

Exhibit I

Soil Conditions

**Wheatridge Renewable Energy Facility East
January 2024**

**Prepared for
Wheatridge East Wind, LLC**

Prepared by



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Acronyms and Abbreviations

BMP	Best management practices
Certificate Holder	Wheatridge East Wind, LLC
Council	Energy Facility Siting Council
ESCP	Erosion and Sediment Control Plan
Facility	Wheatridge Renewable Energy Facility East
MW	megawatts
OAR	Oregon Administrative Rules
RFA	Request for Amendment

1.0 Introduction

The Wheatridge Renewable Energy Facility East (Facility) is an approved, but not yet constructed, wind energy generation facility consisting of up to 66 turbines and related or supporting facilities with a peak generating capacity of up to 200 megawatts (MW), to be located in an Approved Site Boundary of approximately 4,582 acres on over 42,000 acres of leased land in Morrow and Umatilla counties, Oregon. As part of Request for Amendment (RFA) 1 to the Facility Site Certificate, Wheatridge East Wind, LLC (Certificate Holder) is proposing to expand wind power generation at the Facility to provide the opportunity for increased power capacity and availability. This includes expanding the Site Boundary and micro-siting corridors, increasing the peak generating capacity by adding more and newer turbines, change the intraconnection routes, and extending the construction date. See the RFA 1's Division 27 document (*Request for Amendment #1 for the Wheatridge Renewable Energy Facility East*) for a more detailed summary of the proposed changes.

This Exhibit I was prepared to meet the submittal requirements in Oregon Administrative Rule (OAR) 345-021-0010(1)(i). Analysis in this exhibit incorporates and/or relies on reference information, analysis, and findings found in the Application for Site Certificate, previous RFAs, and Oregon Department of Energy Final Orders to demonstrate that the Facility, as modified by RFA 1, continues to comply with applicable Site Certificate conditions and the approval standard in OAR 345-022-0022.

2.0 Analysis Area

The Analysis Area for soil resources is the Amended Site Boundary (Figure I-1). The Amended Site Boundary is inclusive of portions of the Approved Site Boundary.

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.

The Soil Survey Geographic Database for Morrow and Umatilla counties in Oregon (NRCS 2021) 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 areas land-use classifications. According to the Natural Resources

Conservation Service (NRCS; NRCS 2021), there are 63 major soil types (soil units) in the Analysis Area (Table I-1; Figure I-1).

The eight soil units that make up 5 percent or more of the Analysis Area are as follows:

- **Lickskillet Very Stony Loam (7–40% slopes)** — These are shallow, well-drained soils formed in stony colluvium. They are composed of loess, rock fragments and residuum weathered from basalt and rhyolite. Lickskillet soils are on uplands, about 1.4 inches thick. The erosion hazard is moderate. Most slopes in the Analysis Area are between 7 and 40 percent. The soil has low permeability and high runoff.
- **Lickskillet-Rock Outcrop Complex (40–70% slopes)** — These are shallow, well-drained soils composed of loess and colluvium from basalt. Lickskillet soils are on uplands, less than 1.4 inches thick. The erosion hazard is severe. Most slopes in the Analysis Area are between 40 and 70 percent. The soil has low permeability and high runoff.
- **Rhea Silt Loam (35–50% slopes)** — These are deep, well-drained soils formed in loess mixed with small amounts of volcanic ash. The soil is silt loam. Rhea silt loam soils are on uplands, more than 76 inches thick. The erosion hazard is severe. Most slopes in the Analysis Area are between 35 and 50 percent. The soil has high permeability and moderately low runoff.
- **Bakeoven-Morrow Complex (2–20% slopes)** — These are shallow, well-drained soils formed in loess mixed with residuum weathered from basalt. The soil is very cobbly loam and extremely cobbly loam. Bakeoven-Morrow complex soils are on uplands, about 7 inches thick. The erosion hazard is moderate. Most slopes in the Analysis Area are between 2 and 20 percent. The soil has low permeability and high runoff.
- **Valby Silt Loam (12–20% slopes)** — These are shallow, well-drained soils formed in loess over basalt and consisting of silt loam. Valby silt loam soils are on hillslopes, about 30 inches thick. The erosion hazard is severe. Most slopes in the Analysis Area are between 12 and 20 percent. The soil has moderate permeability and moderately high runoff.

- **Rhea Silt Loam (20–35% slopes)** — These are well-drained soils formed in loess mixed with small amounts of volcanic ash. The soil is silt loam. Rhea silt loam soils are on uplands, more than 76 inches thick. The erosion hazard is severe. Most slopes in the Analysis Area are between 20 and 35 percent. The soil has high permeability and moderately low runoff.
- **Bakeoven-Valby Complex (2–20% slopes)** — These are shallow, well-drained soils formed in loess over basalt and loess mixed with residuum weathered from basalt. The soil is silt loam, very cobbly loam, and extremely cobbly loam. Bakeoven-Valby complex soils are on uplands, between 7 and 30 inches thick. The erosion hazard is moderate. Most slopes in the Analysis Area are between 2 and 20 percent. The soil has low permeability and high runoff.
- **Morrow Silt Loam (20–35% slopes)** — These are shallow, well-drained soils of silt loam and silty clay loam. Morrow soils are about 26 inches thick. The erosion hazard is severe. Most slopes in the Analysis Area are between 20 and 35 percent. The soil has moderate permeability and moderately high runoff.

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Table I-1. General Description of Mapped Soil Units in the Amended Site Boundary

