TO PREVENT EXPOSED INACTIVE AREAS FROM BECOMING A SOURCE OF EROSION. (SECTION 2.2.2)
9. CREATE SMOOTH SURFACES BETWEEN SOIL SURFACE AND EROSION AND SEDIMENT CONTROLS TO PREVENT STORMWATER FROM BYPASSING CONTROLS AND PONDING. (SECTION 2.2.3)
10. IDENTIFY, MARK, AND PROTECT (BY CONSTRUCTION FENCING OR OTHER MEANS) CRITICAL RIPARIAN AREAS AND VEGETATION INCLUDING IMPORTANT TREES AND ASSOCIATED ROOTING ZONES, AND VEGETATION AREAS TO BE PRESERVED. IDENTIFY VEGETATIVE BUFFER ZONES BETWEEN THE SITE AND SENSITIVE AREAS (E.G., WETLANDS), AND OTHER AREAS TO BE PRESERVED, ESPECIALLY IN PERIMETER AREAS. (SECTION 2.2.1)
11. PRESERVE EXISTING VEGETATION WHEN PRACTICAL AND RE-VEGETATE OPEN AREAS. RE-VEGETATE OPEN AREAS WHEN PRACTICABLE BEFORE AND AFTER GRADING OR CONSTRUCTION. IDENTIFY THE TYPE OF VEGETATIVE SEED MIX USED. (SECTION 2.2.5)
12. MAINTAIN AND DELINEATE ANY EXISTING NATURAL BUFFER WITHIN THE 50-FEET OF WATERS OF THE STATE. (SECTION 2.2.4)
13. INSTALL PERIMETER SEDIMENT CONTROL, INCLUDING STORM DRAIN INLET PROTECTION AS WELL AS ALL SEDIMENT BASINS, TRAPS, AND BARRIERS PRIOR TO LAND DISTURBANCE. (SECTIONS 2.1.3)
14. CONTROL BOTH PEAK FLOW RATES AND TOTAL STORMWATER VOLUME, TO MINIMIZE EROSION AT OUTLETS AND DOWNSTREAM CHANNELS AND STREAMBANKS. (SECTIONS 2.1.1. AND 2.2.16)
15. CONTROL SEDIMENT AS NEEDED ALONG THE SITE PERIMETER AND AT ALL OPERATIONAL INTERNAL STORM DRAIN INLETS AT ALL TIMES DURING CONSTRUCTION, BOTH INTERNALLY AND AT THE SITE BOUNDARY. (SECTIONS 2.2.6 AND 2.2.13)
16. ESTABLISH CONCRETE TRUCK AND OTHER CONCRETE EQUIPMENT WASHOUT AREAS BEFORE BEGINNING CONCRETE WORK. (SECTION 2.2.14)
17. APPLY TEMPORARY AND/OR PERMANENT SOIL STABILIZATION MEASURES IMMEDIATELY ON ALL DISTURBED AREAS AS GRADING PROGRESSES. TEMPORARY OR PERMANENT STABILIZATIONS MEASURES ARE NOT REQUIRED FOR AREAS THAT ARE INTENDED TO BE LEFT UNVEGETATED, SUCH AS DIRT ACCESS ROADS OR UTILITY POLE PADS.(SECTIONS 2.2.20 AND 2.2.21)
18. ESTABLISH MATERIAL AND WASTE STORAGE AREAS, AND OTHER NON-STORMWATER CONTROLS. (SECTION 2.3.7)
19. KEEP WASTE CONTAINER LIDS CLOSED WHEN NOT IN USE AND CLOSE LIDS AT THE END OF THE BUSINESS DAY FOR THOSE CONTAINERS THAT ARE ACTIVELY USED THROUGHOUT THE DAY. FOR WASTE CONTAINERS THAT DO NOT HAVE LIDS, PROVIDE EITHER (1) COVER (E.G., A TARP, PLASTIC SHEETING, TEMPORARY ROOF) TO PREVENT EXPOSURE OF WASTES TO PRECIPITATION, OR (2) A SIMILARLY EFFECTIVE MEANS DESIGNED TO PREVENT THE DISCHARGE OF POLLUTANTS (E.G., SECONDARY CONTAINMENT). (SECTION 2.3.7)
20. PREVENT TRACKING OF SEDIMENT ONTO PUBLIC OR PRIVATE ROADS USING BMPS SUCH AS: CONSTRUCTION ENTRANCE, GRAVELED (OR PAVED) EXITS AND PARKING AREAS, GRAVEL ALL UNPAVED ROADS LOCATED ONSITE, OR USE AN EXIT TIRE WASH. THESE BMPS MUST BE IN PLACE PRIOR TO LAND- DISTURBING ACTIVITIES. (SECTION 2.2.7)
21. WHEN TRUCKING SATURATED SOILS FROM THE SITE, EITHER USE WATER-TIGHT TRUCKS OR DRAIN LOADS ON SITE. (SECTION 2.2.7.F)
22. CONTROL PROHIBITED DISCHARGES FROM LEAVING THE CONSTRUCTION SITE, I.E., CONCRETE WASH-OUT, WASTEWATER FROM CLEANOUT OF STUCCO, PAINT AND CURING COMPOUNDS. (SECTIONS 1.5 AND 2.3.9)
23. ENSURE THAT STEEP SLOPE AREAS WHERE CONSTRUCTION ACTIVITIES ARE NOT OCCURRING ARE NOT DISTURBED. (SECTION 2.2.10)
24. PREVENT SOIL COMPACTION IN AREAS WHERE POST-CONSTRUCTION INFILTRATION FACILITIES ARE TO BE INSTALLED. (SECTION 2.2.12)
25. USE BMPS TO PREVENT OR MINIMIZE STORMWATER EXPOSURE TO POLLUTANTS FROM SPILLS; VEHICLE AND EQUIPMENT FUELING, MAINTENANCE, AND STORAGE; OTHER CLEANING AND MAINTENANCE ACTIVITIES; AND WASTE HANDLING ACTIVITIES. THESE POLLUTANTS INCLUDE FUEL, HYDRAULIC FLUID, AND OTHER OILS FROM VEHICLES AND MACHINERY, AS WELL AS DEBRIS, FERTILIZER, PESTICIDES AND HERBICIDES, PAINTS, SOLVENTS, CURING COMPOUNDS AND ADHESIVES FROM CONSTRUCTION OPERATIONS. (SECTIONS 2.2.15 AND 2.3)
26. PROVIDE PLANS FOR SEDIMENTATION BASINS THAT HAVE BEEN DESIGNED PER SECTION 2.2.17 AND STAMPED BY AN OREGON PROFESSIONAL ENGINEER. (SEE SECTION 2.2.17.A)
27. IF ENGINEERED SOILS ARE USED ON SITE, A SEDIMENTATION BASIN/IMPOUNDMENT MUST BE INSTALLED. (SEE SECTIONS 2.2.17 AND 2.2.18)
28. PROVIDE A DEWATERING PLAN FOR ACCUMULATED WATER FROM PRECIPITATION AND UNCONTAMINATED GROUNDWATER SEEPAGE DUE TO SHALLOW EXCAVATION ACTIVITIES. (SEE SECTION 2.4)
29. IMPLEMENT THE FOLLOWING BMPS WHEN APPLICABLE: WRITTEN SPILL PREVENTION AND RESPONSE PROCEDURES, EMPLOYEE TRAINING ON SPILL PREVENTION AND PROPER DISPOSAL PROCEDURES, SPILL KITS IN ALL VEHICLES, REGULAR MAINTENANCE SCHEDULE FOR VEHICLES AND MACHINERY, MATERIAL DELIVERY AND STORAGE CONTROLS, TRAINING AND SIGNAGE, AND COVERED STORAGE AREAS FOR WASTE AND SUPPLIES. (SECTION 2.3)
30. USE WATER, SOIL-BINDING AGENT OR OTHER DUST CONTROL TECHNIQUE AS NEEDED TO AVOID WIND-BLOWN SOIL. (SECTION 2.2.9)
31. THE APPLICATION RATE OF FERTILIZERS USED TO REESTABLISH VEGETATION MUST FOLLOW MANUFACTURER'S RECOMMENDATIONS TO MINIMIZE NUTRIENT RELEASES TO SURFACE WATERS. EXERCISE CAUTION WHEN USING TIME-RELEASE FERTILIZERS WITHIN ANY WATERWAY RIPARIAN ZONE. (SECTION 2.3.5)
32. IF AN ACTIVE TREATMENT SYSTEM (FOR EXAMPLE, ELECTRO-COAGULATION, FLOCCULATION, FILTRATION, ETC.) FOR SEDIMENT OR OTHER POLLUTANT REMOVAL IS EMPLOYED, SUBMIT AN OPERATION AND MAINTENANCE PLAN (INCLUDING SYSTEM SCHEMATIC, LOCATION OF SYSTEM, LOCATION OF INLET, LOCATION OF DISCHARGE, DISCHARGE DISPERSION DEVICE DESIGN, AND A SAMPLING PLAN AND FREQUENCY) BEFORE OPERATING THE TREATMENT SYSTEM. OBTAIN ENVIRONMENTAL MANAGEMENT PLAN APPROVAL FROM DEQ BEFORE OPERATING THE TREATMENT SYSTEM. OPERATE AND MAINTAIN THE TREATMENT SYSTEM ACCORDING TO MANUFACTURER'S SPECIFICATIONS. (SECTION 1.2.9)
33. TEMPORARILY STABILIZE SOILS AT THE END OF THE SHIFT BEFORE HOLIDAYS AND WEEKENDS, IF NEEDED. THE REGISTRANT IS RESPONSIBLE FOR ENSURING THAT SOILS ARE STABLE DURING RAIN EVENTS AT ALL TIMES OF THE YEAR. (SECTION 2.2)
34. AS NEEDED BASED ON WEATHER CONDITIONS, AT THE END OF EACH WORKDAY SOIL STOCKPILES MUST BE STABILIZED OR COVERED, OR OTHER BMPS MUST BE IMPLEMENTED TO PREVENT DISCHARGES TO SURFACE WATERS OR CONVEYANCE SYSTEMS LEADING TO SURFACE WATERS. (SECTION 2.2.8)
35. SEDIMENT FENCE: REMOVE TRAPPED SEDIMENT BEFORE IT REACHES ONE THIRD OF THE ABOVE GROUND FENCE HEIGHT AND BEFORE FENCE REMOVAL. (SECTION 2.1.5.B)
36. OTHER SEDIMENT BARRIERS (SUCH AS BIOBAGS): REMOVE SEDIMENT BEFORE IT REACHES TWO INCHES DEPTH ABOVE GROUND HEIGHT AND BEFORE BMP REMOVAL. (SECTION 2.1.5.C)
37. CATCH BASINS: CLEAN BEFORE RETENTION CAPACITY HAS BEEN REDUCED BY FIFTY PERCENT. SEDIMENT BASINS AND SEDIMENT TRAPS: REMOVE TRAPPED SEDIMENTS BEFORE DESIGN CAPACITY HAS BEEN REDUCED BY FIFTY PERCENT AND AT COMPLETION OF PROJECT. (SECTION 2.1.5.D)
38. WITHIN 24 HOURS, SIGNIFICANT SEDIMENT THAT HAS LEFT THE CONSTRUCTION SITE, MUST BE REMEDIATED. INVESTIGATE THE CAUSE OF THE SEDIMENT RELEASE AND IMPLEMENT STEPS TO PREVENT A RECURRENCE OF THE DISCHARGE WITHIN THE SAME 24 HOURS. ANY IN-STREAM CLEAN-UP OF SEDIMENT SHALL BE PERFORMED ACCORDING TO THE OREGON DEPARTMENT OF STATE LANDS REQUIRED TIMEFRAME. (SECTION 2.2.19.A)
39. THE INTENTIONAL WASHING OF SEDIMENT INTO STORM SEWERS OR DRAINAGE WAYS MUST NOT OCCUR. VACUUMING OR DRY SWEEPING AND MATERIAL PICKUP MUST BE USED TO CLEANUP RELEASED SEDIMENTS. (SECTION 2.2.19)
40. DOCUMENT ANY PORTION(S) OF THE SITE WHERE LAND DISTURBING ACTIVITIES HAVE PERMANENTLY CEASED OR WILL BE TEMPORARILY INACTIVE FOR 14 OR MORE CALENDAR DAYS. (SECTION 6.5.F.)
41. PROVIDE TEMPORARY STABILIZATION FOR THAT PORTION OF THE SITE WHERE CONSTRUCTION ACTIVITIES CEASE FOR 14 DAYS OR MORE WITH A COVERING OF BLOWN STRAW AND A TACKIFIER, LOOSE STRAW, OR AN ADEQUATE COVERING OF COMPOST MULCH UNTIL WORK RESUMES ON THAT PORTION OF THE SITE. (SECTION 2.2.20)
42. DO NOT REMOVE TEMPORARY SEDIMENT CONTROL PRACTICES UNTIL PERMANENT VEGETATION OR OTHER COVER OF EXPOSED AREAS IS ESTABLISHED. ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED, ALL TEMPORARY EROSION CONTROLS AND RETAINED SOILS MUST BE REMOVED AND DISPOSED OF PROPERLY, UNLESS NEEDED FOR LONG TERM USE FOLLOWING TERMINATION OF PERMIT COVERAGE. (SECTION 2.2.21)

PRELIMINARY - TO BE UPDATED PRIOR TO CONSTRUCTION

THE PERMITTEE IS REQUIRED TO MEET ALL THE CONDITIONS OF THE 1200C PERMIT. THIS ESCP AND GENERAL CONDITIONS HAVE BEEN DEVELOPED TO FACILITATE COMPLIANCE WITH THE 1200C PERMIT REQUIREMENTS. IN CASES OF DISCREPANCIES OR OMISSIONS, THE 1200C PERMIT REQUIREMENTS SUPERCEDE REQUIREMENTS OF THIS PLAN.

LOCAL AGENCY-SPECIFIC EROSION CONTROL NOTES:

1. OWNER OR DESIGNATED PERSON SHALL BE RESPONSIBLE FOR PROPER INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES, IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.
2. PRIOR TO ANY LAND DISTURBING ACTIVITIES, THE BOUNDARIES OF THE CLEARING LIMITS, VEGETATED BUFFERS, AND ANY SENSITIVE AREAS SHOWN ON THIS PLAN SHALL BE CLEARLY DELINEATED IN THE FIELD. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE IS PERMITTED BEYOND THE CLEARING LIMITS. THE OWNER/PERMITTEE MUST MAINTAIN THE DELINEATION FOR THE DURATION OF THE PROJECT. NOTE: VEGETATED CORRIDORS TO BE DELINEATED WITH ORANGE CONSTRUCTION FENCE OR APPROVED EQUAL.
3. PRIOR TO ANY LAND DISTURBING ACTIVITIES, THE BMP'S THAT MUST BE INSTALLED ARE A GRAVEL CONSTRUCTION ENTRANCE, PERIMETER SEDIMENT CONTROL, AND INLET PROTECTION. THESE BMP'S MUST BE MAINTAINED FOR THE DURATION OF THE PROJECT.
4. IF VEGETATIVE SEED MIXES ARE SPECIFIED, SEEDING MUST TAKE PLACE BETWEEN OCTOBER 15 AND APRIL 30; THE TYPE AND PERCENTAGES OF SEED IN THE MIX MUST BE IDENTIFIED ON THE PLANS.
5. ALL PUMPING OF SEDIMENT LADEN WATER SHALL BE DISCHARGED OVER AN UNDISTURBED, PREFERABLY VEGETATED AREA, AND THROUGH A SEDIMENT CONTROL BMP I.E. (FILTER BAG).
6. THE ESC PLAN MUST BE KEPT ON SITE. ALL MEASURES SHOWN ON THE PLAN MUST BE INSTALLED PROPERLY TO ENSURE THAT SEDIMENT LADEN WATER DOES NOT ENTER A SURFACE SYSTEM, ROADWAY, OR OTHER PROPERTIES.
7. THE ESC MEASURES SHOWN ON THIS PLAN ARE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD THESE MEASURES SHALL BE UPGRADED AS NEEDED TO COMPLY WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL EROSION CONTROL REGULATIONS CHANGES TO THE APPROVED ESC PLAN MUST BE SUBMITTED IN THE FORM OF AN ACTION PLAN TO DEQ PER THE 1200 C PERMIT.
8. IN AREAS SUBJECT TO WIND EROSION, APPROPRIATE BMP'S MUST BE USED WHICH MAY INCLUDE THE APPLICATION OF FINE WATER SPRAYING, PLASTIC SHEETING, MULCHING OR OTHER APPROVED MEASURES.
9. ENSURE ALL SOILS ARE STABLE DURING ALL RAIN EVENTS THROUGHOUT THE YEAR.

BMP MATRIX FOR CONSTRUCTION PHASES (TYP.)

REFER TO DEQ GUIDANCE MANUAL FOR A COMPREHENSIVE LIST OF AVAILABLE BMP'S

BMPS	RFA4 SOLAR AREA CONSTRUCTION (17-19 MONTHS DURATION)
Pipe Slope Drains	
Energy Dissipaters	
Temporary Diversion Dikes	
Check Dams	
Temporary Seeding and Planting	
Permanent Seeding and Planting	
Mycorrhizae/Biofertilizers	
Mulches (type)	X
Construction Entrance	X
Compost Blankets	
Compost Socks	
Compost Berm	
Soil Tracktiers	
Sodding Vegetative Buffer Strips	
Sediments Fencing	X
Erosion Control Blankets & Mts	
Earth Dikes	
Drainage Swales	
Rock Outlet Protection	
Sediments Trap	
Straw Wattles	X
Storm Drain Inlet Protection	
Temporary or Permanent Sedimentation Basins	
Unpaved Roads Graveled or other BMP on Road	
Dewatering	
Paving Operations Controls	
Concrete Truck Washout	

DEVELOPER

DEVELOPER/COMPANY: BIGL bn, LLC
CONTACT: ARTURO ALVAREZ
ADDRESS: 515 NORTH FLAGLER DRIVE SUITE 250
WEST PALM BEACH, FL 33401
PHONE: 480-416-3051
EMAIL: ARTURO.ALVAREZ@BRIGHTNIGHTPOWER.COM

PLANNING/ENGINEERING/ SURVEYING FIRM

COMPANY: TETRA TECH
CONTACT: KIANA ZIOLA
ADDRESS: 3380 AMERICANA TERRACE SUITE 201
BOISE ID 83706
PHONE: (208) 489-2872
EMAIL: KIANA.ZIOLA@TETRATECH.COM

PERMITTEE'S SITE INSPECTOR

INSPECTOR: LYNDA OOSTERHUIS
COMPANY/AGENCY: TETRA TECH
PHONE: (202) 838-2866
EMAIL: LYNDA.OOSTERHUIS@TETRATECH.COM
DESCRIPTION OF EXPERIENCE: CESCL-TRAINED INSPECTOR

INSPECTION FREQUENCY:TBD

SITE CONDITION	MINIMUM FREQUENCY
1. ACTIVE PERIOD	DAILY WHEN STORMWATER RUNOFF, INCLUDIGN RUNOFF FROM SNOWMELT, IS OCCURING.
2. PRIOR TO THE SITE BECOMING INACTIVE OR IN ANTICIPATION OF SITE INACCESSIBILITY.	ONCE TO ENSURE THAT EROSION AND SEDIMENT CONTROL MEASURES ARE IN WORKING ORDER. ANY NECESARRY MAINTENANCE AND REPAIR MUST BE MADE PRIOR TO LEAVING THE SITE.
3. INACTIVE PERIODS GREATER THAN FOURTEEN CONSECTUTIVE CALENDAR DAYS.	ONCE EVERY TWO WEEKS.
4. PERIODS DURING WHICH THE SITE IS INACCESSIBLE DUE TO INCLEMENT WEATHER.	IF PRACTICAL, INSPECTIONS MUST OCCUR DAILY AT A RELEVANT AND ACCESSIBLE DISCHARGE POINT OR DOWNSTREAM LOCATION.