Soil Type ID	Soil Unit	Setting Within Amended Site Boundary	Approximate Thickness (feet)	Formation Setting	Permeability	Runoff	Hazard for Erosion	Wind Erosion Rating ¹	K-factor ¹	Erosion Hazard (Stormwater)	Fugitive Dust Resistance	Soil Compaction Resistance	Percent of Amended Site Boundary
11	Endersby fine sandy loam	-	> 7	alluvium from loess and volcanic ash	Very High	Low	Slight	3	(0.17-0.32)	Slight	Moderate resistance to dust propagation	Low resistance	0.39
12	Esquatzel silt loam	-	> 7	silty alluvium	High	Moderately Low	Slight	2	(0.64-0.64)	Slight	Low resistance to dust propagation	Moderate resistance	0.05
121B	Willis silt loam	2-7% slopes	> 7	loess over cemented alluvium	Moderate	Moderately High	Moderate	5	(0.55-0.64)	Not rated	Low resistance to dust propagation	Moderate resistance	0.06
121D	Willis silt loam	12-30% slopes	> 7	loess over cemented alluvium	Moderate	Moderately High	Severe	5	(0.55-0.64)	Not rated	Low resistance to dust propagation	Moderate resistance	0.16
15B	Burke silt loam	1-7 % slopes	> 7	loess over strongly cemented alluvium	Moderate	Moderately High	Moderate	5	(0.55-0.64)	Not rated	Low resistance to dust propagation	Moderate resistance	0.33
15C	Burke silt loam	7-12% slopes	> 7	loess over strongly cemented alluvium	Moderate	Moderately High	Severe	5	(0.55-0.64)	Not rated	Low resistance to dust propagation	Moderate resistance	0.33
18B	Condon silt loam	1-7% slopes	76	loess	Moderate	Moderately High	Moderate	6	(0.43-0.49)	Not rated	Moderate resistance to dust propagation	Moderate resistance	0.00
18C	Condon silt loam	7-12% slopes	76	loess	Moderate	Moderately High	Severe	6	(0.43-0.49)	Not rated	Moderate resistance to dust propagation	Moderate resistance	0.10
19D	Condon silt loam	12-20% north slopes	76	loess	Moderate	Moderately High	Severe	6	(0.43-0.49)	Not rated	Moderate resistance to dust propagation	Moderate resistance	0.00
22	Kimberly fine sandy loam	-	> 7	mixed alluvium	Very High	Low	Slight	3	(0.28-0.32)	Slight	Low resistance to dust propagation	Low resistance	0.10

Soil Type ID	Soil Unit	Setting Within Amended Site Boundary	Approximate Thickness (feet)	Formation Setting	Permeability	Runoff	Hazard for Erosion	Wind Erosion Rating ¹	K-factor ¹	Erosion Hazard (Stormwater)	Fugitive Dust Resistance	Soil Compaction Resistance	Percent of Amended Site Boundary
28E	Lickskillet very stony loam	7-40% slopes	43	loess mixed with colluvium from basalt	Low	High	Moderate	7	(0.37-0.43)	Slight	Moderate resistance to dust propagation	Low resistance	19.52
29F	Lickskillet-Rock outcrop complex	40-70% slopes	0	loess mixed with colluvium from basalt	Low	High	Severe	7	(0.37-0.43)	Moderate	Moderate resistance to dust propagation	Low resistance	9.50
2D	Bakeoven very cobbly loam	2-20% slopes	18	loess mixed with residuum weathered from basalt	Low	High	Moderate	8	(0.37-0.43)	Slight	Moderate resistance to dust propagation	Low resistance	2.08
30B	Mikkalo silt loam	2-7% slopes	89	loess	Moderate	Moderately High	Moderate	5	(0.49-0.64)	Slight	Low resistance to dust propagation	Moderate resistance	1.00
30C	Mikkalo silt loam	7-12% slopes	89	loess	Moderate	Moderately High	Severe	5	(0.49-0.64)	Moderate	Low resistance to dust propagation	Moderate resistance	0.43
30D	Mikkalo silt loam	12-20% slopes	89	loess	Moderate	Moderately High	Severe	5	(0.49-0.64)	Moderate	Low resistance to dust propagation	Moderate resistance	0.04
31B	Morrow silt loam	1-7% slopes	66	loess	Moderate	Moderately High	Moderate	6	(0.43-0.55)	Slight	Moderate resistance to dust propagation	Low resistance	0.55
31C	Morrow silt loam	7-12% slopes	66	loess	Moderate	Moderately High	Severe	6	(0.43-0.55)	Moderate	Moderate resistance to dust propagation	Low resistance	0.46
32D	Morrow silt loam	12-20% north slopes	66	loess	Moderate	Moderately High	Severe	6	(0.43-0.55)	Moderate	Moderate resistance to dust propagation	Low resistance	0.53

Soil Type ID	Soil Unit	Setting Within Amended Site Boundary	Approximate Thickness (feet)	Formation Setting	Permeability	Runoff	Hazard for Erosion	Wind Erosion Rating ¹	K-factor ¹	Erosion Hazard (Stormwater)	Fugitive Dust Resistance	Soil Compaction Resistance	Percent of Amended Site Boundary
32E	Morrow silt loam	20–35% north slopes	66	loess	Moderate	Moderately High	Severe	6	(0.43-0.55)	Moderate	Moderate resistance to dust propagation	Low resistance	4.57
33E	Morrow silt loam	20–30% south slopes	66	loess	Moderate	Moderately High	Severe	6	(0.43-0.55)	Moderate	Moderate resistance to dust propagation	Low resistance	0.96
34F	Nansene silt loam	35–70% slopes	114	loess	High	Moderately Low	Severe	5	(0.43-0.64)	Severe	Low resistance to dust propagation	Moderate resistance	0.67
35	Onyx silt loam	-	> 7	silty alluvium	High	Moderately Low	Slight	5	(0.43-0.49)	Slight	Low resistance to dust propagation	Moderate resistance	1.18
36	Pedigo silt loam	-	> 7	silty alluvium mixed with volcanic ash	Moderate	Moderately High	Slight	5	(0.43-0.55)	Slight	Low resistance to dust propagation	Moderate resistance	0.35
3D	Bakeoven-Morrow complex	2–20% slopes	18	loess; loess mixed with residuum weathered from basalt	Low	High	Moderate	6	(0.37-0.55)	Slight	Moderate resistance to dust propagation	Low resistance	6.52
43A	Kimberly silt loam	0–3% slopes	> 7	mixed alluvium	Very High	Low	Slight	5	(0.32-0.49)	Not rated	Low resistance to dust propagation	Moderate resistance	0.10
43B	Rhea silt loam	1–7% slopes	> 7	loess mixed with small amounts of volcanic ash	High	Moderately Low	Moderate	6	(0.43-0.49)	Slight	Moderate resistance to dust propagation	Moderate resistance	0.08
43C	Rhea silt loam	7–12% slopes	> 7	loess mixed with small amounts of volcanic ash	High	Moderately Low	Severe	6	(0.43-0.49)	Moderate	Moderate resistance to dust propagation	Moderate resistance	0.31
43D	Rhea silt loam	12–20% slopes	> 7	loess mixed with small amounts of volcanic ash	High	Moderately Low	Severe	6	(0.43-0.49)	Moderate	Moderate resistance to dust propagation	Moderate resistance	1.48
43E	Rhea silt loam	20–35% slopes	> 7	loess mixed with small amounts of volcanic ash	High	Moderately Low	Severe	6	(0.43-0.49)	Moderate	Moderate resistance to dust propagation	Moderate resistance	6.14

Soil Type ID	Soil Unit	Setting Within Amended Site Boundary	Approximate Thickness (feet)	Formation Setting	Permeability	Runoff	Hazard for Erosion	Wind Erosion Rating ¹	K-factor ¹	Erosion Hazard (Stormwater)	Fugitive Dust Resistance	Soil Compaction Resistance	Percent of Amended Site Boundary
43F	Rhea silt loam	35-50% slopes	> 7	loess mixed with small amounts of volcanic ash	High	Moderately Low	Severe	6	(0.43-0.49)	Moderate	Moderate resistance to dust propagation	Moderate resistance	7.15
45B	Ritzville silt loam	2-7% slopes	> 7	loess mixed with small amounts of volcanic ash	High	Moderately Low	Moderate	5	(0.49-0.64)	Slight	Low resistance to dust propagation	Low resistance	0.72
45C	Ritzville silt loam	7-12% slopes	> 7	loess mixed with small amounts of volcanic ash	High	Moderately Low	Severe	5	(0.49-0.64)	Moderate	Low resistance to dust propagation	Low resistance	0.13
45D	Ritzville silt loam	12-20% slopes	> 7	loess mixed with small amounts of volcanic ash	High	Moderately Low	Severe	5	(0.49-0.64)	Moderate	Low resistance to dust propagation	Low resistance	0.08
47E	Ritzville silt loam	20-40% south slopes	> 7	loess mixed with small amounts of volcanic ash	High	Moderately Low	Severe	5	(0.49-0.64)	Moderate	Low resistance to dust propagation	Low resistance	0.01
48E	Licksillet very stony loam	7-40% slopes	46	loess mixed with colluvium from basalt	Low	High	Moderate	7	(0.37-0.37)	Not rated	Moderate resistance to dust propagation	Low resistance	0.67
49F	Licksillet-Nansene association	35-70% slopes	46	loess; loess mixed with residuum weathered from basalt	Low	High	Severe	5	(0.37-0.55)	Not rated	Moderate resistance to dust propagation	Low resistance	0.00
4D	Bakeoven-Valby complex	2-20% slopes	18	loess mixed with residuum weathered from basalt; loess over basalt	Low	High	Moderate	6	(0.37-0.55)	Slight	Moderate resistance to dust propagation	Low resistance	4.94
50F	Licksillet-Rock outcrop complex	40-70% slopes	0	loess mixed with colluvium from basalt	Low	High	Severe	8	(0.37-0.37)	Not rated	Moderate resistance to dust propagation	Low resistance	0.38
54B	Mikkalo silt loam	2-7% slopes	56	loess	Moderate	Moderately High	Moderate	5	(0.49-0.64)	Not rated	Low resistance to dust propagation	Moderate resistance	0.33
54C	Mikkalo silt loam	7-12% slopes	56	loess	Moderate	Moderately High	Severe	5	(0.49-0.64)	Not rated	Low resistance to dust propagation	Moderate resistance	0.80
54D	Mikkalo silt loam	12-20% slopes	56	loess	Moderate	Moderately High	Severe	5	(0.49-0.64)	Not rated	Low resistance to dust propagation	Moderate resistance	0.49
54E	Mikkalo silt loam	20-35% slopes	56	loess	Moderate	Moderately High	Severe	5	(0.49-0.64)	Not rated	Low resistance to dust propagation	Moderate resistance	0.00
59D	Morrow-Bakeoven complex	2-20% slopes	20	loess	Moderate	Moderately High	Severe	6	(0.32-0.55)	Not rated	Moderate resistance to dust propagation	Moderate resistance	0.00
60F	Nansene silt loam	35-70% slopes	> 7	loess	High	Moderately Low	Severe	5	(0.43-0.55)	Not rated	Low resistance to dust propagation	Moderate resistance	0.00

Soil Type ID	Soil Unit	Setting Within Amended Site Boundary	Approximate Thickness (feet)	Formation Setting	Permeability	Runoff	Hazard for Erosion	Wind Erosion Rating ¹	K-factor ¹	Erosion Hazard (Stormwater)	Fugitive Dust Resistance	Soil Compaction Resistance	Percent of Amended Site Boundary
63B	Valby silt loam	1-7% slopes	76	loess over basalt	Moderate	Moderately High	Moderate	5	(0.43-0.55)	Slight	Low resistance to dust propagation	Moderate resistance	2.92
63C	Valby silt loam	7-12% slopes	76	loess over basalt	Moderate	Moderately High	Severe	5	(0.43-0.55)	Moderate	Low resistance to dust propagation	Moderate resistance	3.46
64D	Valby silt loam	12-20% north slopes	76	loess over basalt	Moderate	Moderately High	Severe	5	(0.43-0.55)	Moderate	Low resistance to dust propagation	Moderate resistance	6.34
65D	Valby silt loam	12-20% south slopes	76	loess over basalt	Moderate	Moderately High	Severe	5	(0.43-0.55)	Moderate	Low resistance to dust propagation	Moderate resistance	2.14
65E	Valby silt loam	20-30% south slopes	76	loess over basalt	Moderate	Moderately High	Severe	5	(0.43-0.55)	Moderate	Low resistance to dust propagation	Moderate resistance	2.45
75B	Willis silt loam	2-5% slopes	> 7	loess over cemented alluvium	Moderate	Moderately High	Moderate	5	(0.55-0.64)	Slight	Low resistance to dust propagation	Moderate resistance	0.97
75C	Willis silt loam	5-12% slopes	> 7	loess over cemented alluvium	Moderate	Moderately High	Severe	5	(0.55-0.64)	Moderate	Low resistance to dust propagation	Moderate resistance	0.02
77F	Wrentham-Rock outcrop complex	35-70% slopes	0	loess mixed with colluvium derived from basalt	Moderate	Moderately High	Severe	6	(0.28-0.49)	Moderate	Moderate resistance to dust propagation	Moderate resistance	0.87
78	Xeric Torriorthents	nearly level	> 7	eolian sands and alluvium	Very High	Low	Slight	3	(0.15-0.32)	Slight	Moderate resistance to dust propagation	Moderate resistance	1.33
80B	Ritzville silt loam	2-7% slopes	> 7	loess mixed with small amounts of volcanic ash	High	Moderately Low	Moderate	3	(0.49-0.64)	Not rated	Low resistance to dust propagation	Low resistance	0.12
80D	Ritzville silt loam	12-25% slopes	> 7	loess mixed with small amounts of volcanic ash	High	Moderately Low	Severe	3	(0.49-0.64)	Not rated	Low resistance to dust propagation	Low resistance	0.51
80F	Lickskillet-Nansene association	35-70% slopes	46	loess; loess mixed with colluvium from basalt	Low	High	Severe	5	(0.37-0.55)	Moderate	Moderate resistance to dust propagation	Low resistance	0.04
81E	Ritzville silt loam	25-40% north slopes	> 7	loess mixed with small amounts of volcanic ash	High	Moderately Low	Severe	3	(0.49-0.64)	Not rated	Low resistance to dust propagation	Low resistance	0.31
82B	Condon silt loam	1-7% slopes	76	loess	Moderate	Moderately High	Moderate	6	(0.43-0.49)	Slight	Moderate resistance to dust propagation	Moderate resistance	0.05
83D	Condon silt loam	12-20% north slopes	76	loess	Moderate	Moderately High	Severe	6	(0.43-0.49)	Moderate	Moderate resistance to dust propagation	Moderate resistance	0.14
85C	Condon silt loam	7-12% slopes	76	loess	Moderate	Moderately High	Severe	6	(0.43-0.49)	Moderate	Moderate resistance to dust propagation	Moderate resistance	0.31
89B	Shano silt loam	2-7% slopes	> 7	loess over calcareous, lacustrine deposits	High	Moderately Low	Moderate	5	(0.55-0.64)	Not rated	Low resistance to dust propagation	Moderate resistance	2.82