- HOLD A PRE-CON MEETING OF PROJECT CONSTRUCTION PERSONNEL THAT INCLUDES THE EC INSPECTOR.
- ALL INSPECTIONS MUST BE MADE IN ACCORDANCE WITH DEQ 1200-C PERMIT REQUIREMENTS.
- INSPECTION LOGS MUST BE KEPT IN ACCORDANCE WITH DEQ 1200-C PERMIT REQUIREMENTS.
- REVISIONS TO THE APPROVED ESC PLAN MUST BE SUBMITTED TO DEQ OR AGENT IN ACCORDANCE WITH CURRENT 1200-C PERMIT

NARRATIVE DESCRIPTIONS

PROJECT LOCATION
NEAR WASCO, OREGON

SITE SOIL CLASSIFICATION:
N/A

EXISTING SITE CONDITIONS
- DRY LAND WINTER WHEAT

PROPERTY DESCRIPTION
LOCATED BETWEEN ROLLING FARM LAND

RECEIVING WATER BODIES:
WATERBODIES IN THE PROJECT AREA INCLUDE EMIGRANT CANYON AND BIGLOW CANYON AS TRIBUTARIES OF THE JOHN DAY RIVER, AND NUMEROUS INTERMITTENT/EPHEMERAL EROSIONAL FEATURES.

NATURE OF CONSTRUCTION ACTIVITY AND ESTIMATED TIME TABLE
BIGL bn, LLC TO CONSTRUCT AND OPERATE THE BIGLOW SOLAR PROJECT TO CONSIST OF:
- CONSTRUCTION OF A PHOTOVOLTAIC SOLAR ENERGY FACILITY WITH AN ESTIMATED NOMINAL AND AVERAGE GENERATING CAPACITY OF 125 MEGAWATTS OF ALTERNATING CURRENT AND A BATTERY ENERGY STORAGE SYSTEM WITH 500 MEGAWATT HOURS OF STORAGE.
- PROJECT IS 1,924 ACRES.
- DEVELOPING ADDITIONAL COMPONENTS TO INCLUDE BATTERY ENERGY STORAGE SYSTEM, TRANSMISSION LINE, UNDERGROUND ELECTRICAL COLLECTION LINES, COLLECTOR SUBSTATIONS, SITE ACCESS ROADS, OPERATIONS AND MAINTENANCE BUILDINGS, AND TEMPORARY CONSTRUCTION AREAS.

TOTAL SITE AREA: 1,924 ACRES
POTENTIAL MAX DISTURBED AREA: 1,924 ACRES

SHEET INDEX

PROJECT LOCATION:
SHERMAN COUNTY, OREGON

CLIENT INFORMATION:
BIGL bn, LLC
515 NORTH FLAGLER DRIVE SUITE 250
WEST PALM BEACH, FL 33401

Tt PROJECT No.:
194-1109-0042

CLIENT PROJECT No.:
N/A

PROJECT DESCRIPTION / NOTES:
BIGL bn, LLC TO CONSTRUCT AND OPERATE THE BIGLOW SOLAR PROJECT TO CONSIST OF CONSTRUCTION OF A PHOTOVOLTAIC SOLAR ENERGY FACILITY WITH AN ESTIMATED NOMINAL AND AVERAGE GENERATING CAPACITY OF 125 MEGAWATTS OF ALTERNATING CURRENT. DEVELOPING ADDITIONAL COMPONENTS TO 500 MEGAWATT HOURS OF BATTERY ENERGY STORAGE, TRANSMISSION LINE, UNDERGROUND ELECTRICAL COLLECTION LINES, COLLECTOR SUBSTATIONS, SITE ACCESS ROADS, OPERATIONS AND MAINTENANCE BUILDINGS, AND TEMPORARY CONSTRUCTION AREAS.

ISSUED:

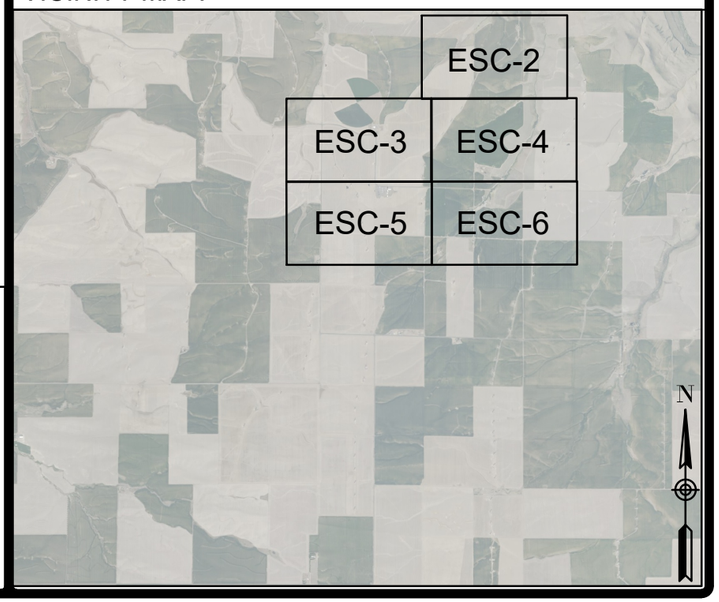
ISSUED FOR DEQ REVIEW

RATIONALE STATEMENT

A COMPREHENSIVE LIST OF AVAILABLE BEST MANAGEMENT PRACTICES (BMP) OPTIONS BASED ON DEQ'S GUIDANCE MANUAL HAS BEEN REVIEWED TO COMPLETE THIS EROSION AND SEDIMENT CONTROL PLAN. SOME OF THE ABOVE LISTED BMP'S WERE NOT CHOSEN BECAUSE THEY WERE DETERMINED TO NOT EFFECTIVELY MANAGE EROSION PREVENTION AND SEDIMENT CONTROL FOR THIS PROJECT BASED ON SPECIFIC SITE CONDITIONS, INCLUDING SOIL CONDITIONS TOPOGRAPHIC CONSTRAINTS ACCESSIBILITY TO THE SITE, AND OTHER RELATED CONDITIONS, AS THE PROJECT PROGRESSES AND THERE IS A NEED TO REVISE THE ESC PLAN, AN ACTION PLAN WILL BE SUBMITTED.

_____
INITIAL

VICINITY MAP:



GENERAL NOTES

1. THE PREDOMINANT SOIL TYPE IN THIS AREA IS HIGHLY PRONE TO BOTH WIND AND WATER EROSION. THEREFORE, THE IMPLEMENTATION OF EROSION CONTROL PRACTICES MUST BE AN INTEGRAL PART OF ALL PHASES OF CONSTRUCTION.
2. THE IMPLEMENTATION OF THESE EROSION CONTROL PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED, APPROVED AND VEGETATION/LANDSCAPING IS ESTABLISHED.
3. PROPOSED EROSION AND SEDIMENT CONTROLS FOR THIS PLAN ARE BASED ON THE PRE-DEVELOPMENT CONDITION AND WILL NEED TO BE UPDATED AS GRADING CHANGES OR ADDITIONAL CONTROLS ARE NEEDED.
4. THE EROSION CONTROL FACILITIES SHOWN ON THESE PLANS MUST BE CONSTRUCTED IN CONNECTION WITH ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO INSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DO NOT ENTER THE DRAINAGE SYSTEM OR ROADWAYS OUTSIDE OF PROJECT LIMITS, AND VIOLATE APPLICABLE WATER STANDARDS.
5. THE EROSION CONTROL FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD THESE FACILITIES SHALL BE MAINTAINED AND UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO INSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DO NOT LEAVE THE SITE.
6. TEMPORARILY STABILIZE EXISTING BARE SOIL AREAS BY SPREADING STRAW MULCH AND PUNCHING IT INTO THE GROUND WITH A DISC. THE APPLICATION RATE FOR STRAW MULCH IS 2500 LBS/ACRE. IN THE FALL, WHEN SOIL MOISTURE IS ADEQUATE, SEED ALL IMPACTED AREAS WITH THE APPROPRIATE SEED MIX FROM THE APPROVED SITE REVEGETATION PLAN.
7. THE CONSTRUCTION MANAGER IS RESPONSIBLE FOR LOCATING ANY NECESSARY DISPOSAL SITES. TO CONTROL THE RELEASE OF SEDIMENT FROM THE SITES, SILT FENCE WITH A STRAW BALE BARRIER SHALL BE INSTALLED ON THE DOWN SLOPE SIDE OF ALL DISPOSAL AREAS. IF ADDITIONAL SEDIMENT OR EROSION CONTROL MEASURES ARE DETERMINED TO BE NECESSARY TO CONTROL THE RELEASE OF SEDIMENT FROM THE DISPOSAL SITES. THE CONSTRUCTION MANAGER SHALL BE RESPONSIBLE FOR IMPLEMENTING THESE MEASURES.

KEYED NOTES

(1) EXISTING COUNTY ROADS UTILIZED FOR PROJECT ACCESS TO BE RESTORED TO COUNTY STANDARDS AFTER CONSTRUCTION IS COMPLETE. FOR IMPACTED AREAS ADJACENT TO THE ROADWAY, SPREAD MULCH AND SEED ACCORDING TO GENERAL NOTE 6. MAINTAIN EXISTING DRAINAGE.
(2) ACCESS ROADS TO PANEL ARRAY AREAS TO BE GRADED AND ROCKED APPROXIMATELY LEVEL WITH EXISTING GROUND SO RUNOFF FROM UPSLOPE SHEET FLOWS ACROSS ROAD. FOR IMPACTED AREAS ADJACENT TO THE ROADWAY, SPREAD MULCH AND SEED ACCORDING TO GENERAL NOTE 6.
(3) INSTALL SILT FENCE ON THE DOWN SLOPE SIDE OF DISTURBED AREA. SEE DETAIL ON DRAWING ESC-9.
(4) INSTALL SILT FENCE ON THE DOWN SLOPE SIDE OF STAGING AREA. SEE DETAIL ON DRAWING ESC-9.
(5) EXISTING ROADS UTILIZED FOR PROJECT ACCESS TO BE REGRADED AND GRAVEL TO BE ADDED AS NEEDED. FOR IMPACTED AREAS ADJACENT TO THE ROADWAY, SPREAD MULCH AND SEED ACCORDING TO GENERAL NOTE 6. MAINTAIN EXISTING DRAINAGE.
(6) SERVICE AREAS ADJACENT TO THE PANEL ARRAY AREAS, SPREAD MULCH AND SEED ACCORDING TO GENERAL NOTE 6. INSTALL SILT FENCE ON DOWNSLOPE SIDE OF DISTURBED AREA.

TETRA TECH
www.tetratech.com
390 UNION BLVD #400
LAKEWOOD, CO 80228

MARK	DATE	DESCRIPTION	BY
0	12/11/24	ISSUED FOR PERMIT	AML
1	11/14/25	ISSUED FOR PERMIT	AML

BIGL bn, LLC

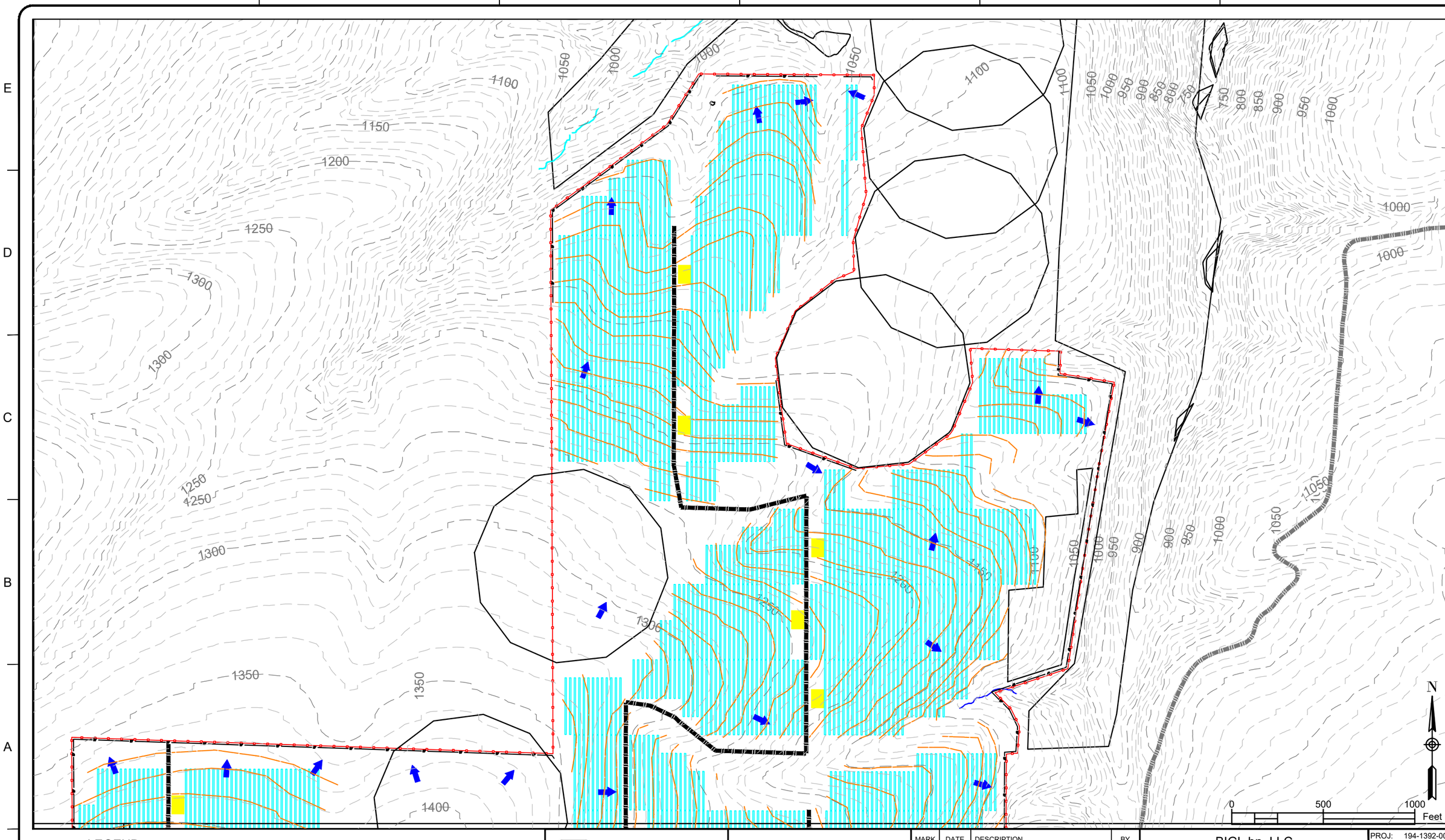
BIGLOW SOLAR PROJECT
SHERMAN COUNTY, OREGON

EROSION AND SEDIMENT CONTROL PLAN NOTES

PROJ:	194-1392-0017
DESN:	ES
DRWN:	AML
CHKD:	JPP

ESC-1

Bar measures 1 inch, otherwise drawing is not to scale



LEGEND

- ③ KEYED NOTES
- PV PANEL
- INVERTER
- PROPOSED ACCESS ROAD
- SECURITY FENCE
- DRAINAGE FLOW ARROW
- FIELD DELINEATED EPHEMERAL WATERS
- 1300 EXISTING 50' CONTOUR
- SITE BOUNDARY
- SUBSTATION
- SWITCH YARD
- SILT FENCE
- WATTLE
- EXISTING ROAD
- FIELD DELINEATED WETLAND AND 50' BUFFER
- CONSTRUCTION ENTRANCE
- FIELD DELINEATED INTERMITTENT WATERS

TETRA TECH
www.tetratech.com
390 UNION BLVD #400
LAKEWOOD, CO 80228

MARK	DATE	DESCRIPTION	BY
0	12/11/24	ISSUED FOR PERMIT	AML
1	11/14/25	ISSUED FOR PERMIT	AML

BIGL bn, LLC

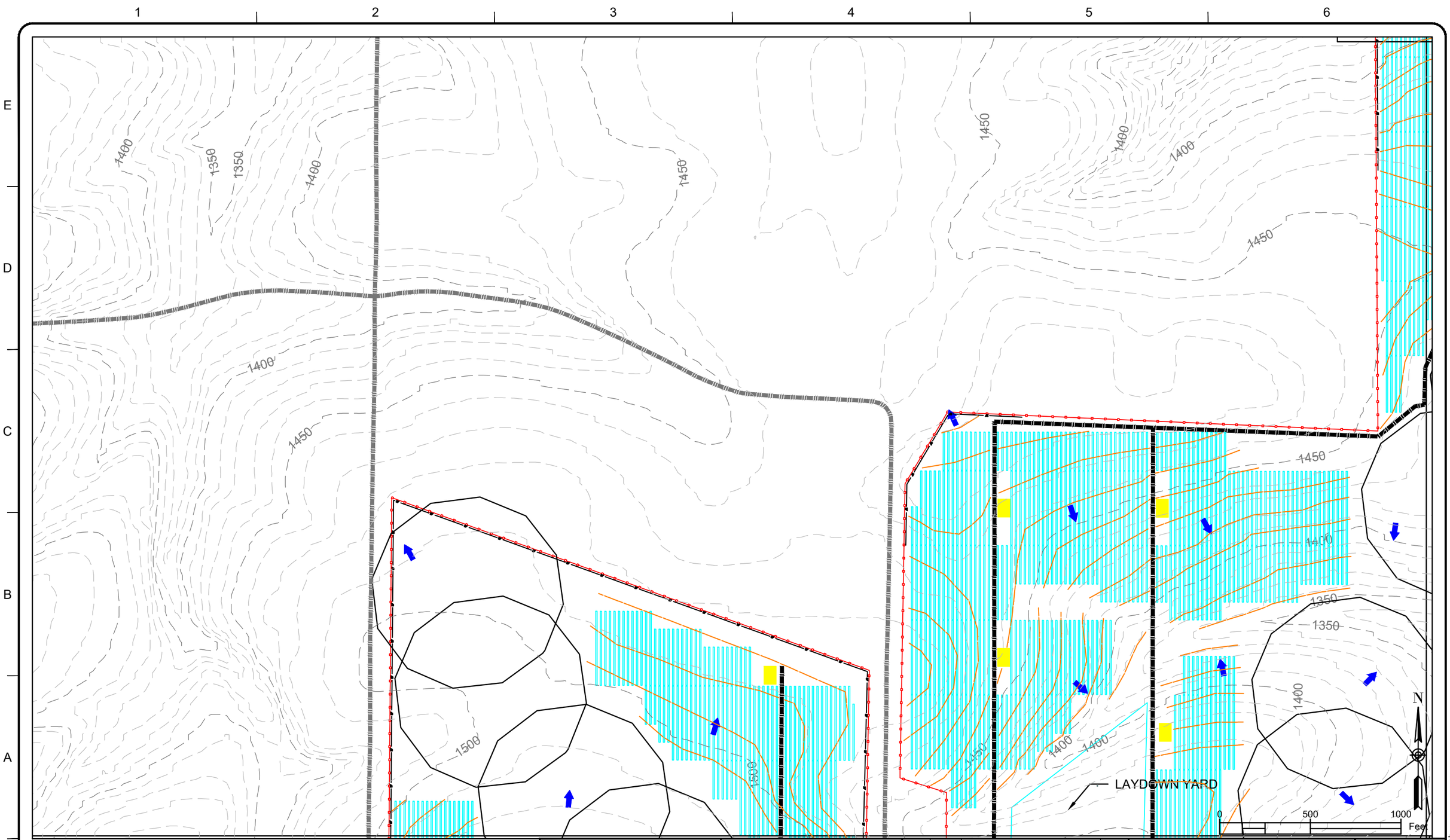
BIGLOW SOLAR PROJECT
SHERMAN COUNTY, OREGON

EROSION AND SEDIMENT CONTROL PLAN
SHEET 1

PROJ:	194-1392-0017
DESN:	ES
DRWN:	AML
CHKD:	JPP

ESC-2

Bar measures 1 inch, otherwise drawing is not to scale



LEGEND

- KEYED NOTES
- PV PANEL
- INVERTER
- PROPOSED ACCESS ROAD
- SECURITY FENCE
- DRAINAGE FLOW ARROW
- FIELD DELINEATED EPHEMERAL WATERS
- 1300 EXISTING 50' CONTOUR
- SITE BOUNDARY
- SUBSTATION
- SWITCH YARD
- SILT FENCE
- WATTLE
- EXISTING ROAD
- FIELD DELINEATED WETLAND AND 50' BUFFER
- CONSTRUCTION ENTRANCE

TETRA TECH
www.tetratech.com
390 UNION BLVD #400
LAKEWOOD, CO 80228

MARK	DATE	DESCRIPTION	BY
0	12/11/24	ISSUED FOR PERMIT	AML
1	11/14/25	ISSUED FOR PERMIT	AML

BIGL bn, LLC

BIGLOW SOLAR PROJECT
SHERMAN COUNTY, OREGON

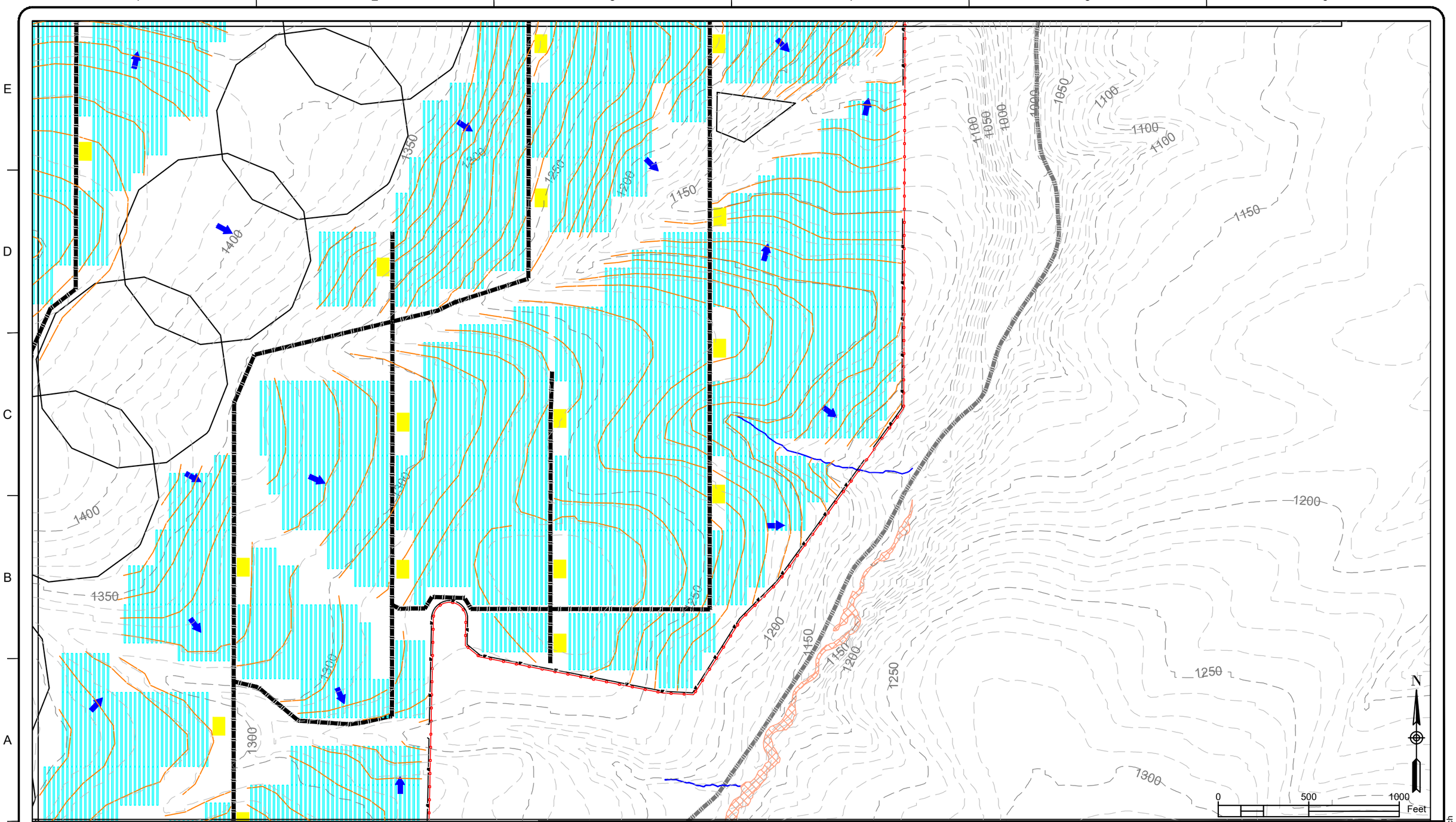
EROSION AND SEDIMENT CONTROL PLAN
SHEET 2

PROJ:	194-1392-0017
DESN:	ES
DRWN:	AML
CHKD:	JPP

ESC-3

Bar measures 1 inch, otherwise drawing is not to scale

11/13/2025 10:42:16 AM - P:\DENVER OFFICE\ENGINEERING\SOLAR\BRIGHT NIGHT\BIGLOW CANYON\ESCP\BIGLOW CANYONESCP_IFP2.DWG - LINTZ, ANDREW



LEGEND

- KEYED NOTES
- PV PANEL
- INVERTER
- PROPOSED ACCESS ROAD
- SECURITY FENCE
- DRAINAGE FLOW ARROW
- FIELD DELINEATED EPHEMERAL WATERS
- 1300 EXISTING 50' CONTOUR
- SITE BOUNDARY
- SUBSTATION
- SWITCH YARD
- SILT FENCE
- WATTLE
- EXISTING ROAD
- FIELD DELINEATED WETLAND AND 50' BUFFER
- CONSTRUCTION ENTRANCE

TETRA TECH
www.tetratech.com
390 UNION BLVD #400
LAKEWOOD, CO 80228

MARK	DATE	DESCRIPTION	BY
0	12/11/24	ISSUED FOR PERMIT	AML
1	11/14/25	ISSUED FOR PERMIT	AML

BIGL bn, LLC

BIGLOW SOLAR PROJECT
SHERMAN COUNTY, OREGON

EROSION AND SEDIMENT CONTROL PLAN
SHEET 3

PROJ:	194-1392-0017
DESN:	ES
DRWN:	AML
CHKD:	JPP

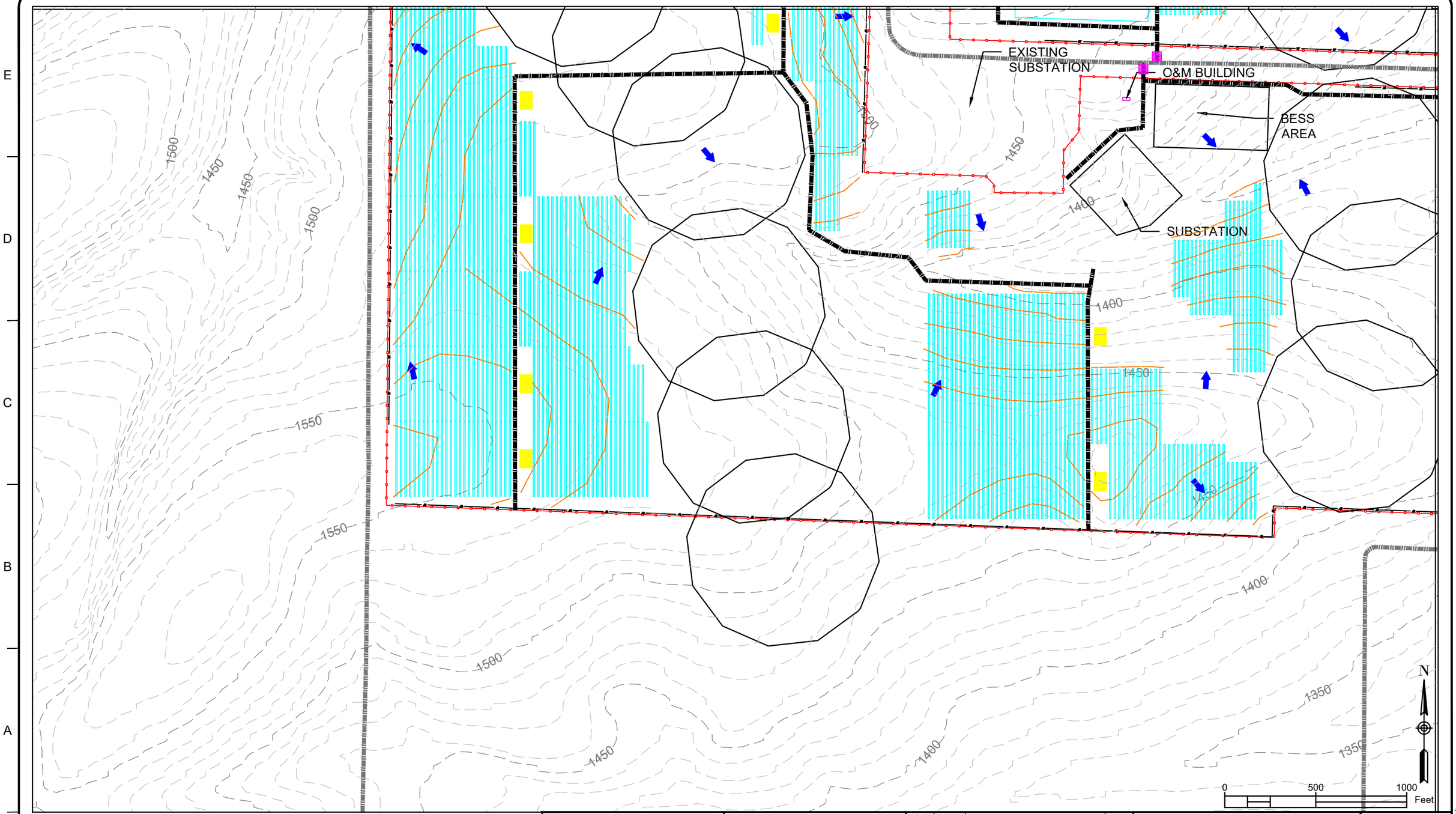
ESC-4

Bar measures 1 inch, otherwise drawing is not to scale

11/13/2025 10:43:29 AM - P:\DENVER OFFICE\ENGINEERING\SOLAR\BRIGHT NIGHT\BIGLOW CANYON\ESCP\BIGLOW CANYON ESCP_IFP2.DWG - LINTZ, ANDREW

1 2 3 4 5 6

E D C B A



LEGEND

- KEYED NOTES
- PV PANEL
- INVERTER
- PROPOSED ACCESS ROAD
- SECURITY FENCE
- DRAINAGE FLOW ARROW
- FIELD DELINEATED EPHEMERAL WATERS
- 1300 EXISTING 50' CONTOUR
- SITE BOUNDARY
- SUBSTATION
- SWITCH YARD
- SILT FENCE
- WATTLE
- EXISTING ROAD
- FIELD DELINEATED WETLAND AND 50' BUFFER
- CONSTRUCTION ENTRANCE

TETRA TECH
www.tetratech.com
390 UNION BLVD #400
LAKEWOOD, CO 80228

MARK	DATE	DESCRIPTION	BY
0	12/11/24	ISSUED FOR PERMIT	AML
1	11/14/25	ISSUED FOR PERMIT	AML

BIGL bn, LLC

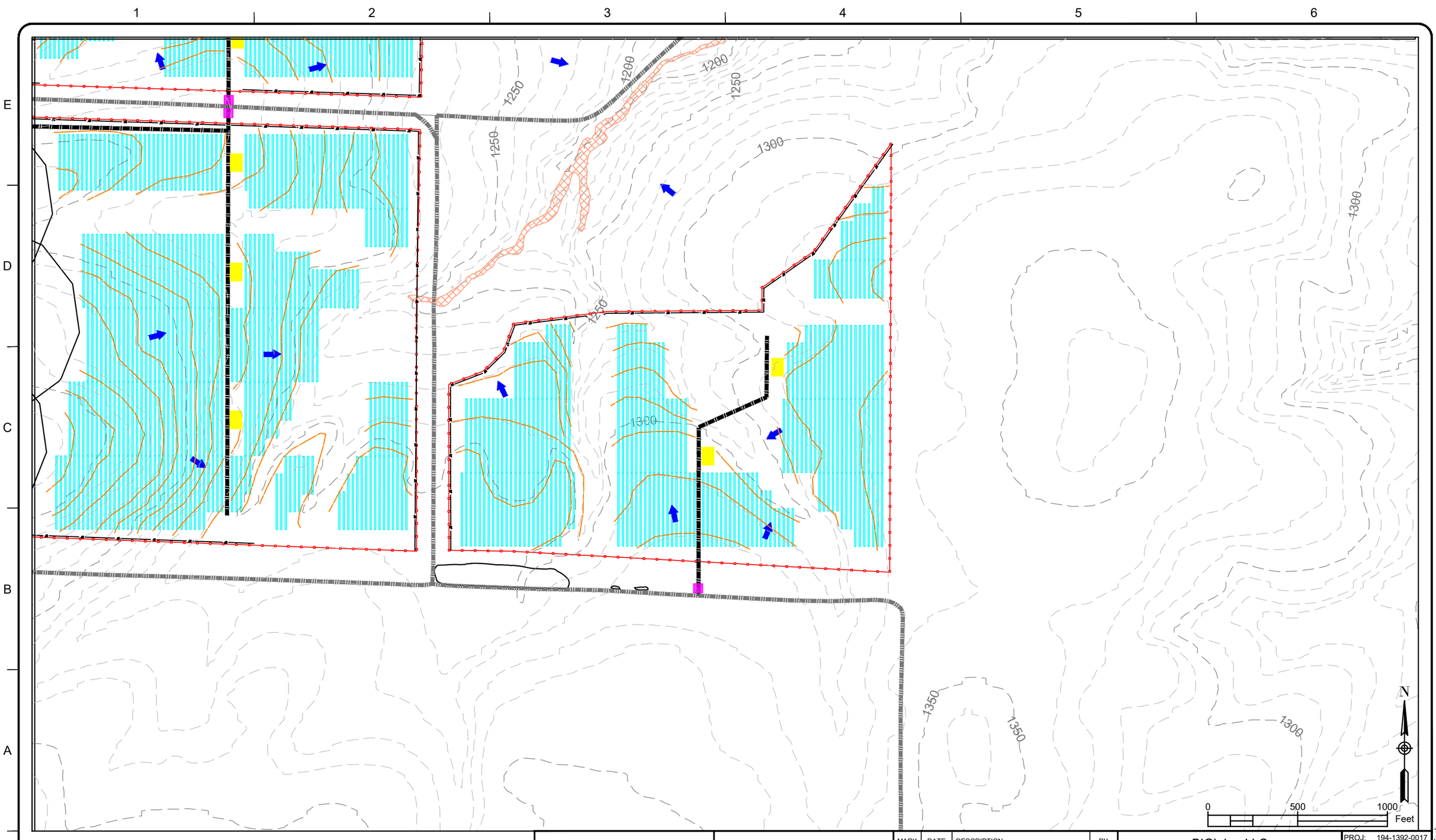
BIGLOW SOLAR PROJECT
SHERMAN COUNTY, OREGON

EROSION AND SEDIMENT CONTROL PLAN
SHEET 4

PROJ:	194-1392-0017
DESN:	ES
DRWN:	AML
CHKD:	JPP

ESC-5

Bar measures 1 inch, otherwise drawing is not to scale



LEGEND

- ③ KEYED NOTES
- PV PANEL
- INVERTER
- PROPOSED ACCESS ROAD
- SECURITY FENCE
- DRAINAGE FLOW ARROW
- FIELD DELINEATED EPHEMERAL WATERS
- 1300 EXISTING 50' CONTOUR
- SITE BOUNDARY
- SUBSTATION
- SWITCH YARD
- SILT FENCE
- WATTLE
- EXISTING ROAD
- FIELD DELINEATED WETLAND AND 50' BUFFER
- CONSTRUCTION ENTRANCE

TETRA TECH
www.tetratech.com
390 UNION BLVD #400
LAKEWOOD, CO 80228

MARK	DATE	DESCRIPTION	BY
0	12/11/24	ISSUED FOR PERMIT	AML
1	11/14/25	ISSUED FOR PERMIT	AML

BIGL bn, LLC

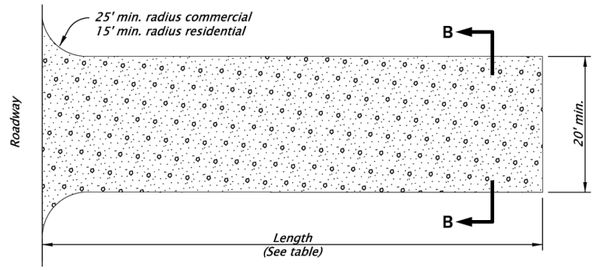
BIGLOW SOLAR PROJECT
SHERMAN COUNTY, OREGON

EROSION AND SEDIMENT CONTROL PLAN
SHEET 5

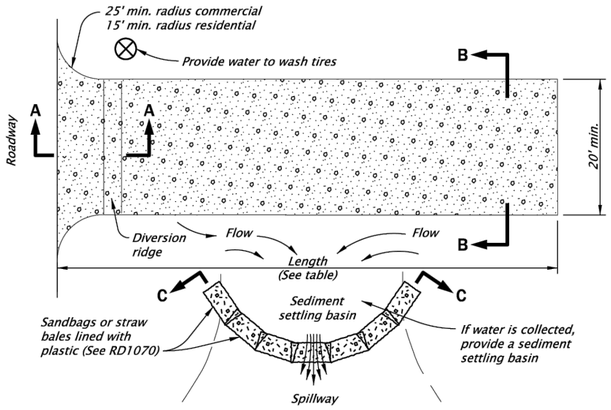
PROJ:	194-1392-0017
DESN:	ES
DRWN:	AML
CHKD:	JPP

ESC-6

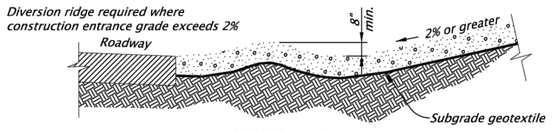
Bar measures 1 inch, otherwise drawing is not to scale



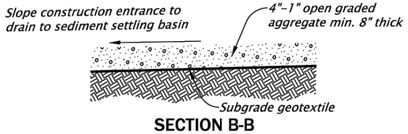
CONSTRUCTION ENTRANCE - TYPE 1
NOT TO SCALE



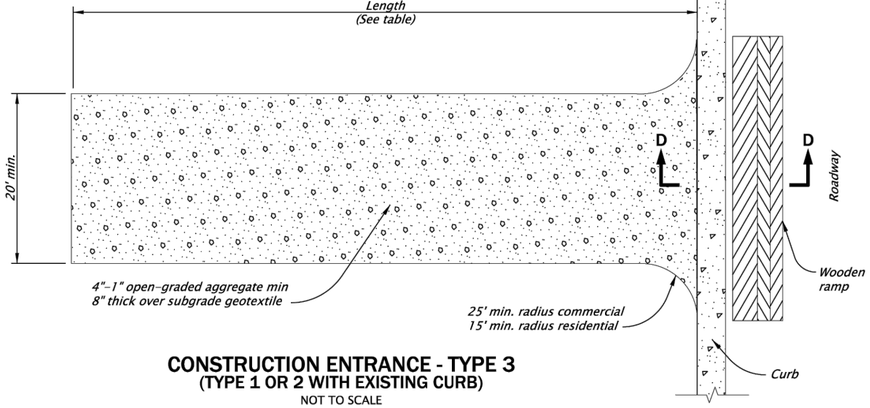
CONSTRUCTION ENTRANCE - TYPE 2
NOT TO SCALE



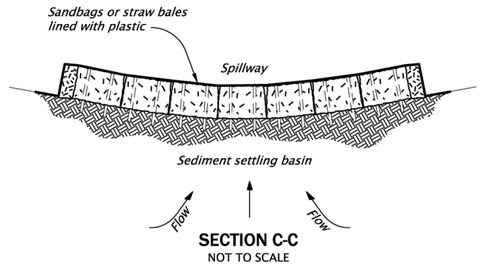
SECTION A-A
NOT TO SCALE



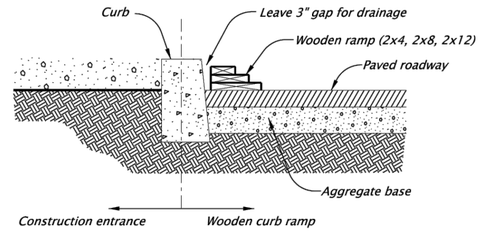
SECTION B-B
NOT TO SCALE



CONSTRUCTION ENTRANCE - TYPE 3
(TYPE 1 OR 2 WITH EXISTING CURB)
NOT TO SCALE



SECTION C-C
NOT TO SCALE



WOODEN CURB RAMP SECTION D-D
NOT TO SCALE

NOTES:
1. *The Type 1 entrance is a simple entrance without a diversion ridge or settling basin.*
2. *The wooden ramp may be used on either Type 1 or Type 2 entrances in situations where there is curb and the curb is not removed for the construction entrance.*