Soil Type ID	Soil Unit	Setting Within Amended Site Boundary	Approximate Thickness (feet)	Formation Setting	Permeability	Runoff	Hazard for Erosion	Wind Erosion Rating ¹	K-factor ¹	Erosion Hazard (Stormwater)	Fugitive Dust Resistance	Soil Compaction Resistance	Percent of Amended Site Boundary
89C	Shano silt loam	7-12% slopes	> 7	loess over calcareous, lacustrine deposits	High	Moderately Low	Severe	5	(0.55-0.64)	Not rated	Low resistance to dust propagation	Moderate resistance	1.46

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.

The Analysis Area is zoned Exclusive Farm Use by Morrow County (see Exhibit K). It is private agricultural land generally used for dryland wheat production or as rangeland. The analysis area includes some areas with soils defined as High Value Farmland by the NRCS (2021). See Exhibit K for a definition and analysis of the High Value Farmland present within the analysis area.

5.0 Facility 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.

5.1 Soil Impacts During Construction

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

- Clearing and grubbing vegetation around temporary construction areas, turbine pads, the Intraconnection Line, the battery energy storage system foundation, collector circuits, substation construction areas, and new access roads;
- Constructing new access roads;
- Operating and moving cranes;
- Using heavy equipment and hauling trucks to delivery aggregates, concrete, water, turbine components, cranes, and construction supplies; and
- Fueling or maintaining construction equipment or vehicles.

Soil impacts from construction, like erosion, would be limited by:

- Avoiding sensitive soil areas whenever practical. Sensitive soils are those considered to be prone to wind and water erosion and compaction (see Table I-1 and Figure I-2, which define the erosion hazard, fugitive dust resistance, and soil compaction resistance by soil type);
- Maintaining a Spill Prevention Control and Countermeasures Plan (Conditions PRE-SP-01 and PRO-SP-01);

- Implementing appropriate site restoration practices following construction (Condition PRE-SP-02); and
- Implementing the erosion and sediment control best management practices (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 (Conditions CON-SP-01 and CON-SP-02; see Attachment I-1 for the draft/example ESCP; the Certificate Holder 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 layout¹).

5.2 Soil Impacts During Operation

Turbine operation would not impact soil erosion. Following Condition OPR-SP-01, the Certificate Holder will routinely inspect and maintain all Facility components and maintain or repair erosion and sediment control measures as needed. These measures may include but are not limited to straw wattles, mulching, and other soil stabilization controls, which shall be maintained, repaired, and replaced as needed to maintain maximum effectiveness; see Section 6.0 for more detail on these BMPs as well as other erosion and sediment control measures. Vehicles will stay on constructed access roads to avoid unnecessary compaction, erosion, or spill risk (Condition OPR-SP-01). Facility operations are not expected to cause any additional ground disturbances. Condition OPR-SP-01 also states that the Certificate Holder must obtain approval from the Energy Facility Siting Council (Council) before completing any significant road modification or construction. The potential for soil contamination would be limited by not maintaining substantial supplies of hazardous materials on-site, and by observing appropriate safety measures during maintenance procedures. In addition, Condition CON-SP-01 requires the Certificate Holder to provide a copy of an Oregon Department of Environmental Quality-approved operational Spill Prevention Control and Countermeasures Plan, if needed.

5.3 Soil Impacts During Decommissioning

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.

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

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

¹ <https://ordeq-edms-public.govonlinesaas.com/pub/login?web=1>

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 Facility. 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. BMPs that may be implemented (depending on seasonal conditions, final siting, etc.) along with other measures identified in the ESCP include:

- **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 Facility.
- **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 will 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. Soil excavated for the concrete washout area will be used as backfill for the completed footing to ensure that the surface soils maintain infiltration capacity.
- **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 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.
- **Check Dams and Sediment Traps** – Check dams and sediment traps will be used during the construction of low-impact ford crossings or culvert installations. The check dams and sediment traps will minimize downstream sedimentation during the construction of the stream crossings.
- **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. Similarly, soil disturbance will be postponed when soils are excessively wet (e.g., following a precipitation event).

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.

As discussed in Section 5.1, Conditions CON-SP-01 and CON-SP-02 require the Certificate Holder to implement a final ESCP including construction monitoring requirements as approved by Oregon Department of Environmental Quality. In addition, Section 5.2 identified Condition OPR-SP-01, which requires the Certificate Holder to inspect and maintain all Facility components routinely, and, as necessary, maintain or repair erosion and sediment control measures.

8.0 Conclusions

During construction, the potential for soil erosion and contamination will be minimized by avoiding problematic areas to the extent practical and by adhering to the Site Certificate conditions outlined above. Specific construction and site restoration practices will mitigate construction impacts on soil productivity. There will be no adverse impacts on productive farmland soils except where permanent impacts are proposed. Considering the existing Site Certificate conditions, Council may conclude that the design, construction, and operation of the proposed Facility is unlikely to have a significant, adverse impact on soils.