CONSTRUCTION ENTRANCE TABLE MINIMUM LENGTH	
Length (FT)	*Area Of Exposed Soil (Acre)*
20	*0.25*
50	*0.25 < A < 1.0*
100	*A > 1.0*

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

CONSTRUCTION ENTRANCES

2024

DATE	REVISION DESCRIPTION
01-2021	REMOVED CALC BOOK NUMBERS

CALC. BOOK NO. - - - N/A - - - SDR DATE 20-JAN-2021 **RD1000**

20-JAN-2021
RD1000.dgn

TETRA TECH
www.tetratech.com
390 UNION BLVD #400
LAKEWOOD, CO 80228

MARK	DATE	DESCRIPTION	BY
0	12/11/24	ISSUED FOR PERMIT	AML
1	11/14/25	ISSUED FOR PERMIT	AML

BIGL bn, LLC

BIGLOW SOLAR PROJECT
SHERMAN COUNTY, OREGON

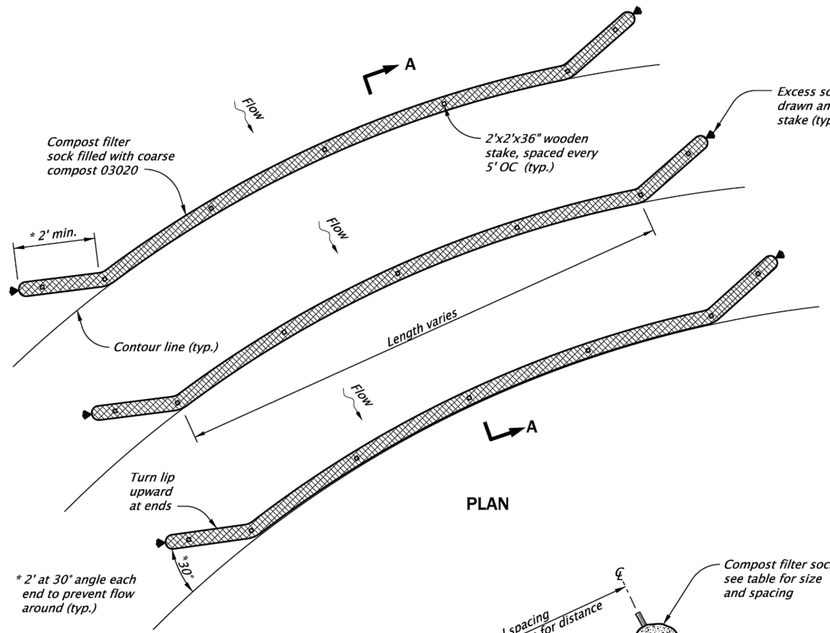
EROSION AND SEDIMENT CONTROL PLAN DETAILS

PROJ:	194-1392-0017
DESN:	ES
DRWN:	AML
CHKD:	JPP

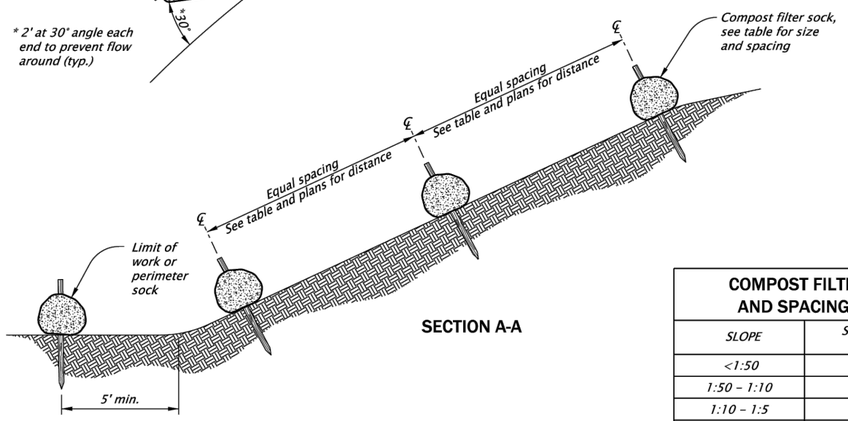
ESC-7

Bar measures 1 inch, otherwise drawing is not to scale

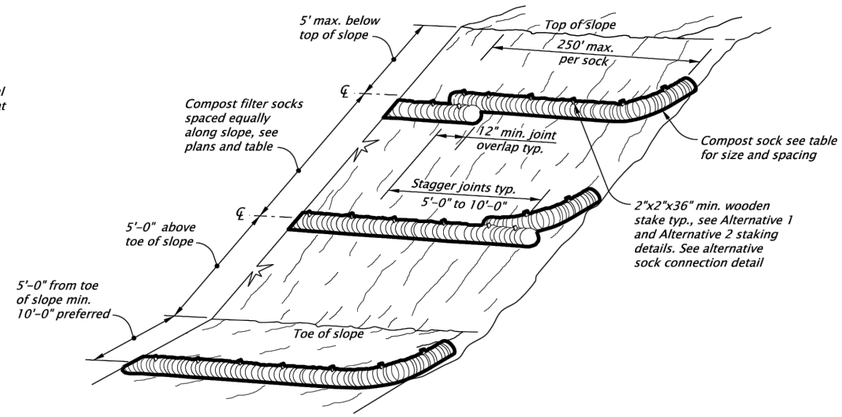
11/14/2025 12:33:48 AM - P:\DENVER OFFICE\ENGINEERING\SOLAR\BRIGHT NIGHT\BIGLOW CANYON\ESCP\BIGLOW CANYON ESCP_IFP2.DWG - LINTZ, ANDREW



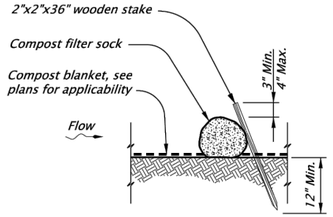
PLAN



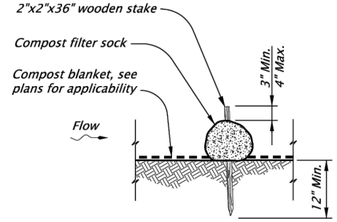
SECTION A-A



SLOPE APPLICATION - PERSPECTIVE VIEW



ALTERNATIVE 1 (Staking)



ALTERNATIVE 2 (Staking)

COMPOST FILTER SOCK DIAMETER AND SPACING BASED ON SLOPE		
SLOPE	*SPACING (ft)*	*DIAMETER (in)*
<1:50	*250*	*8*
1:50 – 1:10	*125*	*12*
1:10 – 1:5	*100*	*12*
1:5 – 1:2	*50*	*18*
>1:2	*25*	*18*

NOTE:
Fully biodegradable compost sock mesh is recommended for permanent installations. Where compost socks must be moved or removed, synthetic sock mesh should be used.

COMPOST FILTER SOCK
NOT TO SCALE

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

SEDIMENT BARRIER TYPE 8

2024

DATE	REVISION DESCRIPTION
01-2021	REMOVED CALC BOOK NUMBERS

CALC. BOOK NO. N/A | SDR DATE 20-JAN-2021 | **RD1032**

TETRA TECH
www.tetratech.com
390 UNION BLVD #400
LAKEWOOD, CO 80228

MARK	DATE	DESCRIPTION	BY
0	12/11/24	ISSUED FOR PERMIT	AML
1	11/14/25	ISSUED FOR PERMIT	AML

BIGL bn, LLC

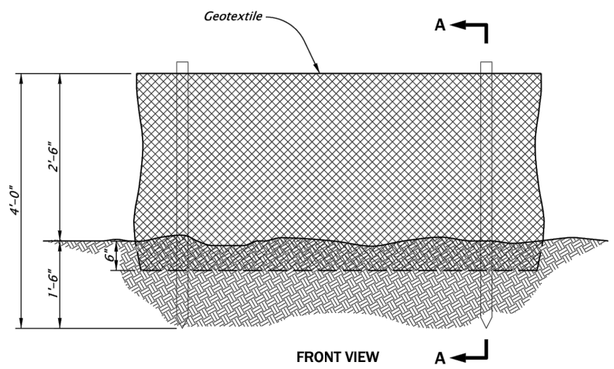
BIGLOW SOLAR PROJECT
SHERMAN COUNTY, OREGON

EROSION AND SEDIMENT CONTROL PLAN DETAILS

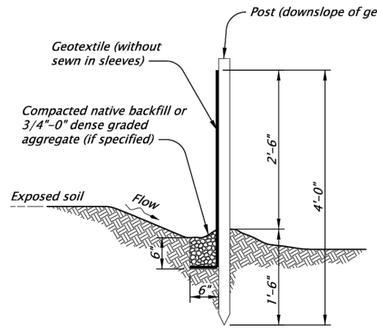
PROJ:	194-1392-0017
DESN:	ES
DRWN:	AML
CHKD:	JPP

ESC-8

Bar measures 1 inch, otherwise drawing is not to scale



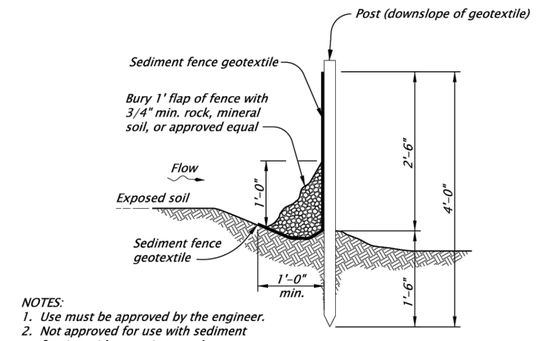
FRONT VIEW



SECTION A-A

SEDIMENT FENCE AND GEOTEXTILE BURY DETAIL - TYPE 1

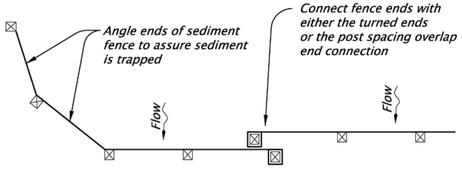
NOT TO SCALE



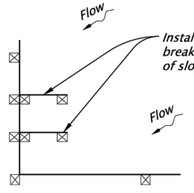
NOTES:
1. Use must be approved by the engineer.
2. Not approved for use with sediment fencing with sewn-in post sleeves.

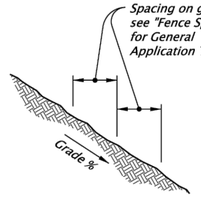
ALTERNATE SEDIMENT FENCE WITHOUT TRENCHING - TYPE 2

NOT TO SCALE



PLAN VIEW



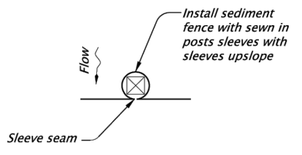


TERMINATION AT CORNER OR PROPERTY LINE

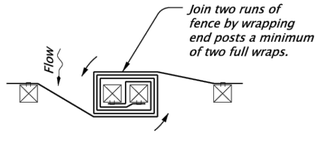
GENERAL NOTES:
1. Use 2"x2" wood fence posts.
2. Posts to be installed on downhill side of sediment fence geotextile. Position posts to prevent separation from geotextile.
3. Compact filter fabric trench backfill and soil on uphill side of fence.
4. Locate fence no closer than three feet to the toe of a slope.
5. Wing spacing shall comply with "Fence Spacing for General Application Table".

FENCE SPACING FOR GENERAL APPLICATION TABLE	
INSTALL PARALLEL ALONG CONTOURS AS FOLLOWS	
GRADE	MAXIMUM SPACING ON GRADE
Grade < 10%	300'
10% ≤ Grade < 15%	150'
15% ≤ Grade < 20%	100'
20% ≤ Grade < 30%	50'
30% ≤ Grade	25'

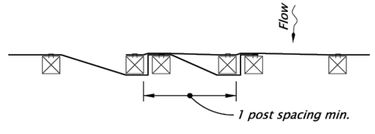
POST SPACING TABLE	
6'	Sediment Fence with Geotextile elongation less than 50%
4'	Sediment Fence with Geotextile elongation 50% or more



GEOTEXTILE WITH POST SLEEVES



TURNED ENDS CONNECTION



POST SPACING OVERLAP CONNECTION

GEOTEXTILE END CONNECTIONS

NOT TO SCALE

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

SEDIMENT FENCE

2024

DATE	REVISION DESCRIPTION
01-2021	REMOVED CALC BOOK NUMBERS

CALC. BOOK NO. N/A | SDR DATE 20-JAN-2021 | **RD1040**

20-JAN-2021

RD1040.dgn

11/14/2025 12:32:23 AM - P:\DENVER OFFICE\ENGINEERING\SOLAR\BRIGHT NIGHT\BIGLOW CANYON\ESCP\BIGLOW CANYON ESCP_IFP2.DWG - LINTZ, ANDREW

TETRA TECH
www.tetratech.com
390 UNION BLVD #400
LAKEWOOD, CO 80228

MARK	DATE	DESCRIPTION	BY
0	12/11/24	ISSUED FOR PERMIT	AML
1	11/14/25	ISSUED FOR PERMIT	AML

BIGL bn, LLC

BIGLOW SOLAR PROJECT
SHERMAN COUNTY, OREGON

EROSION AND SEDIMENT CONTROL PLAN DETAILS

PROJ:	194-1392-0017
DESN:	ES
DRWN:	AML
CHKD:	JPP

ESC-9

Bar measures 1 inch, otherwise drawing is not to scale

Attachment I-2. Comprehensive Solar Revegetation and Soil Management Plan

Comprehensive Solar Revegetation and Soil Management Plan

Biglow Canyon Wind Farm
Request for Amendment 4
December 2025

Prepared for

Portland General Electric Company

Prepared by

Tetra Tech, Inc.

Table of Contents

List of Tables

List of Appendices

Acronyms and Abbreviations

BCWF or Facility	Biglow Canyon Wind Farm
BIGL	BIGL bn, LLC
Comprehensive Plan	Comprehensive Solar Revegetation and Soil Management Plan
County	Sherman County
EFSC	Energy Facility Siting Council
EMC	Environmental Monitoring Contractor
EPC	Engineering, Procurement, and Construction Contractor
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
ODOE	Oregon Department of Energy
PGE or Certificate Holder	Portland General Electric Company
RC	Revegetation Contractor
RFA	Request for Amendment
WC	Weed Control Contractor

1.0 Introduction

This Comprehensive Solar Revegetation and Soil Management Plan (Comprehensive Plan) has been prepared by Portland General Electric Company (PGE or Certificate Holder) to serve as a primary source of commitments related to revegetation, soil management, dust control, stormwater management, and noxious weed control through the pre-construction, construction, and operations phases for the photovoltaic solar energy generation and battery storage (Solar Components) associated with Request for Amendment (RFA) 4 of the Site Certificate for the Biglow Canyon Wind Farm (BCWF or Facility). PGE will own and operate the Solar Components as a part of the BCWF (together, Amended Facility or Facility), which, to date, have been developed by BIGL bn, LLC (BIGL or Project Developer). BIGL, in its capacity as the project developer, supports PGE in this RFA 4 and may construct and temporarily operate the Solar Components on behalf of PGE under a Build-Transfer Agreement.

For ease of implementation and compliance tracking, this document is structured to identify actionable items by phase and typical sequencing within each phase, with additional details provided as appendices and/or incorporated by reference.

This Comprehensive Plan will be updated, as necessary, in coordination with the Oregon Department of Energy (ODOE) and applicable agencies as specified below prior to construction to reflect the final layout of the Solar Components and additional details only available once an Engineering, Procurement, and Construction Contractor (EPC) has been identified.

1.1 Comprehensive Plan Finalization

Table 1 identifies information that must be incorporated into the Comprehensive Plan before beginning any phase of construction.

Table 1. Action Items for Comprehensive Plan Finalization

Action	Timeframe	Implemented By	Review/ Verification
Notify Department of identity of EMC, EPC, RC, and WC. Provide evidence that each contractor meets the minimum qualifications described in Appendix A.	Plan Finalization	Certificate Holder	ODOE
Update Appendix A, Table A-1 with name and contact information for each contractor.	Plan Finalization	Certificate Holder	ODOE
Update Section 6.0, Table 5 with operations long-term vegetation management details from PUC-approved vegetation management plan.	Prior to Operations	EMC	ODOE
Update Appendix B, Table B-1 with temporary and permanent disturbance acres by habitat subtype.	Plan Finalization	EMC	ODOE

Action	Timeframe	Implemented By	Review/ Verification
Update Appendix B with a Construction Plan and maps based on final design, expected disturbance levels, and sequencing of construction.	Plan Finalization	EMC	ODOE, ODA, ODFW, County
Update Appendix C with approved 1200-C permit and Erosion and Sediment Control Plan (ESCP). Incorporate all stormwater control and treatment best management practices (BMPs) required by the 1200-C permit, and any supplemental BMPs required by this Comprehensive Plan, into ESCP.	Plan Finalization	EPC	ODOE
Update Appendix D with construction dust control measures. Include contact information and procedures for Dust Control Hotline	Plan Finalization	EPC	ODOE
Update Appendix E with proposed baseline soil compaction sample locations.	Plan Finalization	Certificate Holder	ODOE
Update Appendix G with timing and treatment methods for each identified weed species of concern after consulting with the Sherman County Weed District.	Plan Finalization	WC & EMC	ODOE and County
Update Appendix G with final noxious weed and vegetation monitoring methods.	Plan Finalization	EMC	ODOE
Notes: EMC = Environmental Monitoring Contractor; EPC = Engineering, Procurement, and Construction Contractor; ODOE = Oregon Department of Energy; WC = Weed Control Contractor; County = Sherman County			

2.0 Definitions

Definitions applicable to this Comprehensive Plan are provided in Table 2, below.

Table 2. Definitions for the Biglow Canyon Wind Farm

Term	Definition
BCWF; Facility	Biglow Canyon Wind Farm
Habitat Areas	Any undeveloped, non-agricultural areas, including but not limited to areas mapped as grassland, sagebrush shrub-steppe, or riparian habitat, prior to construction of the Solar Components.
Permanent Disturbance Area	Any area permanently occupied by the Solar Components, including all areas within the fence line of a solar array or substation.
Sensitive Soils	Soils that are highly susceptible to erosion from water, fugitive dust propagation, compaction, or other impacts as described in Appendix E.
Solar Components	Photovoltaic solar energy generation, battery storage, and other components authorized in RFA 4.
Solar Micrositing Area/ RFA 4 Site Boundary	Maximum area where Solar Components may be built or cause temporary disturbance.

Term	Definition
Temporary Disturbance Area	Any area that is disturbed during construction of the Solar Components but will not be permanently occupied during operations.
Weed Management Area	Disturbance area associated with the Solar Components and a 10-foot buffer.

3.0 Plan Goals and Management Objectives

This Comprehensive Plan was developed to demonstrate compliance with the terms and conditions of the Site Certificate and other applicable state and local laws and regulations. Specifically, the actions described in this Comprehensive Plan are intended to increase the probability of revegetation success, reduce erosion and dust pollution, protect topsoil for future agricultural use on agricultural land, prevent and address the establishment and spread of noxious weeds, minimize fire risk, and maintain beneficial vegetation at the site.

The BCWF is located on privately owned agricultural land used primarily for dryland wheat production and, to a lesser extent, cattle grazing. The grazed land is grassland, shrub-steppe rangeland, and/or fallow wheat stubble fields. The Solar Micrositing Area also contains important wildlife habitat and movement corridors, particularly along the John Day River and its tributaries. Sensitive soils are present throughout the Solar Micrositing Area, and erosion hazards from wind and water are severe in areas with steep slopes, including canyons and drainages in the northeast portion. To ensure that the area can be restored adequately to a useful, non-hazardous condition following permanent cessation of construction or operation of the Solar Components, Permanent Disturbance Areas in wildlife habitat will be revegetated for the purposes of soil stabilization to reduce erosion, dust pollution, topsoil depletion, and the potential for invasion by noxious weeds and other invasive plants. Cropland will be returned to landowner control and will not be revegetated by the Certificate Holder.

To minimize impacts to agricultural uses and habitat in Temporary Disturbance Areas, soil disturbance and vegetation removal will be minimized and reasonable efforts will be made to restore vegetation and soils in agricultural and habitat areas to their pre-disturbance condition. Best Management Practices (BMPs) will be implemented to minimize erosion and prevent the introduction or spread of noxious weeds and other invasive plants in both habitat areas and temporarily disturbed developed areas (i.e., existing roads, rock quarries).

4.0 Pre-construction Compliance

Table 3 outlines actions related to revegetation, soil management, dust control, stormwater management, and noxious weed control that must be completed before beginning construction.

Table 3. Pre-construction Compliance Checklist

Action	Timeframe	Implemented By	Review/ Verification
Provide Final Comprehensive Plan to all participating parties.	At least 30 days prior to construction	Certificate Holder	ODOE
Hold a kick-off meeting with the EMC, EPC, County, and ODOE.	At least 14 days prior to construction.	Certificate Holder	ODOE
Collect baseline soil compaction measurements within Temporary Disturbance Areas using the protocol described in Appendix E. Submit baseline soil compaction measurement results to ODOE.	Prior to construction	EMC	ODOE
Complete installation of stormwater, erosion, and sediment controls as required by the 1200-C permit. See Appendix C.	Prior to construction	EPC	ODOE
Coordinate the construction schedule and sequence with landowners to maintain land in current production and weed control until just prior to construction.	Prior to construction	Certificate Holder	ODOE
Conduct on-site Environmental Training with contractors and construction personnel, environmental inspector(s), inviting specialty contractors, Oregon Department of Agriculture (ODA), Oregon Department of Fish and Wildlife (ODFW), the County, and ODOE. The training must cover all aspects of this Comprehensive Plan and other requirements applicable to construction, including but not limited to: • Roles and Responsibilities • Implementation of avoidance buffers for sensitive resources (e.g., flagging) • Methods for identifying and preventing the spread of noxious and invasive weeds • BMPs for soil protection and erosion control under the 1200-C Permit. • Fire prevention practices during construction	Prior to construction	Certificate Holder	ODOE
Provide records demonstrating that all contractor personnel have attended on-site Environmental Training described above.	Prior to construction	Certificate Holder	ODOE
Conduct additional pre-construction noxious weed surveys to identify noxious weeds present within the Solar Components at the time of construction to inform management.	Prior to construction	EMC	ODOE
Provide the Appendix G Weed Control Plan to the Sherman County Weed District for review and concurrence with treatment guidelines.	Prior to construction	Certificate Holder	ODOE
Treat noxious weeds within the Weed Management Area in accordance with methods in Appendix G.	Prior to construction	WC	ODOE

Action	Timeframe	Implemented By	Review/ Verification
Provide evidence that existing noxious weeds have been identified and treated in accordance with methods in Appendix G.	Prior to construction	Certificate Holder	ODOE
Notes: County = Sherman County; EMC = Environmental Monitoring Contractor; EPC = Engineering, Procurement, and Construction Contractor; ODOE = Oregon Department of Energy; RC = Revegetation Contractor; WC = Weed Control Contractor			

5.0 Construction Compliance

Table 4 outlines actions needed for compliance during construction related to revegetation, soil management, dust control, stormwater management, and noxious weed control.

This list includes actions applicable throughout construction as well as actions required as construction nears completion and revegetation commences in preparation for entering the operations phase.

Table 4. Construction Compliance Checklist

Action	Timeframe	Responsible Party	Review/ Verification
During Construction Mobilization			
Provide information about target noxious weed species at the operations and maintenance buildings.	During construction	EPC	EMC & ODOE
Ensure a copy of this Comprehensive Plan and a description of any additional fugitive dust control requirements are available on site.	During construction	EPC	EMC & ODOE
Prominently display Dust Control Hotline signs, providing direct access to the Certificate Holder Site Manager.	During construction	EPC	EMC & ODOE
Flag sensitive environmental resources and noxious weed infestations to alert construction personnel to avoidance areas or management requirements.	During construction	EMC	ODOE
During Ground-Disturbing Activities			
In Disturbance Level 3, 4, and 5 areas (described in Appendix B), stockpile excavated soils by soil horizon to replace in the same order and prevent mixing of topsoil and subsoils. Put conserved topsoil back in place prior to revegetation activities.	During construction	EPC	EMC & ODOE
Do not move topsoil and other soils from areas with noxious weeds to areas without noxious weeds; instead, return these soils to their previous location during reclamation activities to reduce the transport of weed seeds, roots, or rhizomes.	During construction	EPC	EMC & ODOE
Use appropriate erosion and sediment control practices, as required by the National Pollutant Discharge Elimination System (NPDES) 1200-C permit (Appendix C).	During construction	EPC	EMC & ODOE
Limit vehicle access to designated routes, whether existing roads or newly constructed roads, and the outer limits of construction disturbances per the final design for the Solar Components; limit vehicle traffic in areas with noxious weeds.	During construction	EPC	EMC & ODOE
Require construction vehicles to pass through a wheel wash station at vehicle ingress/egress points each time they enter or exit the Solar Components.	During construction	EPC	EMC & ODOE
Clean vehicles and equipment associated with ground disturbance and movement of topsoil utilizing a mobile wash station after performing work in areas with noxious weeds and prior to performing work in areas without noxious weeds.	During construction	EPC	EMC & ODOE
Implement appropriate BMPs to control any dust generated by construction activities, such as applying water or stabilizers to roads and disturbed soil areas.	During construction	EPC	EMC & ODOE

Action	Timeframe	Responsible Party	Review/ Verification
Maintain records of U.S. Environmental Protection Agency (EPA) Method 22 (ODEQ 2019) monitoring.	During construction	EPC	EMC & ODOE
After grading is complete but prior to installation of Solar Components, apply temporary or permanent soil stabilization, as described in Appendix F.	During construction	RC	EMC & ODOE
Monitor the Weed Management Area for noxious weeds during and after construction and implement control measures as described in Appendix G.	During and following construction	EMC & Certificate Holder	ODOE
Conduct compliance monitoring to ensure that contractors are complying with noxious weed prevention measures in this Comprehensive Plan. Facilitate coordination meetings with ODOE and Sherman County Weed District, train all personnel to maintain tracking sheets, conduct routine check-in calls with the construction team, and document communication with landowners prior to chemical application. Maintain records and provide ODOE with copies of these records annually during construction. If the Certificate Holder contracts with the Sherman County Weed District to perform weed control at the Solar Components, then monitoring records will include a statement that the county agency performed the work.	During construction	EMC	ODOE
If construction extends into the growing season prior to the commercial date of operations and formal post-construction weed monitoring, conduct informal but comprehensive weed surveys to inform adaptive management. Weed monitoring may be conducted as part of routine environmental monitoring to be completed at least monthly from April to October.	During construction	EMC	ODOE
Soil Stabilization and Reclamation			
Coordinate with the landowner or farm operator to identify the preferred approach for soil stabilization on agricultural land until routine seeding and tillage resumes. Soil stabilization may include applying unseeded hydromulch or crimping in weed-free straw until seeding can occur. Landowner may choose to assume responsibility for soil stabilization. Agricultural lands will be restored to landowner satisfaction.	During and following construction	Certificate Holder	EMC & ODOE
Meet with ODOE in coordination with ODFW and Sherman County Weed District to review the actual extent and conditions of disturbed areas and confirm the revegetation methods to be implemented.	After each phase of construction is complete and before revegetation	Certificate Holder	ODOE
In areas with noxious weeds where soil was removed, return soils to their previous location during reclamation activities to reduce transport of weed seeds, roots, or rhizomes.	During reclamation	EPC	EMC & ODOE

Action	Timeframe	Responsible Party	Review/ Verification
Treat noxious weeds in the Weed Management Area using methods described in Appendix G and in consultation with the Sherman County Weed District as necessary. No weed treatment will occur in agricultural lands without landowner permission.	Before reclamation and revegetation	WC	EMC & ODOE
Complete post-construction soil compaction testing in spring or late fall in accordance with Appendix E. Submit results to ODOE for review and approval.	After reclamation and before revegetation	EMC & Certificate Holder	ODOE
Perform soil preparation prior to seeding using methods described in Appendix F.	Before revegetation	EPC	EMC & ODOE
Prevent conditions favorable for noxious weed germination by revegetating as soon as practicable.	After reclamation	RC	ODOE
Revegetation of Permanent Disturbance Areas			
Following completion of construction phases, seed undeveloped permanent disturbance areas in accordance with methods described in Appendix F.	During revegetation	RC	EMC & ODOE
Revegetation of Agricultural Temporary Disturbance Areas			
De-compact agricultural soil by mechanical scarification (tilling or ripping the soil) to an appropriate depth. Soil amendment, such as addition of organic matter (compost), may also be necessary to alleviate compaction.	During reclamation	EPC	EMC & ODOE
Report to ODOE on the success of agricultural land restoration efforts; provide evidence that landowner or farm operator is satisfied with restoration.	During & following construction	Certificate Holder	EMC & ODOE
Revegetation of Non-Agricultural Temporary Disturbance Areas			
Reseed areas of temporary disturbance outside of agricultural lands, as described in Appendix F.	During revegetation, following each construction phase	RC	EMC & ODOE
If straw is needed and certified weed-free straw is unavailable, identify a local source of straw and obtain approval for its use by ODOE in consultation with the Sherman County Weed District.	Before revegetation	RC or EPC	ODOE
Consult with ODOE, ODFW, ODA, Sherman County Weed District, and/or the seed supplier to determine the optimal timing for seed application based on climatic conditions of the particular year when construction and revegetation efforts are implemented. Seeding from September to March is typically recommended.	Before revegetation	RC & EMC	ODOE
Stabilize seeded areas to facilitate establishment by applying seedless, certified weed-free hydromulch containing a tackifier or crimped weed-free straw.	During revegetation	RC or EPC	EMC & ODOE

Action	Timeframe	Responsible Party	Review/ Verification
Maintain records of revegetation efforts in all temporary and permanent disturbance areas and update ODOE monthly as revegetation work occurs.	Monthly during revegetation	EMC	ODOE
Notes: EMC = Environmental Monitoring Contractor; EPC = Engineering, Procurement, and Construction Contractor; ODOE = Oregon Department of Energy; RC = Revegetation Contractor; WC = Weed Control Contractor			

6.0 Operations Compliance

Table 5 summarizes actions needed for compliance during operations related to revegetation, stormwater management, and noxious weed control. This list includes actions applicable throughout operations as well as actions required only initially following construction, for example through the Notice of Termination (NOT) for Coverage under a National Pollutant Discharge Elimination System (NPDES) Permit. Soil management and dust control measures are not included in Table 5 because they are addressed during prior phases.

Table 5. Operations Compliance Checklist

Action	Timeframe	Responsible Party	Review/ Verification
YEAR 1			
Conduct seasonal monitoring of Permanent Disturbance Areas to visually assess the following: a. Establishment of seeded species; b. Inspection of areas of bare soil for erosion; and c. Presence of noxious weeds.	Initiate within 60 days of the completion of revegetation and conduct once per season in the first year following construction	EMC	ODOE
Inspect and maintain stormwater measures as required in the 1200-C permit.	During operations, prior to achieving NOT for the NPDES	Certificate Holder & EMC	ODOE
Inspect and maintain any permanent stormwater management infrastructure. Inspect project facilities (e.g., roads) for erosion issues.	During operations, after achieving NOT for the NPDES	Certificate Holder	ODOE
YEARS 2 to 6			
Conduct annual quantitative monitoring of Permanent Disturbance Areas to assess whether vegetation meets success criteria (Appendices B and D).	Annually for 5 years in May or June, beginning the first year after revegetation	EMC	ODOE
Monitor revegetated Temporarily Disturbance Areas, unless the landowner converted the area to land uses that preclude meeting revegetation success criteria. To determine if revegetated temporarily disturbed areas are meeting success criteria, compare vegetation for monitoring and reference transects in each of the non-agricultural habitat subtypes that had more than 0.2 acre of temporary disturbance (Appendix B).	Annually for 5 years in May or June, beginning the first year after revegetation	EMC	ODOE
Determine and report on whether success criteria have been met or are trending towards being met (see Appendix F for report content and success criteria) for Temporary and Permanent Disturbance Areas. Final determination of whether the Certificate Holder is in compliance with revegetation obligations will be made by ODOE. Remedial actions and/or additional monitoring for areas may be required in areas that have been determined by ODOE not to have met the success criteria.	Annually for 5 years in May or June, beginning the first year after revegetation and for the life of the Solar Components on a schedule to be determined in consultation with ODOE.	EMC	ODOE
If a revegetated area is damaged by wildfire, develop a plan, subject to ODOE approval, to address the damaged area. Continue to monitor and report on revegetation progress during the remainder of the 5-year period. Report to ODOE within 72 hours of discovery.	During the first five years following revegetation if wildfire occurs.	EMC	ODOE

Action	Timeframe	Responsible Party	Review/ Verification
Summarize noxious weed monitoring results in annual reports that describe noxious weeds identified, treatments implemented, treatment efficacy, and recommendations for additional treatments. Submit reports to ODOE, ODA, ODFW, and the County annually. If the Certificate Holder contracts with the Sherman County Weed District to perform weed control at the Solar Components, then no monitoring report needs to be provided except for a statement that the County agency performed the work.	During first 5 years of operations	Certificate Holder & EMC	ODOE
Design a long-term vegetation monitoring plan in consultation with ODOE.	After 5 years of monitoring	EMC	ODOE
Consult with ODOE, ODA, and the Sherman County Weed District to design a long-term weed control plan as needed based on the success of control efforts.	After 5th year of annual monitoring	Certificate Holder	ODOE, ODA, County
Provide records demonstrating that all Facility personnel have been trained on noxious weed control.	Annually during operations	Certificate Holder	ODOE
Monitor as outlined in Appendix G within the Weed Management Area for the life of the Solar Components to assess weed growth and inform noxious weed control measures. Assess the success of noxious weed treatments and document any new noxious weed infestations observed.	During operations	Certificate Holder & EMC	ODOE
Control noxious weeds as described in the long-term weed control plan. Maintain ongoing communication with landowners and the Sherman County Weed District regarding noxious weeds at the Solar Components. Control noxious weeds reported by landowners on a case-by-case basis and prepare a summary of measures taken for that landowner.	During operations	Certificate Holder	ODOE
Consult with the Sherman County Weed District on timing, method, and application rates for each identified weed species of concern, to allow for adaptive weed management given changes in weed control effectiveness from noxious weed species tolerance to herbicide treatment over time. Report the results of the consultation to ODOE within 30 days. Any alternative control methods can be proposed by the Certificate Holder or its contractors, subject to approval by the Sherman County Weed District.	Every fall season during operation	Certificate Holder	ODOE

Notes: EMC = Environmental Monitoring Contractor; NOT = Notice of Termination; NPDES = National Pollutant Discharge Elimination System; ODOE = Oregon Department of Energy; ODFW = Oregon Department of Fish and Wildlife

7.0 Comprehensive Plan Amendment

This Comprehensive Plan may be amended from time to time by agreement of the Certificate Holder and the Oregon Energy Facility Siting Council (EFSC). Such amendments may be made without amendment of the site certificate. EFSC authorizes ODOE to agree to amendments to this Comprehensive Plan. ODOE shall notify EFSC of all Comprehensive Plan amendments, and EFSC retains the authority to approve, reject, or modify any amendment agreed to by ODOE.

8.0 References

ODEQ (Oregon Department of Environmental Quality). 2019. OAR 340-208-0210 EPA Method 22. https://secure.sos.state.or.us/oard/viewAttachment.action?ruleVrsnRsn=256141

Appendix A. Roles and Qualifications

Roles and Responsibilities

The Certificate Holder is the overall responsible party for construction and operation of the Solar Components and implementation of this Comprehensive Plan. However, the Certificate Holder may use contractors to complete tasks associated with this Comprehensive Plan. Responsible parties and their roles are described in Table A-1. Minimum qualifications for contractors are provided in Table A-2.

Table A-1. Roles and Responsibilities

Responsible Party	Name and Contact Information	Role
Certificate Holder	Portland General Electric Company	Responsible for compliance with all site condition requirements, hiring contractors that meet the minimum qualifications described in Appendix A, and ensuring that all contractors perform work in accordance with the requirements of this Comprehensive Plan.
Engineering, Procurement, and Construction Contractor (EPC)	Name: Contact Person: Address: Phone Email	Responsible for implementing BMPs and other measures specified in the National Pollutant Discharge Elimination System 1200-C permit and this Comprehensive Plan to minimize impacts during construction, as well as for performing restoration and revegetation actions, as identified in this Comprehensive Plan.
Revegetation Contractor (RC)	Name: Contact Person: Address: Phone Email	Responsible for performing revegetation actions during and immediately after construction, as described in this Comprehensive Plan.
Weed Control Contractor (WC)	Name: Contact Person: Address: Phone Email	Responsible for performing weed control actions in the Weed Management Area, as described in this Comprehensive Plan.
Environmental Monitoring Contractor (EMC)	Name: Contact Person: Address: Phone Email	Responsible for conducting environmental monitoring and documenting compliance with aspects of this Comprehensive Plan during and following construction, including conducting revegetation, dust, soil, stormwater, and noxious weed monitoring.

Responsible Party	Name and Contact Information	Role
Oregon Department of Energy (ODOE)	Oregon Department of Energy Compliance Specialist 550 Capitol St. NE Salem, OR 97301 Phone Email	Responsible for providing technical input on proposed BMPs and other measures to minimize impacts and for validating all compliance deliverables described in this Comprehensive Plan. ODOE may utilize contractors to meet its responsibilities under this Comprehensive Plan during some or all phases.
Sherman County (County)	Sherman County Weed Department Nick Weis, Weed District Supervisor 66143 Lone Rock Road Moro, OR 97039 (541) 565-3655 nickw@shermancountyor.gov	Responsible for providing input on weed control and other actions described in this Comprehensive Plan and its implementation as needed. The County will also attend calls with ODOE and other agencies as needed.

Contractor Minimum Qualifications

Table A-2. Contractor Minimum Qualifications

Contractor	Role	Minimum Qualification
Engineering, Procurement, and Construction Contractor (EPC)	Responsible for implementing Best Management Practices (BMPs) and other measures specified in the National Pollutant Discharge Elimination System (NPDES) 1200-C permit and this Comprehensive Plan to minimize impacts during construction, as well as for performing restoration and revegetation actions.	Minimum qualifications for the EPC include: • Experience implementing measures in the NPDES 1200-C permit; • Demonstration of sufficient resources and staffing for anticipated BMP installations and maintenance; and • Experience in coordination with agencies and private landowners.
Revegetation Contractor (RC)	Responsible for performing revegetation actions during and immediately after construction.	The Certificate Holder will ensure that the RC has the following minimum qualifications: • Demonstrated experience in the Columbia Plateau; • Experience in native plant, non-native and invasive plants, and noxious weed identification and management; • Experience in revegetating natural areas; • Experience with site preparation and applicable seeding methods; • Experience in documenting revegetation actions and providing progress reports; • Experience in coordination with agencies and private landowners; and • No recent (within one year) violations on the contractor's record.
Weed Control Contractor (WC)	Responsible for performing weed control prior to, during, and after construction within the disturbance area and a 10-foot buffer (Weed Management Area).	The Certificate Holder will ensure that noxious weed management actions will be conducted by specialists with the following qualifications: • Experience in native plant, non-native and invasive plants, and noxious weed identification in the Columbia Plateau Ecoregion; • Experience in noxious weed mapping; • If chemical control is used, specialists must possess a Commercial or Public Pesticide Applicator License from the Oregon Department of Agriculture or possess an Immediately Supervised Pesticide Trainee License and be supervised by a licensed applicator;

Contractor	Role	Minimum Qualification
		• Training in noxious weed management or Integrated Pest Management with an emphasis in noxious weeds; • Experience in coordination with agencies and private landowners; and • No recent (within one year) violations on the contractor's record.
Environmental Monitoring Contractor (EMC)	Responsible for conducting environmental monitoring and documenting compliance with aspects of this Comprehensive Plan during and following construction, including conducting revegetation, dust, soil, stormwater, and noxious weed monitoring as described below.	Minimum qualifications for the EMC include: • Have an active certification recognized in the 1200-C permit (e.g., Certified Erosion and Sediment Control); • Experience implementing and monitoring measures in the NPDES 1200-C permit; • Experience and knowledge of U.S. Environmental Protection Agency Method 22 (ODEQ 2019) with respect to the general procedures for determining the presence of visible emissions; • Experience in native plant, non-native and invasive plants, and noxious weed identification and management; • Experience in noxious weed mapping; • Training in noxious weed management or Integrated Pest Management with an emphasis in noxious weeds; and • Experience in coordination with agency and private landowners. The EMC will include a qualified botanist or revegetation specialist who will be responsible for monitoring and reporting on revegetation success.