9.0 References

NRCS (Natural Resources Conservation Service). 2021. Soil Survey Staff. Gridded Soil Survey Geographic (SSURGO) Database for Oregon. United States Department of Agriculture, Natural Resources Conservation Service. October 2021. Available online at <https://gdg.sc.egov.usda.gov/>.

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Figures

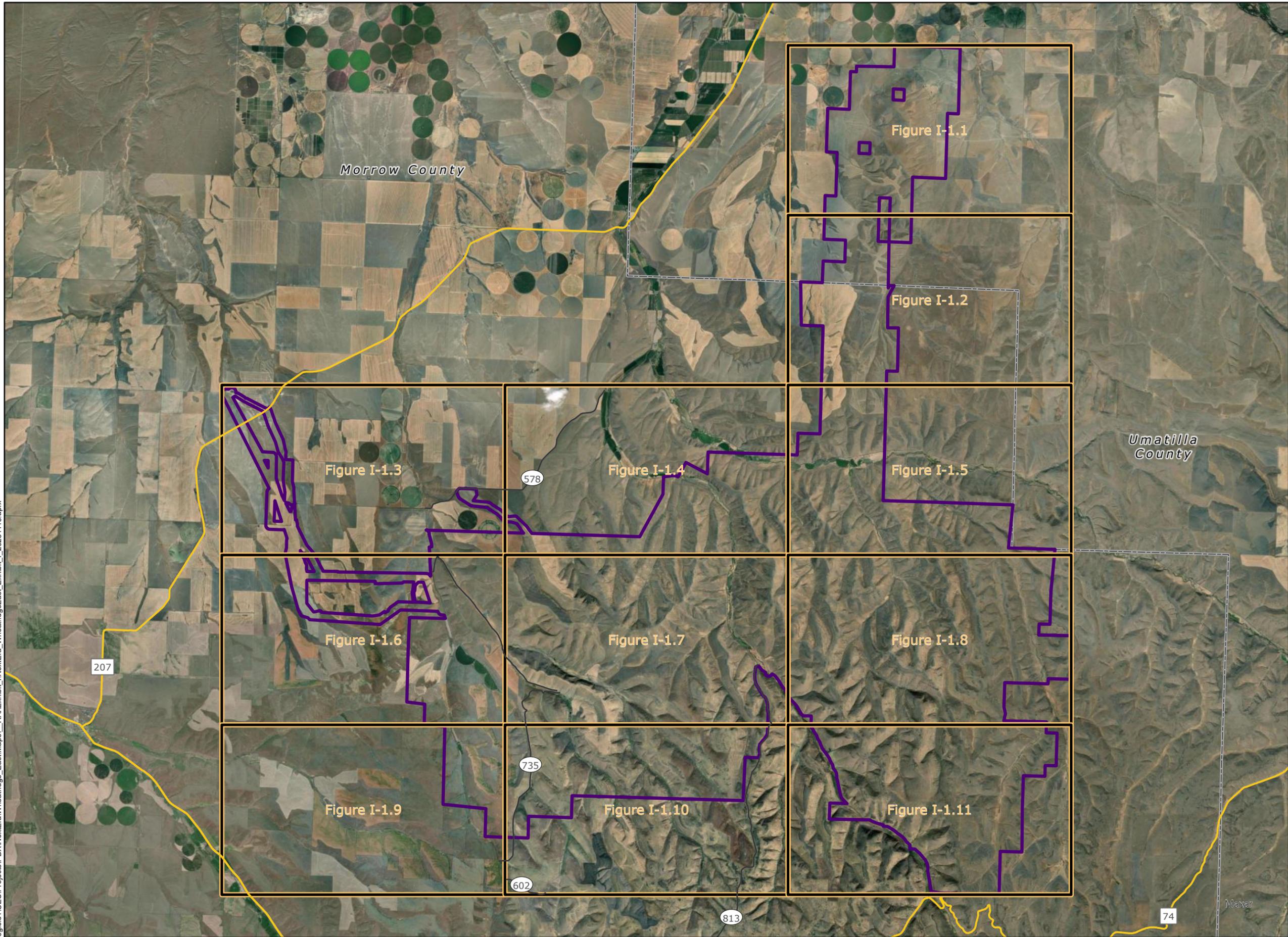
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Wheatridge Renewable Energy Facility East

Figure I-1 Soil Type Index Map

MORROW AND UMATILLA COUNTIES, OR

-  Amended Site Boundary
-  Map Grid
-  County Boundary
-  State Highway
-  County Highway