Appendix B. Construction Plan

Disturbance Acreage

Acres of temporary and permanent disturbance to habitat subtypes associated with Solar Component construction and operation are provided in Table B-1.

Table B-1. Acres of Temporary and Permanent Disturbance

ODFW Habitat Category	Habitat Type	Habitat Sub-Type	Temporary Disturbance (acres)	Permanent Disturbance (acres)
1	N/A	N/A	-	-
2	Riparian	Riparian Trees	0.0	0.0
	Shrub-steppe	Sagebrush Shrub-Steppe	0.3	20.7
	Category 2 Subtotal		**0.3**	**20.7**
3	N/A	N/A	-	-
4	Grassland-steppe	Grasslands	0.1	3.0
	Surface Water	Ephemeral Streams	0.0	0.0
	Category 4 Subtotal		**0.1**	**3.0**
5	N/A	N/A	-	-
6	Agriculture	Irrigated Cropland	0.1	52.0
	Agriculture	Non-Irrigated Cropland	9.4	1,365.0
	Developed	Developed	1.0	3.9
	Category 6 Subtotal		**10.5**	**1,420.9**
		Total	**10.9**	**1,444.6**

1. There are no disturbances in surface water habitat types. Refer to Exhibit J of RFA 4 for detailed analysis of disturbances to wetlands and waters.

N/A = not applicable; ODFW = Oregon Department of Fish and Wildlife

Disturbance Levels

Revegetation and soil stabilization needs will be determined by a combination of topography, soil type, disturbance level, and existing vegetative cover.

Disturbance levels will primarily be determined by conditions such as slope, gradient, and existing vegetation. As much as is feasible, use of heavy machinery and soil disturbance should be conducted on dry soil. Disturbance of saturated soil has a much greater risk of compaction and requires more effort to revegetate and control weedy species. Disturbance levels are defined as follows and depicted in Figure B-1:

- *Level 1 – Mowing:* Mowing is used to conserve vegetative resources within a facility. Vegetation will be limited to a height of 12 inches and mowed to no less than 6 inches during construction. Mowing to no less than 6 inches protects perennial grass crowns and allows grasses to regenerate. Depending on facility objectives, vegetation can be allowed to

reach a normal height or kept trimmed to a height between 6 inches and the plant's full height potential. Crushing of vegetation will be minimal and this disturbance level is designed to have a minimal impact on existing vegetation. This method is least likely to result in invasions of undesirable plant species.

- *Level 2 – Overland Drive and Crush:* Disturbance caused by accessing a facility without significantly modifying the landscape. Vegetation is crushed to the ground but no surface soil is removed so root structures are left intact. Even though vegetation may be damaged or destroyed, the surface soil and seed bank remain in place. Some crushed vegetation will likely sprout after disturbance ceases. These activities would result in minimal to moderate disturbance. This type of disturbance will result in a faster recovery time for vegetation compared to Levels 3 and 4. Soil seed banks remain largely in place, perennial vegetation can grow back, and minimal external efforts are necessary. This method is less likely to result in invasions of undesirable plant species compared to Levels 3 and 4.
- *Level 3 – Clear and Cut:* Disturbance caused by accessing the facility including having to remove all vegetation to improve or provide suitable access for equipment. All vegetation is removed, soils are compacted, and the root zone or soil A-horizon may be disturbed, but no subsurface soil is removed. Clear and cut activities would result in moderate disturbance. This type of disturbance will result in moderate recovery times for vegetation. This method has a moderate risk for invasion of undesirable plant species. An example is imprinting to crush vegetation down into the soil or incidental grading and smoothing of surface soils.
- *Level 4 – Clear and Cut with Soil Removal*: Disturbance is caused by removing all vegetation in the impact zone, soils are compacted, and surface soil and subsoil are displaced. These activities result in heavy disturbance. This type of disturbance results in an extensive recovery time for vegetation, and is most likely to lead to invasions of undesirable plant species, which can result in lengthy and expensive control efforts. Includes disc-and-roll construction and other traditional construction methods where soils are disturbed and no vegetation is left intact. This category includes all work requiring the segregation and replacement of topsoil.
- *Level 5 – Development Footprint*: Disturbance is caused by removing all vegetation and covering the area surface with gravel, concrete, or other vegetation-free surfaces, or where the intended function of a specific area necessitates it remain unvegetated. This disturbance level includes roads, graveled lots, fire breaks, utility pole pads, and the areas underlying any component installed on a foundation. This level does not include vegetated areas under solar arrays. This type of disturbance will result in a complete loss of vegetation and will be required to be monitored and kept free of noxious weeds and other vegetation for the life of the facility.

Maps showing the expected disturbance levels in Temporary and Permanent Disturbance Areas in relation to existing vegetation type, habitat type, and areas with sensitive soils are provided in Figure B-1 below.

[to be inserted at plan finalization]

Figure B-1. Disturbance Levels in Temporary and Permanent Disturbance Areas in Relation to Existing Vegetation Type, Habitat Type, and Areas with Sensitive Soils

Appendix C. 1200-C Permit and Erosion and Sediment Control Plan

To be added at plan finalization

Appendix D. Fugitive Dust Control Plan

To manage fugitive dust from construction, the Certificate Holder and its contractors will generally follow the Dust Control Plan Flow Chart (Figure D-1).

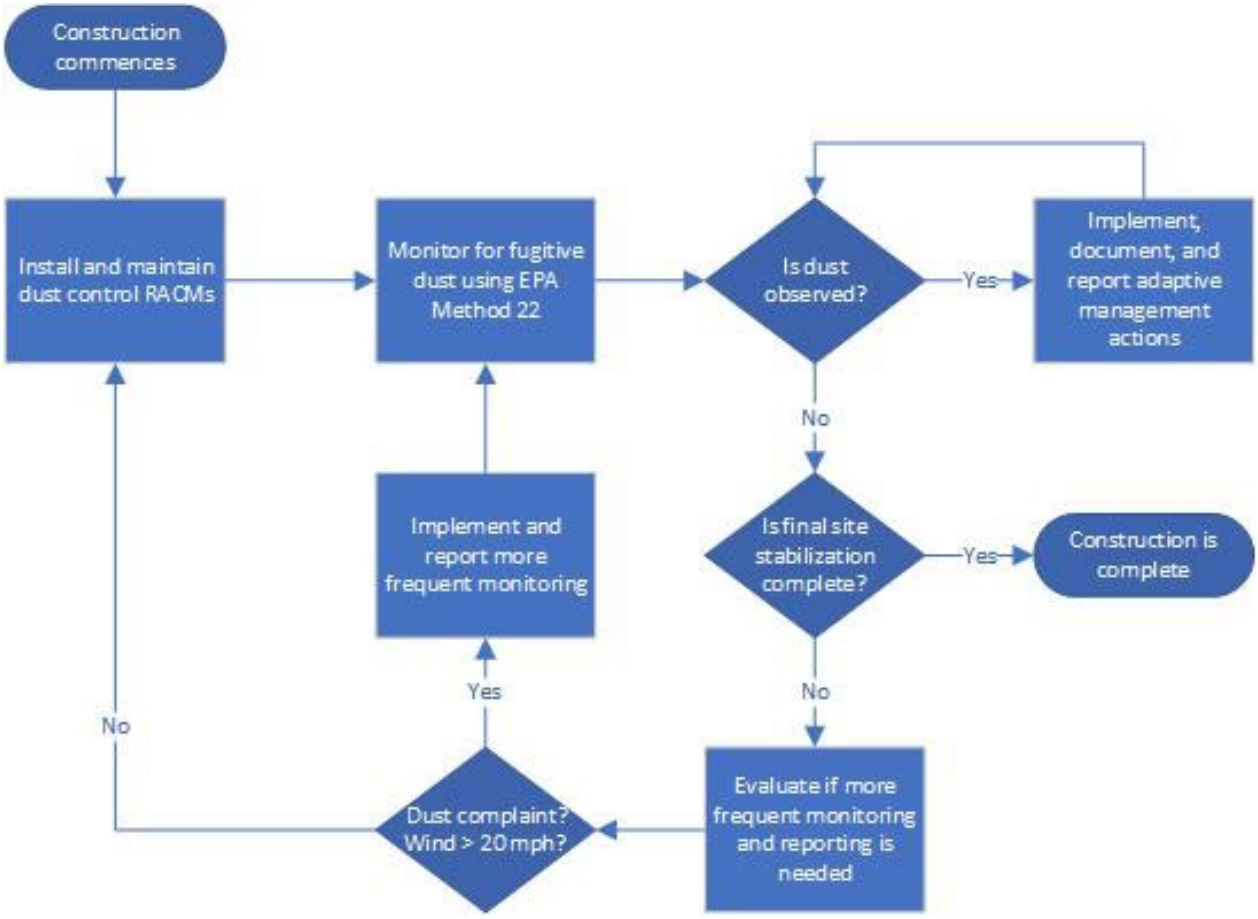


Figure D-1. Dust Control Plan Flow Chart

Fugitive Dust Monitoring and Reasonable Available Control Measures (RACMs)

The visual monitoring required by the 1200-C permit must occur at least once every 14 calendar days. However, because Oregon Administrative Rule (OAR) 340-208-0210 restricts visible fugitive emissions on a continuous standard to a maximum of **18 seconds in any 6-minute period**, and because fugitive dust emissions may provide an immediate public safety concern, this plan requires that fugitive dust be monitored and controlled on an ongoing basis (Table D-1).

Monitoring for fugitive dust emissions shall include:

- Use of U.S. Environmental Protection Agency (EPA) Method 22 (ODEQ 2019), as specified in OAR 340-208-0210, **at least once per day during the dry season, during peak construction activities.**

- The observation shall be performed during times of peak construction activity at the downwind facility boundary.
- Recording of observations in a fugitive dust inspection log that is kept on site and shall be kept digitally, described below.

Triggers for additional, more frequent monitoring will include:

- Observation of visible fugitive dust emissions by the Environmental Inspector, contractor(s), agency, or Certificate Holder staff,
- Wind speeds or gusts greater than 20 miles per hour, or
- Receipt of complaints or concerns through the Project Dust Control Hotline or other means.

Table D-1. Fugitive Dust Sources and Reasonable Available Control Measures (RACMs)

Construction Phase	RACM(s)	Supplemental RACM(s)
All Phases of Construction	Daily fugitive dust monitoring and record keeping.	Increase frequency of monitoring.
	Prominent display of Dust Control Hotline signs, providing direct access to the Environmental Inspector.	If established, proactive engagement with Community Action Council.
	Worker Environmental Awareness Program training for all construction employees.	Additional trainings and refreshers for employees.
	Maintain stockpile of BMPs on site, including sufficient palliatives for a single treatment of all access roads and sufficient palliatives, mulch, and/or hydromulch for a minimum of 25 percent of the total disturbed area, and machinery for application.	Increase stockpile of palliatives, mulch, and/or hydromulch and add additional BMPs.
	Documentation and reporting of adaptive management actions.	Development and submittal of revised Fugitive Dust Control Plan.
Facility Access	Install and maintain stabilized construction entrances at ingress/egress locations and restrict traffic to these locations.	Add additional construction entrance BMPs (e.g., wheel wash).
	Daily sweeping up of sediment from paved surfaces utilizing vacuum sweeper with HEPA filtration.	Increase sweeper frequency.
	Access roads shall be graveled.	Road maintenance and reapplication of gravel.
	Access roads will be stabilized with water or palliative sufficient to eliminate visible and sustained dust from vehicular travel and wind erosion. Reapply stabilization as necessary to maintain dust-free condition.	If water is unavailable or ineffective, or if water use is limited by any agency or regulation, access roads will be stabilized with longer-lasting palliatives.
	Restrict construction traffic to established and stabilized access routes.	Install fencing or barricades to prevent traffic outside of established routes.
	Limit traffic speeds to 15 miles per hour on stabilized unpaved roads within the facility as	Limit traffic speeds within the facility to 5 or 10 miles per hour.

Construction Phase	RACM(s)	Supplemental RACM(s)
	long as such speeds do not create significant visible dust emissions. Traffic speed signs shall be displayed prominently at all entrances and exits.	
	Minimize disturbance areas and soil exposure to the maximum extent feasible.	Limit work to a portion of the disturbed area until all disturbed areas receive temporary or final stabilization.
	When wind speeds or gusts exceed 15 miles per hour, minimize new disturbances to the extent possible and/or mobilize additional water trucks or palliatives to minimize fugitive dust from exposed surfaces.	Stop all ground disturbing activities and apply additional dust control measures until measures are effective or wind speeds slow and fugitive emissions stop.
	Separate and cover or otherwise stabilize topsoil to preserve it until it is replaced during revegetation.	Increase maintenance frequency for topsoil cover/stabilization. Combine methods, such as mulch plus tackifier.
	Stabilize exposed soils within the timeframes established in the 1200-C permit. Stabilize exposed soils in stages based on soil conditions and weather.	Stabilize exposed soils more frequently, even if additional work is anticipated within the timeframe established in the 1200-C permit. Reapply stabilization measures following any additional disturbances.
	Temporarily stabilize exposed surfaces to prohibit significant and sustained visible fugitive dust from wind erosion. Utilize BMPs such as mulch, hydromulch with or without seeds, tackifier, spreading stone or gravel, and trackwalking.	Combine stabilization methods, such as mulch plus tackifier, or trackwalking plus hydromulch. Increase frequency of maintenance of stabilization.
	Seed exposed surfaces during the appropriate season with approved temporary or permanent seed mixes.	Reapply seed to newly disturbed areas or areas with poor germination. Use temporary seeding even if additional work is anticipated before final stabilization. Use irrigation to enhance seeding success.
Removing and Hauling Sand, Soil, or Other Loose Materials	Gate seals should be tight on dump trucks. Soil load shall be kept below 6 inches of the freeboard of the truck. Drop heights shall be minimized when loaders dump soil into trucks. Gate seals will be checked and tight on dump trucks. All trucks on highways must be fully covered and secured.	Cover haul trucks with a tarp or other suitable cover.

Fugitive Dust Reporting

A dust inspection log shall be completed after each dust inspection. Log records shall be kept digitally and included in construction monitoring reports as described in Appendix E of this Comprehensive Plan. This log shall include all information required in EPA Method 22. Photos and/or video taken during the observation period to document conditions shall be available digitally to the Oregon Department of Energy upon request. Any documented exceedance events

shall include a detailed explanation of RACMs implemented for corrective action and the results of subsequent monitoring demonstrating fugitive dust has returned to below exceedance thresholds.

Appendix E. Construction Environmental Monitoring Methods

The Environmental Monitoring Contractor (EMC) will be present during construction activities that involve ground disturbance, grading, weed treatments, vegetation removal, and high traffic volumes and is responsible for monitoring and recording construction activity to ensure compliance with this Comprehensive Plan.

In addition, the EMC will:

- Assist contractor(s) for the direction of water trucks, civil activities, and road maintenance to reduce fugitive dust and erosion issues.
- Identify when reasonably available and best available control measures are not adequate, as designated in Appendix D.
- Maintain dust inspection and noxious weed logs and reporting designated in this Comprehensive Plan.

Specific protocols and requirements for testing and monitoring to be performed prior to and during construction and revegetation efforts are described in the sections that follow.

Soil Compaction Testing

Sampling Protocol

The EMC will conduct pre- and post-construction field measurements of subsurface soil compaction in all anticipated Level 3 and 4 Disturbance Areas, and any areas consisting of soils with low Soil Compaction Resistance (e.g., Lickskillet very stony loam (16D) and Lickskillet-Rock outcrop complex [18E] soils). If disturbance level maps are not available at the time of pre-construction sampling, Portland General Electric Company (the Certificate Holder) may choose to base sampling locations on the overall anticipated disturbance area (i.e., regardless of level of disturbance). Soil compaction sample locations will be evenly distributed across the disturbance area at a rate of 1 sample per 50 acres. Proposed soil sample locations were stratified by soil type to ensure a minimum of three sample locations in each soil type and a representative density of sample locations in major soil types. Additionally, sample locations were selected to avoid infrastructure such as inverters and roads where revegetation will not occur. Sampling locations are identified in Figure E-1, below.

Soil compaction measurements will be collected at all sampling locations prior to ground disturbing activities and again at the same locations post reclamation but prior to revegetation.

[to be inserted at plan finalization]

Figure E-1. Soil Compaction Sample Locations

Test Methods

Soil Compaction Testing will be conducted using the following standard methods (NRCS 2020; Duiker 2025):

- The surveyor will measure soil resistance using a penetrometer.
- Resistance will be measured at 3-inch intervals to 12 inches or until the meter goes above 300 pounds per square inch (3, 6, 9, and 12 inches if soils allow).
- Measurements will be conducted in conditions favorable to soil testing (e.g., non-saturated or frozen soils).

Results

Testing results will be provided to the Oregon Department of Energy (ODOE) prior to construction and after reclamation but before revegetation.

Baseline Vegetation Conditions

Prior to construction of the Solar Components, the EMC will conduct pre-construction habitat surveys for all temporary disturbance areas. Data collected will include:

- Vascular plant species present;
- Native/non-native species present;
- Percent cover of dominant species; and
- Percent cover of state and county listed noxious weeds.

Revegetation Monitoring

The Certificate Holder will monitor revegetated areas as described below, unless the landowner converted an area to a use that precludes meeting revegetation success criteria such as cropland. The Certificate Holder should coordinate grazing timing and intensity with the landowner so that it does not preclude revegetation success. Revegetated areas will be monitored by a qualified investigator in May or June annually for 5 years, beginning the first year after seeding.

Temporary Disturbance Areas

Reference and Revegetation Transects

Establish 50-meter reference and revegetation transects for each temporarily disturbed wildlife habitat subtype and category with more than 0.5 acres of temporary disturbance as described below. Establish one reference transect for every temporarily disturbed wildlife habitat subtype and category. Reference transects are intended to be representative of baseline conditions for the revegetation effort.

Establish revegetation transects randomly in every wildlife habitat subtype and category that will be temporarily disturbed by construction using existing habitat mapping. Transect locations and/or lengths may need to be adjusted to account for linear features whose disturbance footprint may be too narrow or too short to meaningfully place a transect. Determine the number of transects as follows:

- Less than 0.5 acres of temporary disturbance = 0 transects
- 0.3 to 5 acres of temporary disturbance = 1 transect
- 6 to 10 acres of temporary disturbance = 2 transects
- For each additional 10 acres of disturbance, one additional transect will be added (e.g., 11-20 acres of disturbance = 3 transects, 21-30 acres = 4 transects, etc.)

Temporary Disturbance Area Monitoring Methods

Vegetation will be measured quantitatively using the line-point intercept (LPI) method combined with a belt transect to document species richness and sagebrush density, where necessary (Elzinga et al. 1998; MacKinnon et al. 2011). The LPI method is described in detail in the *Monitoring Manual for Grassland, Shrubland, and Savanna Ecosystems, Volume I* (Herrick et al. 2021). The surveyor will drop a narrow pin perpendicular to the ground at 1-meter intervals along a 50-meter transect and record up to four plant species that intercept the pin in order of interception as well as the soil surface type (bare ground, litter, rock, moss, or biotic crust) where the pin touches the ground. Once all 50 points have been collected, the surveyor will walk back along the transect and record any species within 1 meter on either side of the transect that were not documented at a point. The surveyor will take a photo from the transect start point, looking down the length of the transect. For transects in sagebrush shrub-steppe habitat, the surveyor will record the number of sagebrush individuals by size class (i.e., less than 1 foot tall, between 1 and 2 feet tall, greater than 2 feet tall) occurring within 1 meter on either side of the 50-meter transect.

Following field surveys, foliar cover will be determined by multiplying the number of top hits for each species by two. Cover of bare ground will be determined by counting every point in which bare ground was recorded as a surface type and no plants were intercepted and multiply this number by two. Species richness will be determined by counting all the unique species that were recorded at a point or along the belt transect.

Revegetated Permanent Disturbance Areas

Following implementation of revegetation efforts, the Certificate Holder will monitor revegetated permanent disturbance areas as described below. Revegetated areas will be monitored by a qualified investigator annually for 5 years, beginning the first year after seeding. If success criteria are met in the first 5 years, then long-term monitoring will be determined in consultation with ODOE.

The Certificate Holder will monitor Permanent Disturbance Areas to assess the following:

- Dominant species composition;
- Relative cover of desirable and undesirable forbs and grasses;
- Percent cover of bare soil;
- Degree of erosion;
- Presence of noxious weeds; and

- Qualitative assessment of overall vigor of vegetation within revegetated areas.

The Environmental Monitoring Contractor (EMC) will monitor revegetated Permanent Disturbance Areas with a meander survey beginning within 60 days of the completion of initial revegetation. During the meander survey, the EMC will walk in revegetated Permanent Disturbance Areas and document the assessment items listed above using photos and spatial data collection. Areas of erosion and significant patches of bare soil will be mapped and photographed. The EMC will record dominant species, overall percent cover of forbs and grasses, and general notes about plant vigor.

Monitoring will be conducted at least once per season during the first year following construction. After the first complete year of monitoring, the Certificate Holder will consult with ODOE to determine if the monitoring cycle can be reduced based on revegetation progress. After five years of monitoring, the Certificate Holder will design a long-term monitoring plan in consultation with ODOE.

Revegetation Monitoring Reports

Revegetation monitoring reports will be prepared and submitted to ODOE annually for five years following revegetation. The first monitoring report will include a detailed description and timeline of revegetation methods that were implemented including species, amounts, and locations of seed applications and dates revegetation work was performed. Annual monitoring reports will include:

a. Geographic information system (GIS) maps of revegetated areas and disturbance levels;
b. Monitoring methods;
c. Local climatic data (i.e., precipitation, temperature) for the monitoring month and year and percent deviation from the historical average;
d. Results of monitoring efforts;
e. Photos of transects and representative overview photos of revegetated areas;
f. Assessment of whether revegetated areas are trending toward meeting success criteria;
g. Assessment of factors impacting the ability of revegetated areas to trend towards meeting the success criteria; and
h. Recommendations for remedial actions, if any. If applicable, provide recommendations for reseeding, weed control, or other remedial measures for areas (either permanently or temporarily disturbed) that are not showing progress toward meeting success criteria. Include adaptive management measures taken in the next monitoring report.

References

Duiker, S. 2025. Diagnosing Soil Compaction Using a Penetrometer (Soil Compaction Tester). Adapted from: Lloyd Murdock, Tim Gray, Freddie Higgins, and Ken Wells, 1995. Soil Compaction in Kentucky. Cooperative Extension Service, University of Kentucky, AGR-161. https://extension.psu.edu/diagnosing-soil-compaction-using-a-penetrometer-soil-compaction-tester

Elzinga C.L, D.W. Salzer, and J.W. Willoughby. 1998. Measuring and Monitoring Plant Populations. U.S. Bureau of Land Management Papers. BLM Technical Reference 1730-1.

Herrick J.E., J.W. Van Zee, S.E. McCord, E.M. Courtright, J.W. Karl, and L.M. Burkett. 2021. Monitoring Manual for Grassland, Shrubland, and Savanna Ecosystems, Volume I: Core Methods. USDA-ARS Jornada Experimental Range. ISBN 0-9755552-0-0.

MacKinnon, W.C., J.W. Karl, G.R. Toevs, J.J. Taylor, M. Karl, C.S. Spurrier, and J.E. Herrick. 2011. BLM Core Terrestrial Indicators and Methods. Tech Note 440. U.S. Department of the Interior, Bureau of Land Management, National Operations Center, Denver, CO.

NRCS (Natural Resources Conservation Service). 2020. Cropland In-Field Soil Health Assessment Guide. Soil Health Technical Note No. 450-06. U.S. Department of Agriculture, Natural Resources Conservation Service. Washington, D.C. https://www.nrcs.usda.gov/sites/default/files/2023-03/In-Field%20Assessment%202021%20Complete%20ND.pdf

Appendix F. Revegetation and Soil Stabilization Methods

Soil Stabilization

- The Engineering, Procurement, and Construction Contractor (EPC) will use appropriate erosion and sediment control practices (i.e., seeded or unseeded hydromulch, tackifier, weed-free erosion control blankets, weed-free or locally sourced straw mulch) to maintain topsoil during construction in Temporary and Permanent Disturbance Areas.
- After grading is complete but prior to installation of Solar Components, apply temporary or permanent soil stabilization.
- If seeding is used for temporary soil stabilization, seed areas with less than 70 percent vegetative cover with a non-invasive, non-persistent cover crop such as winter wheat or sterile triticale.
- Select cover crop based on the time of year; for example, winter wheat or sterile triticale can be seeded from fall to early spring while peas should be seeded in spring. Tillage radish and sunflowers can be seeded in spring to reduce compaction but are not suitable options for soil stability.

Soil Reclamation

In areas where soil is removed during construction, the following measures will be taken where appropriate:

- During construction, excavated topsoil will be stockpiled separately from subsoil and replaced in proper order with topsoil on the surface to maintain soil productivity. Stockpiled soil will be put back in place prior to revegetation activities.
- Topsoil and other soils from noxious weed infested areas will not be moved outside infested areas and will be returned to their previous location during reclamation activities to eliminate the transport of weed seeds, roots, or rhizomes. Noxious weed occurrences will be flagged and monitored for compliance.

Site Preparation

- Ensure that soils from weed infested areas are treated with a pre-emergent herbicide prior to initiation of revegetation efforts, depending on site-specific conditions.
- Prior to final regrade and revegetation efforts, any weeds that have grown during periods of construction dormancy should be treated as described in Appendix G.
- Perform site preparation using methods described below. Consider site-specific factors including slope, soil type, size of area, and erosion potential when determining methods.
  - Soil Roughening: Also known as imprinting, tracking, or track walking, soil roughening is a temporary erosion control practice and seedbed preparation technique implemented when grading a slope (EPA 2021). This technique involves creating grooved soil surface with depressions running parallel to the hill contour to promote seed germination and provide moderate erosion control while vegetation is established.

Tracking with heavy equipment may compact the soil and inhibit root penetration; this can be mitigated by using lighter-weight equipment and not tracking saturated soil. Soil roughening should be done prior to applying hydromulch, straw mulch, or installing erosion BMPs. Seed and mulch roughened areas as soon as possible to obtain optimum seed germination and growth (ODOT 2023).

  - Deep Tilling: Reduce soil compaction by fracturing restrictive soil layers in areas where compaction levels inhibit plant growth (NRCS 2022). Deep tillage should be conducted after construction and prior to revegetation when soil moisture is at 30-50 percent of field capacity.
  - Decompaction: Where soil compaction testing demonstrates that soils are compacted greater than 300 pounds per square inch, or as necessary to create a uniform seedbed, mechanically scarify soils when dry using an agricultural disc, soil ripper, or similar equipment to an appropriate depth to maintain soil productivity, reduce the potential for erosion.

- Prepare salvaged topsoil into a firm, fine-textured seedbed before seeding or planting (ODOT 2023). Loosen the top 1 to 2 inches of the soil surface by shallow tilling with a disc, followed by harrow or drag if necessary and where feasible with construction equipment. If soil is assessed as too soft by the Revegetation Contractor or the Environmental Monitoring Contractor (EMC), firm with a roller or cultipacker.

Revegetation Methods

- The Certificate Holder will restore temporarily disturbed areas by re-establishing slope, surface stability, and drainage features, as needed, followed by soil preparation and seeding as described below.
- Revegetation will begin as soon as feasible after completion of each construction phase. Seeding and planting will be done in a timely manner and in the appropriate season to facilitate germination and establishment of seeded species.
- Following seeding, stabilize seeded areas to facilitate establishment by applying seedless, certified weed-free hydromulch containing a tackifier or crimped weed-free straw.

Seed Mix and Shrub Planting

A low-growing seed mix was developed for revegetation of Temporary Disturbance Areas and Permanent Disturbance Areas within the Solar Micrositing Area (Table F-1).

Table F-1. Seed Mix for Revegetation of Disturbed Areas

Growth Habit	Common Name	Scientific Name	Pounds of pure live seed/acre[1]
Grasses			
	Squirreltail	*Elymus elymoides*	2.3
	Thurber's needlegrass	*Eriocoma thurberiana*	6.8
	Idaho fescue	*Festuca idahoensis*	1.5
	Sandberg bluegrass	*Poa secunda* ssp. *secunda*	0.9
Forbs (choose 3 or 4 depending on seed availability)			
	Common yarrow	*Achillea millefolium*	0.1
	Oregon sunshine	*Eriophyllum lanatum*	0.1
	Fleabane	*Erigeron filifolius* or *E. pumilus*	0.1
	Wooly plantain	*Plantago patagonica*	0.2
	Clover	*Trifolium macrocephalum* or *T. repens*	0.1
Total			**12**

Note: The species and seeding rates included in this table are a recommendation. Substitutions can be made through consultation with ODOE.

1. Pounds of pure live seed per acre listed for drill seeding and imprint seeding. Double drill seeding rate for broadcast seeding and multiply by 2.5 for hydroseeding.

Seeding Methods

Four common seed application methods that may be used for revegetation include broadcast seeding, drill seeding, imprint seeding, and hydroseeding; each of these are discussed further below. Other seeding methods may be proposed for review and approval prior to revegetation efforts.

Broadcast Seeding

Broadcast seeding is the application of seed directly to the ground surface. This method may be chosen for areas with shallow and rocky soils, and the type of broadcast spreader would depend on the size of the area to be seeded and the terrain.

In this method, the seed mix would be broadcast at 24 pounds of pure live seed per acre, or twice the recommended rate for drill seeding. When feasible, due to the seasonality of when planting can occur, the entire area will be seeded after grading is complete but before placement of solar components, providing more flexibility in seed application. In those instances where seeding occurs prior to installation of components, follow-up seeding will occur in areas temporarily disturbed by installation and any areas that are deficient in vegetation from the first round of seeding. Immediately following seed application, hydromulch or certified weed-free straw would be applied. Broadcast seeding will not be employed if winds exceed 5 miles per hour. If certified weed-free straw is unavailable, the Certificate Holder or EPC will identify a local source of straw. The local

source of the straw will be approved by the Sherman County Weed District and the Oregon Department of Fish and Wildlife (ODFW) prior to purchase. This straw will either be crimped into the ground or applied with a tackifier.

Drill Seeding

Drill seeding can be used for large areas with deep soils and moderate to gentle terrain to accommodate mechanical equipment. This method provides the advantage of planting the seed at a uniform depth and may provide better soil to seed contact. Using a range seed drill, seeds will be sown at 12 pounds pure live seed per acre or according to application rates recommended by the seed supplier. Drill seeding will be difficult after solar components have been installed, so it will primarily be used if seeding occurs after grading is complete but before components are installed, or in areas that were temporarily disturbed during construction that do not have any permanent infrastructure (e.g., temporary access roads, laydown areas).

Imprint Seeding

Imprint seeding is a no-till drill seeding method used to restore grasslands in areas with low annual precipitation. Seeds will be sown at 12 pounds pure live seed per acre or according to application rates recommended by the seed supplier. The seeder consists of a heavy metal drum roller with V-shaped, angled teeth and a seed agitator box. The teeth create V-shaped troughs with a depth of 4-7 inches to collect rainwater. The rolling drum presses the seed into the soil, insuring good seed to soil contact. The troughs collect rainwater for seed germination and seedling growth. Imprint seeders can be used on steep slopes and do not require seed bed preparation before seeding. Seeding can occur on soils with light to moderate vegetative cover, with the vegetation acting as a mulch, preventing soil erosion until seedlings are established. Imprint seeders do not work well in areas with shrubs or heavy vegetation cover. Heavily compacted soils may need to be ripped or de-compacted before seeding. The seeding rate for this method should be the same as for broadcast seeding.

Hydroseeding

Hydroseeding is most applicable for areas where drill or broadcast seeding machinery cannot access; this usually includes steep slopes or narrow terrain but can be used in all terrains. Soil bed preparation is also crucial for growth success and frequently includes tracking perpendicular to the slope to create micro conditions for seed. Flat grading and compaction are not recommended. Seeding rates increase by 30 to 50 percent of broadcast seeding rates (i.e., 30 pounds pure live seed per acre) per consultation with the seed supplier and ODFW. Prior to hydroseeding, the tackifier will be reviewed and approved in consultation with the Oregon Department of Energy (ODOE). Fertilizer should not be used when hydroseeding wildlife habitat.

Revegetation Records

The EMC will maintain records of revegetation efforts in all temporary and permanent disturbance areas and update ODOE monthly as revegetation work occurs. Revegetation records will include:

a. Date construction phase was completed;

b. Acreage of each disturbance level;

c. Description and photos of the affected area;

d. Date revegetation was initiated;

e. Description of the revegetation effort, including methods and timing;

f. Supporting figures representing the location, acres affected, and pre-disturbance condition of the revegetation area; and

g. Confirmation from the landowner that temporary disturbances in cropland have been satisfactorily restored.

Success Criteria for Temporary Disturbance Areas

Reclamation of Temporary Disturbance Areas on agricultural lands will be considered complete after the land is returned to farm operations and landowners provide written confirmation that they are satisfied that any impacts to soil productivity have been addressed. The Certificate Holder will provide evidence that landowners are satisfied after one crop cycle.

In non-agricultural areas, the Certificate Holder will make reasonable efforts to restore vegetation and soils in agricultural and habitat areas to their pre-disturbance condition.

a. **Native Shrubs**: Average density of sagebrush on revegetation transects in areas planted with sagebrush should be at least 50 percent of the reference transect within 5 years.

b. **Native and Desirable Forbs**: Cover of native and desirable (i.e., non-native species included in the seed mix) forbs, averaged across revegetation transects by habitat subtype and category, will be at least 75 percent of reference transects for the corresponding habitat subtype within 5 years.

c. **Native and Desirable Grasses**: Cover and richness of native and desirable (i.e., non-native species included in the seed mix) grass species, averaged across revegetation transects by habitat subtype and category, will be at least 85 percent of reference transects for the corresponding habitat subtype within 5 years.

d. **Noxious Weeds**: Presence and cover of noxious weeds on revegetation transects is 75 percent or less than that of the reference transect for the corresponding habitat subtype.

Vegetation Management Objectives for Permanent Disturbance Areas

During operation of the Solar Components, vegetation under the solar panels will be managed to minimize fire risk and erosion by maintaining low growing vegetation. The Certificate Holder will establish uniform (i.e., evenly distributed, without large bare areas) perennial, non-invasive vegetation that provides 70 percent or more cover on all exposed areas in compliance with the soil protection standard (Oregon Administrative Rule 345-022-0022); National Pollutant Discharge Elimination System 1200-C permit requirements; and Sherman County requirements.

Integrated Vegetation Management Measures

To support reclamation success and reduce wildfire risk throughout all phases (i.e., both construction and operations) of the Solar Components, vegetation management will be implemented consistent with the draft Construction Wildfire Mitigation Plan and anticipated Operations Wildfire Management Plan. In the interim, while those plans are being finalized, this section establishes the minimum vegetation management and fire prevention requirements that will apply during construction and operation of the Solar Components. These measures are intended to minimize ignition potential, maintain defensible space, support consistent vegetation control, and outline inspection practices that will contribute to long-term fire resiliency. At a minimum, the following criteria will be met:

a. **Vegetation Height and Clearance**
   - Vegetation within and adjacent to the Solar Components will be maintained at a height of less than 12 inches, with a minimum vertical clearance of 12 inches from all electrical and mechanical equipment.
   - Vegetation exceeding this height will be mowed or removed prior to local ODF- or County-issued fire restrictions.
   - At no time shall vegetation come into contact with electrical infrastructure, inverters, or cable runs.
   - A minimum 20-foot non-combustible buffer will be maintained around the interior or exterior perimeter of fenced areas, and gravel or compacted soil surfaces will be maintained beneath and around all inverter skids, the collector substation, O&M building, and meteorological towers.

b. **Fuel and Debris Management**
   - Vegetation and debris removed from the Facility will be disposed of off-site and will not be stored or burned on-site.
   - The Certificate Holder and contractors will prevent accumulation of combustible materials or "burn piles."
   - Inspections will ensure that fence lines, service roads, and work areas remain clear of dry vegetation, woody debris, or stored materials that could create fuel continuity during fire season.
   - All newly constructed or maintained service roads within the Solar Micrositing Area will maintain a minimum 16-foot width of graveled, all-weather surface to facilitate emergency response access.

c. **Designated Noncombustible Areas**
   - All-weather service roads will be compacted soil or gravel and maintained in good condition.
   - A 20-foot non-vegetated perimeter buffer will be maintained around the Solar Components and around substations and control buildings.
   - Parking and laydown areas will consist of compacted soil, gravel, or other non-combustible material to reduce ignition potential from vehicles and equipment.

- Areas immediately surrounding electrical equipment, transformers, and battery energy storage system (BESS) enclosures will remain vegetation-free and will be maintained as graveled or earthen surfaces.

d. **Standards and Continuous Improvement:** Vegetation management and fire prevention measures will be reviewed annually to ensure continued compliance with applicable codes and evolving best practices, including:

- NERC FAC-003-0 – Vegetation Management Standard for Transmission Lines
- Oregon Fire Code and NFPA Standards relevant to energy facilities
- OAR Chapter 477 and 629-043 – ODF Fire Prevention Standards
- OAR 860-024 – PUC Electrical Safety Standards
- American Clean Power (ACP) and APLIC industry best practices

The Certificate Holder will evaluate new technologies, standards, and operational lessons learned each year to incorporate applicable improvements into this Comprehensive Plan or the future Operations Wildfire Management Plan.

References

EPA (Environmental Protection Agency). 2021. Stormwater Best Management Practice, Soil Roughening. December 2021. EPA-832-F-21-028JJ. https://www.epa.gov/system/files/documents/2021-11/bmp-soil-roughening.pdf.

NRCS (Natural Resource Conservation Service). 2022. Deep Tillage Conservation Practice Standard, Code 324. November 2022. https://www.nrcs.usda.gov/sites/default/files/2022-11/324-NHCP-CPS-Deep-Tillage.pdf.

ODOT (Oregon Department of Transportation). 2023. Erosion Control Manual, Guidelines for Developing and Implementing Erosion and Sediment Controls. Salem, Oregon. April 2023. https://www.oregon.gov/odot/GeoEnvironmental/Docs_Environmental/Erosion_Control_Manual.pdf.

Appendix G. Weed Control Plan

Regulatory Framework

The Oregon Department of Agriculture (ODA) and Sherman County Weed District maintain lists and classifications of noxious weeds. Although not all listed noxious weeds occur in the vicinity of the Solar Micrositing Area, the Certificate Holder and its contractors should be aware of the entire list while monitoring and controlling weeds.

State of Oregon

In Oregon, a noxious weed is defined under Oregon Revised Statutes (ORS) 569.175 as "a terrestrial, aquatic, or marine plant designated by the State Weed Board under ORS 569.615 as among those representing the greatest public menace and as a top priority for action by weed control programs." Noxious weeds have been declared by ORS 569.350 as a menace to public welfare, and control of these plants is the responsibility of private landowners and operators, as well as county, state, and federal governments.