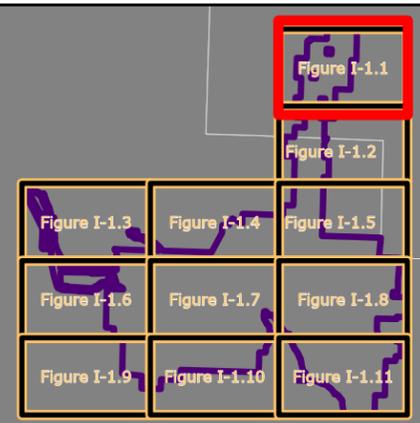
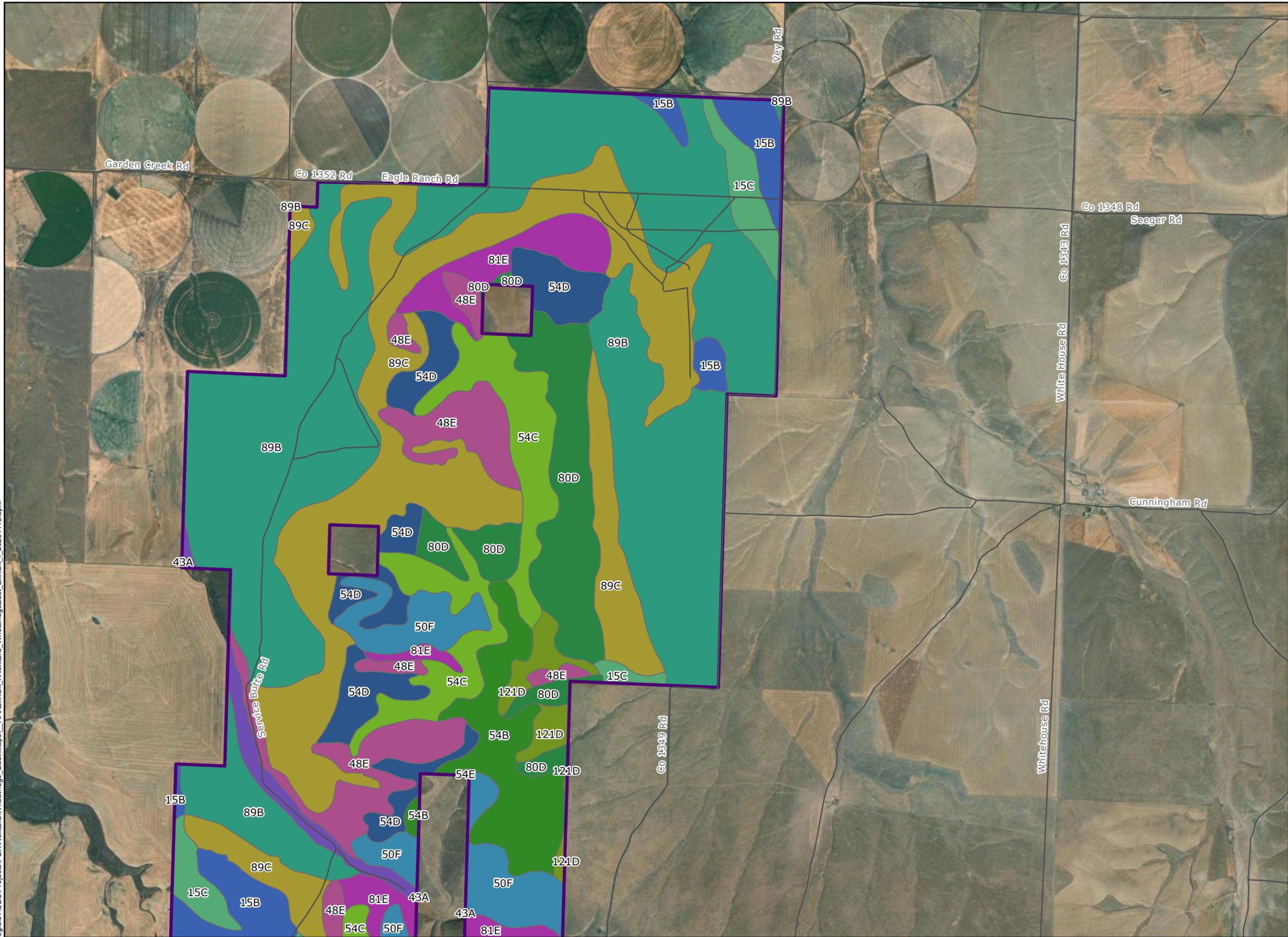
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Wheatridge Renewable Energy Facility East

Figure I-1.1 Soil Type

MORROW AND UMATILLA COUNTIES, OR

-  Amended Site Boundary
-  Local Roads

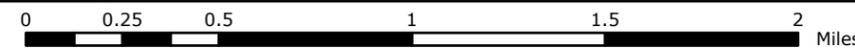


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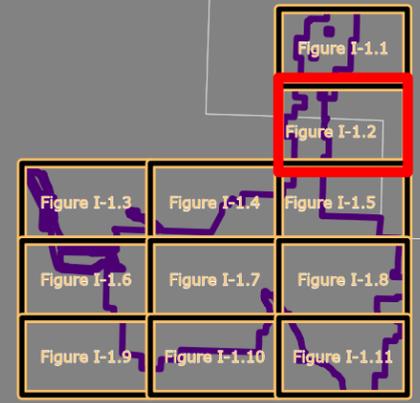
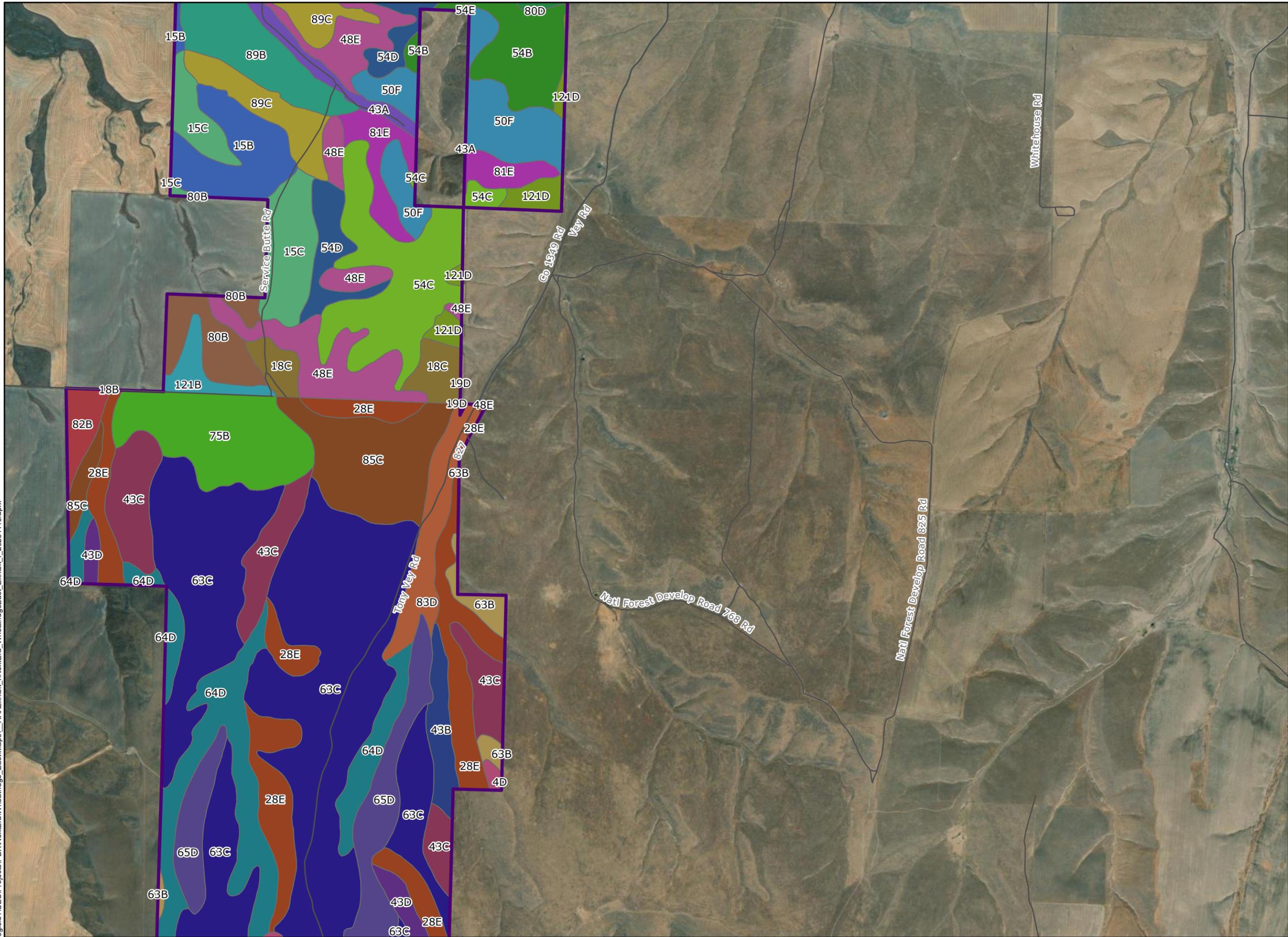
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Wheatridge Renewable Energy Facility East

Figure I-1.2 Soil Type

MORROW AND UMATILLA COUNTIES, OR

-  Amended Site Boundary
-  Local Roads



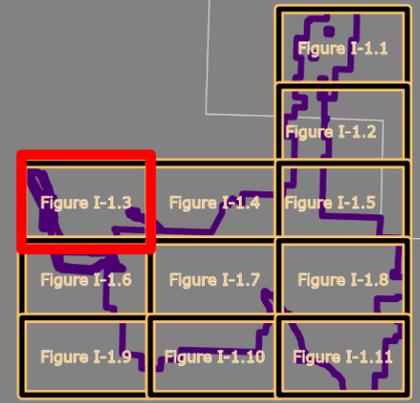
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Wheatridge Renewable Energy Facility East

Figure I-1.3 Soil Type

MORROW AND UMATILLA COUNTIES, OR

-  Amended Site Boundary
-  State Highway
-  County Highway
-  Local Roads



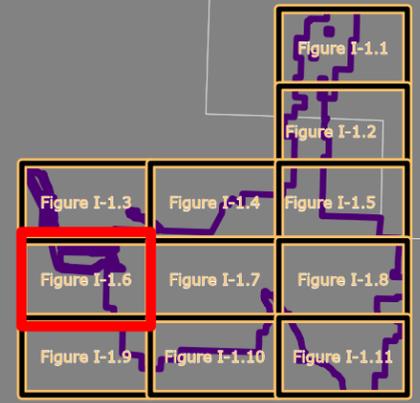
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Wheatridge Renewable Energy Facility East

Figure I-1.6 Soil Type

MORROW AND UMATILLA COUNTIES, OR

-  Amended Site Boundary
-  County Highway
-  Local Roads



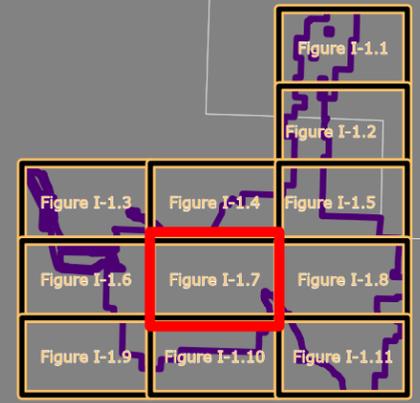
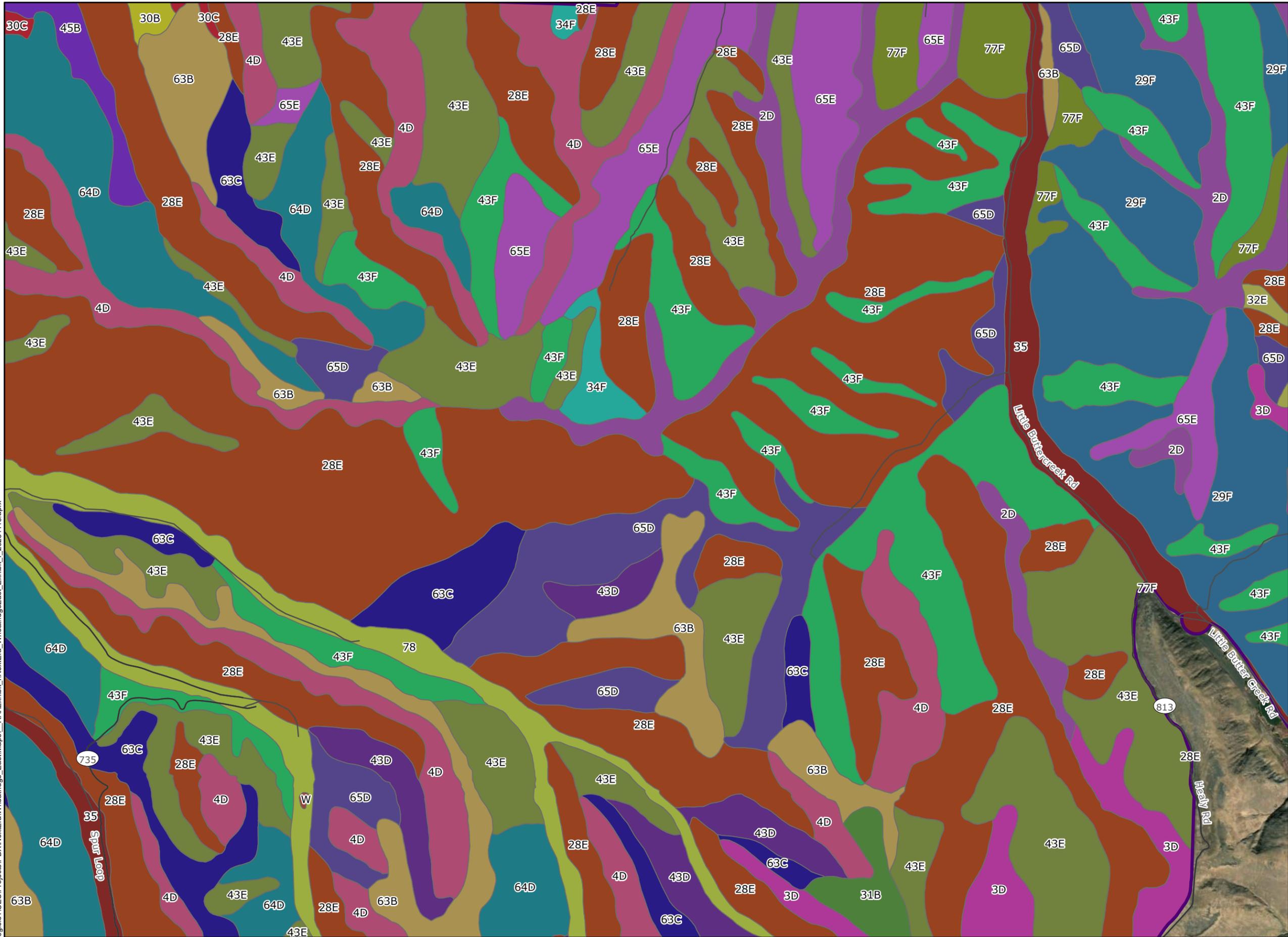
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Figure I-1.7 Soil Type