The Oregon State Weed Board (OSWB) was created by ODA under ORS 569.600. OSWB provides recommendations for noxious weed control at the state level and is responsible for updating the State Noxious Weed List. The OSWB and the ODA classify noxious weeds in Oregon in accordance with the ODA Noxious Weed Classification System; there are three designations under the State's system:

- **A-Listed Weed:** A weed of known economic importance which occurs in the state in small enough infestations to make eradication or containment possible; or is not known to occur, but its presence in neighboring states makes future occurrence in Oregon seem imminent.
  - **Recommended Action:** Focus on prevention of new infestations through vector control, certification programs, education, outreach and surveys. New and existing infestations are prioritized for eradication or intensive control when and where found. Regionally focused, species-specific Statewide Management Strategies for A-listed weeds may be developed as necessary.
- **B-Listed Weed:** A weed of economic importance that is regionally abundant but may have limited distribution in some counties.
  - **Recommended Action:** Limited to intensive control at the state, county, or regional level as determined on a site-specific, case-by-case basis. Where implementation of a fully integrated statewide management plan is not feasible, biological control (when available) shall be the primary control method.
- **T-Designated Weed:** A designated group of weed species selected from the B list as a focus for prevention and control by the Noxious Weed Control Program. T-designated noxious weeds are determined by the Oregon State Weed Board and management actions are prioritized and informed by species-specific T-List Statewide Management Strategies created and maintained by the ODA. Action against these weeds will receive priority in accordance with the recommendations of the Statewide Management Strategy.

Sherman County

The Sherman County noxious weed list and protocol were developed by the Sherman County Weed District. Sherman County defines weeds of significance with six classes:

- **A Class:** High priority. Any noxious weed which greatly endangers the overall economic well-being of the County and has a small enough distribution where eradication is possible.
- **B Class:** Moderate priority. A noxious weed which is well established in the County and has known negative impacts, but due to its distribution, eradication is not feasible.
- **C Class:** Low priority. A noxious weed which is widespread throughout the County and has known economic impacts.
- **Q Class**: Questionable list. A newly detected weed which may have some importance, but more information is needed to determine its impact on agriculture. There is only one Q Class weed currently: hairy willow herb (*Epilobium hirsutum*).
- **T Class:** Targeted list. A noxious weed from any Class that the Sherman County Weed Control Board wishes to focus efforts and resources on. This list is reviewed annually.
- **W Class:** Watch list. Any noxious weed that may occur in neighboring counties, the State or similar environments as the County, and could potentially endanger the overall economic well-being of the County. Once detected, these weeds shall be moved to the appropriate list.

Noxious Weeds Identified at the Solar Components

Noxious weeds identified within the Solar Micrositing Area on July 9 and 10, 2024, are listed in Table G-1. Twelve listed noxious weeds were documented, including 8 ODA-listed noxious weeds and 12 Sherman County listed noxious weeds. Eight of the noxious weeds observed were state and/or County "B" listed weeds. One species, rush skeletonweed (*Chondrilla juncea*), is an "A" Class Weed in Sherman County and a state "T"-designated weed, meaning that ODA targeted this species for prevention and control.

In addition to noxious weeds, cheatgrass (*Bromus tectorum*), an invasive annual grass, was identified in grassland habitats within the Solar Micrositing Area. While cheatgrass is not a listed noxious weed, it and other invasive annual grasses can adversely impact habitat and increase fire risk.

Table G-1. Noxious Weeds Observed During Surveys in 2024

Scientific Name	Common Name	ODA Status[1]	Sherman County Status[1]	Frequency[2]
Aegilops cylindrica	jointed goatgrass	B	C	Infrequently observed.
Centaurea diffusa	diffuse knapweed	B*	B	Several small to medium-sized populations observed.
Chondrilla juncea	rush skeletonweed	B (T)*	A (T)	Frequently observed in non-cultivated areas.

Scientific Name	Common Name	ODA Status[1]	Sherman County Status[1]	Frequency[2]
Cirsium arvense	Canada thistle	B*	B (T)	One observation made.
Cirsium vulgare	bull thistle	B*	C	Observed in two locations.
Convolvulus arvensis	field bindweed	B	B	Many small to large populations observed.
Conyza canadensis	horseweed	Not listed	C	Commonly observed.
Lactuca serriola	prickly lettuce	Not listed	C	Frequently observed.
Onopordum acanthium	Scotch thistle	B	B (T)	Several observations made.
Rhaponticum (Acroptilon) repens	Russian knapweed	B*	B	One observation made.
Salsola tragus	Russian thistle	Not listed	C	Frequently observed.
Secale cereale	cereal rye	Not listed	C	Frequently observed.

1. Species marked with a (*) are targeted for biocontrol.
2. Patch/observation sizes are as follows: small = less than 0.1 acre, medium = 0.1 to 1.0 acre, large = greater than 1 acre.

Management Objectives

Management objectives shall be based on the classification status of a species and frequency of observations (Tables G-1 and G-2). Classification status will be determined based on the higher-status identified by the State or County Weed List unless recommended otherwise by the County. Management objectives for unlisted species will be determined on a case-by-case basis based on need for control (e.g., fire control, etc.)

Table G-2. Management Objectives

Weed Classifications	Years		
	1-5	6-20	20+
A, A(T) or B(T)	Eradication Prior to Construction	Intensive Control, Eradication within first 5 years of operation	Intensive Control for life of facility
B	Eradication Prior to Construction	Monitoring and Management to prevent new populations/spread of existing populations.	Monitoring and Management to prevent new populations/spread of existing populations.
C	Monitoring and Management to prevent new populations/spread of existing populations.	Monitoring and Management to prevent new populations/spread of existing populations.	Monitoring and Management to prevent new populations/ spread of existing populations.

Weed Control Methods

Noxious weed control methods for the Weed Management Area (i.e., the disturbance area associated with the Solar Components plus a 10-foot buffer) described in this Comprehensive Plan

were developed utilizing information from the ODA Noxious Weed Control Program and the Sherman County Weed District. Management of noxious weeds will be considered throughout all stages of construction and operation of the Solar Components and will include:

- **Prevention:** Implementing measures to prevent the spread of noxious weeds during construction, operation, and maintenance activities.
- **Treatment:** Treating noxious weed populations with their appropriate control methods, at appropriate time intervals.
- **Monitoring:** Assessing noxious weed changes within the Weed Management Area over time and ensuring that legacy as well as new weed populations are not increasing their distribution.

Portland General Electric Company's (the Certificate Holder) objective is to prevent the introduction of new noxious weed populations and spread of existing noxious weed populations. The methods described above in this Comprehensive Plan and supplemented below will be implemented to minimize the spread of noxious weeds during construction activities. New noxious weeds detected within the Weed Management Area during post-construction revegetation will be considered a result of construction activities and will be controlled accordingly.

Biological Control

Biological control involves the use of prescribed insects, fungi, and livestock to control noxious weeds to achieve management objectives. Biological control methods are typically targeted to a specific species or plant to control its persistence. They are also used for maintenance in targeted areas for vegetation management control in height and density that includes mitigating fire risk and erosion. Biological control is environmentally friendly and should be the first consideration when applicable.

Mechanical Treatment

Mechanical treatment will be the preferred method of treatment for existing noxious weed populations where appropriate within the Weed Management Area. Mechanical control methods rely on removal of plants, seed heads, and/or cutting roots with a shovel or other hand tools or equipment that can be used to remove, mow, or disc noxious weed populations. Hand removal of plants is also included under this treatment method. Mechanical methods are useful for smaller, isolated populations of noxious weeds in areas of sensitive habitats. Additionally, hand removal of small infestations can minimize soil disturbance, allowing desirable species to remain and limiting conditions favorable for noxious weeds.

Some rhizomatous plants can spread by discing or tillage. For example, rush skeletonweed, which has been identified within the Solar Micrositing Area (Appendix E), can reproduce vegetatively from small segments of root, and discing or tilling can facilitate the spread of this species. As such, implementation of discing will be species-specific and avoided in areas where it will be counter-productive.

If discing is employed in areas that will be revegetated following construction, subsequent seeding will be conducted to re-establish desirable vegetative cover that will stabilize the soils and slow the potential re-invasion of noxious weeds. Discing, tilling, or other mechanical treatments that disturb the soil surface within native habitats will also be avoided in favor of herbicide application, which is an effective means of reducing the size of noxious weed populations as well as preventing the establishment of new infestations.

Chemical Treatment

Chemical control can effectively remove noxious weeds through use of selective herbicides. The specific herbicide used, and the timing of application will be chosen based on the specific noxious weed being treated, as appropriate herbicides differ between species and types of plants (i.e., dicots such as rush skeletonweed versus monocots such as jointed goatgrass).

Herbicides will be applied to identified, treatable, noxious weed infestations. The Certificate Holder or their contractors will coordinate with the Sherman County Weed District to determine which populations are treatable and will notify landowners of proposed herbicide use on their lands prior to application. If a noxious weed population is deemed to be untreatable (e.g., too widespread and established in an area to successfully control), the Certificate Holder will implement the applicable prevention measures discussed in this Comprehensive Plan, subject to approval by the Oregon Department of Energy (ODOE) and the Sherman County Weed District.

Apply only herbicides approved by the U.S. Environmental Protection Agency (EPA) and ODA; annually check the status of herbicide approval (e.g., confirming herbicides are approved for use by the EPA and ODA).

Herbicide application will be performed within the appropriate season to achieve desired results, as approved by ODOE and the Sherman County Weed District. No weed treatment will occur in agricultural lands without landowner permission.

Herbicide Application and Handling

Hand application methods (e.g., backpack spraying) may be used in roadless areas or in rough terrain. Vehicle-mounted sprayers (e.g., handgun, boom, and injector) will be used mainly in open areas that are readily accessible by vehicle. Calibration checks of equipment will be conducted prior to spraying activities, as well as periodically throughout use, to ensure that appropriate application rates are achieved.

Herbicides will be transported with the following stipulations:

- Only the quantity needed for that day's work will be transported.
- Concentrate will be transported in approved containers only, and in a manner that will prevent spilling, stored separately from food, clothing, and safety equipment.
- Mixing will be done at a distance greater than 200 feet from open or flowing water, wetlands, or other sensitive species' habitat. No herbicides will be applied at these areas unless authorized by the appropriate regulatory agencies.

- All herbicide equipment and containers will be inspected daily for leaks.
- Herbicide use will be in accordance with all manufacturer's label recommendations and warnings.
- Apply herbicide under appropriate conditions (i.e., not when wind velocity exceeds 15 miles per hour for granular application, or exceeds 10 miles per hour for liquid applications; snow or ice covers the foliage of target species; or adverse weather conditions are forecasted within the next few days).

Herbicide Spills and Cleanups

All appropriate precautions will be taken to avoid herbicide spills. In the event of a spill, cleanup will be immediate. Contractors will keep spill kits in their vehicles to allow for quick and effective response to spills. Items included in the spill kit will be:

- Protective clothing and gloves;
- Adsorptive clay, "kitty litter," or other commercial adsorbent;
- Plastic bags and a bucket;
- A shovel;
- A fiber brush and screw-in handle;
- A dustpan;
- Caution tape;
- Highway flares (use on existing hard-top roads only); and
- Detergent.

Response to an herbicide spill will vary with the size and location of the spill, but general procedures include:

- Stopping the leak;
- Containing the spilled material;
- Traffic control;
- Dressing the clean-up team in protective clothing;
- Cleaning up and removing the spilled herbicide, as well as the contaminated adsorptive material and soil; and
- Transporting spilled herbicide and contaminated material to an authorized disposal site.

Herbicide Spill Reporting

All herbicide contractors will have readily available copies of the appropriate material safety data sheets for the herbicides used at their disposal and will keep copies of the safety data sheets in the application vehicle. If an herbicide spill of any size occurs, the appropriate agency and spill

coordinators will be notified promptly. In case of a spill into wetlands and waterbodies, the appropriate federal, state, and county agencies will be notified immediately. All herbicide spills equal to or greater than 200 pounds or 25 gallons of pesticide residue will be reported to the Oregon Emergency Response System in accordance with applicable laws and requirements (Oregon Administrative Rules 340-142-0050). The Certificate Holder, BIGL bn, LLC (BIGL or Project Developer), or the Environmental Monitoring Contractor (EMC) will report all herbicide spills to ODOE by phone or email within 72 hours with follow-up reporting as appropriate.

Special Considerations

Special consideration will be provided to perennial, intermittent, and ephemeral streams/draws during treatment activities. No herbicide will be sprayed where the drift can enter standing water or saturated soil. It will be the herbicide applicators' responsibility to ensure that no herbicide or drift enters standing water, regardless of the season when the herbicide is applied. Similar considerations will be made when in proximity to agricultural fields.

Weed Monitoring and Reporting

Weed inspections will occur within the Weed Management Area through visual inspection of the site while driving or walking. During the construction phase, construction staff will conduct periodic monitoring of noxious weeds. Noxious weeds observed during construction will be treated with mechanical or chemical treatments or other best management practices, as applicable. If construction extends into the growing season prior to the commercial date of operations and formal post-construction weed monitoring, the EMC will conduct informal but comprehensive weed surveys to inform adaptive management. In addition, weed monitoring may be conducted by the EMC as part of routine construction environmental monitoring monthly from April to October.

The EMC will conduct annual post-construction noxious weed monitoring within the Weed Management Area starting the first growing season after construction to map the extent of all noxious weed occurrences and identify areas for treatment. Results will be summarized in annual monitoring reports that describe treatments performed, treatment efficacy, recommendations to improve efficacy (if necessary), and any new noxious weed occurrences. Reports will be submitted to ODOE, ODFW, and the County annually. The Certificate Holder will be responsible for treating all noxious weeds observed within the Weed Management Area.

Based on the success of control efforts after the second year of monitoring, the Certificate Holder will consult with ODOE and the Sherman County Weed District to determine if the monitoring cycle can be reduced for Year 3 through Year 5. After 5 years of monitoring, the Certificate Holder will design a long-term weed control plan in consultation with ODOE and the Sherman County Weed District . The Certificate Holder will maintain ongoing communication with individual landowners, the Sherman County Weed District, and ODOE regarding noxious weeds within the Weed Management Area. Landowners may also contact the Certificate Holder directly to report the presence of noxious weeds related to Solar Component activity. The Certificate Holder will control reported noxious weeds on a case-by-case basis and prepare a summary of measures taken for that landowner. During the operational period of the Solar Components, the Certificate Holder will control noxious weeds as described in the long-term weed control plan. The Certificate Holder will

report the investigator's findings and recommendations regarding weed control in the Solar Component's annual report required by Oregon Administrative Rule 345-026-0080.

Treatment Plan

Table G-3, below, provides a treatment plan for noxious and invasive weeds (listed by ODA and Sherman County) in the Weed Management Area, including management objectives and treatment guidelines. This table will be updated in each year's annual monitoring report. Specific herbicide application rates will be determined in consultation with the Sherman County Weed District and the Weed Control Contractor.

Table G-3. Treatment Plan for Noxious and Invasive Weeds

Scientific Name	Common Name	State/County Status	Frequency	Management Objective	Treatment Guidelines[1]
Aegilops cylindrica	jointed goatgrass	B/C	Infrequently observed.	Monitoring and Management to prevent new populations/spread of existing populations	Mechanical: Timing is critical, mow after flowering but before seeds reach soft boot stage. Early mowing will result in new tiller growth. Requires multiple mowings throughout the growing season over several years. **Chemical:** Apply to actively growing plants in late winter or spring before flowering or pre-emergent herbicide in fall. Biocontrol: None
Centaurea diffusa	diffuse knapweed	B/B	Several small to medium-sized populations observed.	Monitoring and Management to prevent new populations/spread of existing populations	Mechanical: Manually remove entire plant, including taproot, prior to flowering. Chemical: Apply to actively growing plants in fall or spring from rosette to bolting stage. **Biocontrol:** Agents include several seed feeding flies and weevils and a root-boring beetle.
Chondrilla juncea	rush skeletonweed	B (T)/A(T)	Frequently observed in non-cultivated areas.	Intensive Control, Eradication within first 5 years of Operation. Prevent new populations.	Mechanical: Regenerates from root fragments. Manually remove entire plant, including taproot, prior to flowering. Will require multiple efforts during the growing season for more than one year. **Chemical:** Apply to rosettes in the spring immediately before or during bolting. Biocontrol: Agents include a gall midge, gall mite, rust fungus, and root-mining moth
Cirsium arvense	Canada thistle	B/B(T)	One observation made.	Eradication Prior to Construction. Prevent new populations.	Mechanical: Not recommended, rhizomatous. **Chemical:** Apply from rosette to bud stage to actively growing thistle in spring or in fall with select chemicals only. Biocontrol: Four approved agents; stem weevil, seed head weevil, crown weevil, and stem gall fly.

Scientific Name	Common Name	State/County Status	Frequency	Management Objective	Treatment Guidelines[1]
Cirsium vulgare	bull thistle	B/C	Observed in two locations.	Eradication Prior to Construction. Prevent new populations.	**Mechanical:** Till or pull prior to flowering. Cut off root below soil surface. Chemical: Treat rosettes in fall or spring. Biocontrol: Seed head gall fly, not effective for individuals but can reduce overall population.
Convolvulus arvensis	field bindweed	B/B	Many small to large populations observed.	Monitoring and Management to prevent new populations/spread of existing populations.	Mechanical: Not recommended, bindweed has extensive root systems and can spread by seed and root fragments. **Chemical**: Apply to rapidly growing plants in spring or summer, prior to flowering. Plants should not be under drought stress at time of application. Biocontrol: Two approved agents; a moth and mite.
Conyza canadensis	horseweed	Not listed/C	Commonly observed.	Monitoring and Management to prevent new populations/spread of existing populations.	**Mechanical**: Mow or pull prior to flowering. Chemical: Apply to rapidly growing plants prior to flowering. Biocontrol: Unknown
Lactuca serriola	prickly lettuce	Not listed/C	Frequently observed.	Monitoring and Management to prevent new populations/spread of existing populations.	Mechanical: Graze, till, or pull prior to flowering. Mowing not considered effective due to robust regrowth. **Chemical:** Apply to rapidly growing plants in spring prior to flowering. Biocontrol: None
Onopordum acanthium	Scotch thistle	B/B(T)	Several observations made.	Intensive Control, Eradication within first 5 years of Operation	**Mechanical:** Pull prior to flowering, cut off root below soil surface. Tilling will control emerged plants but stimulate germination. Follow up tilling with herbicide application to treat seedlings. Sheep and goats will eat young plants and flower heads. Chemical: Treat from rosette to bolting stage in fall or spring. Most effective on small rosettes. Biocontrol: None

Scientific Name	Common Name	State/County Status	Frequency	Management Objective	Treatment Guidelines[1]
Rhaponticum (Acroptilon) repens	Russian knapweed	B/B	One observation made.	Eradication Prior to Construction. Prevent new populations.	**Mechanical:** Manually remove entire plant, including taproot, prior to flowering. Chemical: Apply to actively growing plants in fall or in spring from rosette to bolting stage. Biocontrol: Gall nematode available.
Salsola tragus	Russian thistle	Not listed/C	Frequently observed.	Monitoring and Management to prevent new populations/spread of existing populations.	Mechanical: Hand pulling effective for small populations. Mow just before flower maturation or repeatedly mow younger plants. **Chemical:** Treat young, rapidly growing plants from seedling to mid-rosette stage in spring or fall. Most effective on smaller plants. Preemergence also effective. Many populations are herbicide resistant in the inland northwest, consult with local herbicide applicator or county weed manager. Biocontrol: Leaf mining and stem boring moths have provided poor control.
Secale cereale	cereal rye	Not listed/C	Frequently observed.	Monitoring and Management to prevent new populations/spread of existing populations.	**Mechanical**: Repeated mowing in spring prior to seed set or tillage combined with herbicide application in fallow fields. Hand pull prior to seed set. Chemical: Treat prior to seed set. Herbicide more effective if applied one year after mowing to reduce thatch buildup. Biocontrol: None

Sources: Becerra-Alvarez 2025, DiTomaso et al. 2013, ODA 2025.

1. Preferred treatment method in bold.

References

Becerra-Alvarez, A. (Editor). 2025. Pacific Northwest Weed Management Handbook [online]. Oregon State University Extension Communications. https://pnwhandbooks.org/weed

DiTomaso, J.M., G.B. Kyser, et al. 2013. Weed Control in Natural Areas in the Western United States. Weed Research and Information Center, University of California.

ODA (Oregon Department of Agriculture). 2025. Oregon Noxious Weed Profiles. https://www.oregon.gov/oda/weeds/oregon-noxious-weeds/Pages/default.aspx