MORROW AND UMATILLA COUNTIES, OR

-  Amended Site Boundary
-  County Highway
-  Local Roads



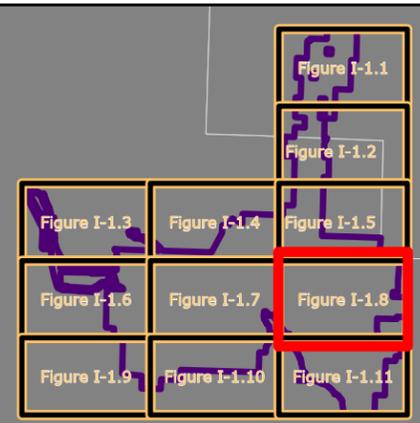
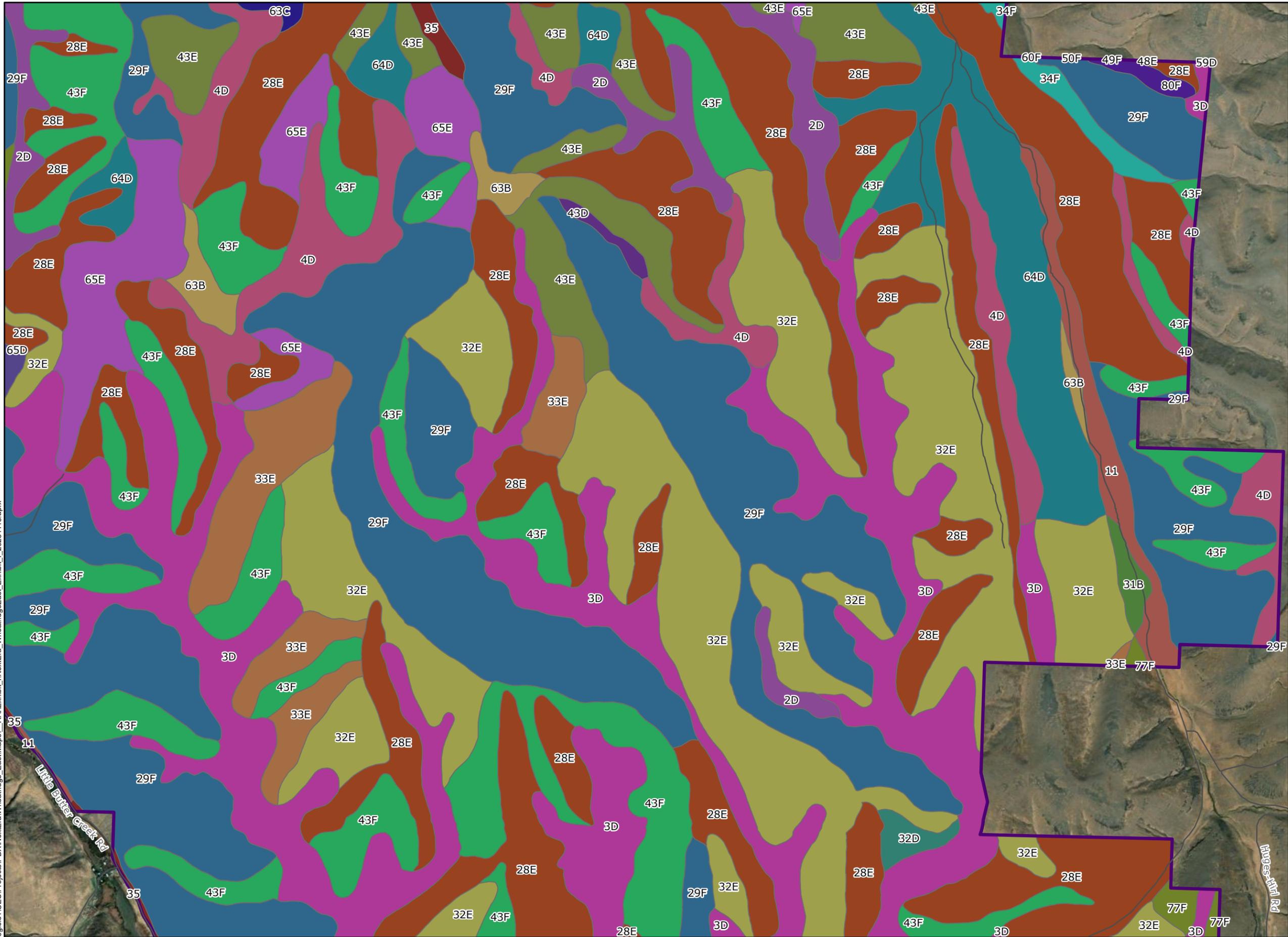
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Wheatridge Renewable Energy Facility East

Figure I-1.8 Soil Type

MORROW AND UMATILLA COUNTIES, OR

-  Amended Site Boundary
-  Local Roads



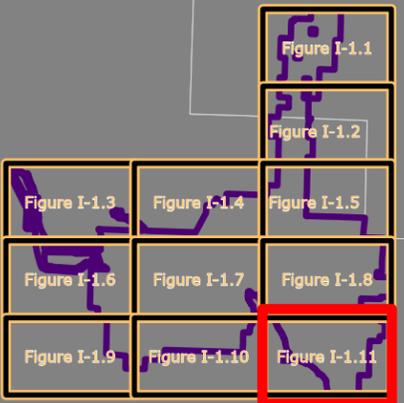
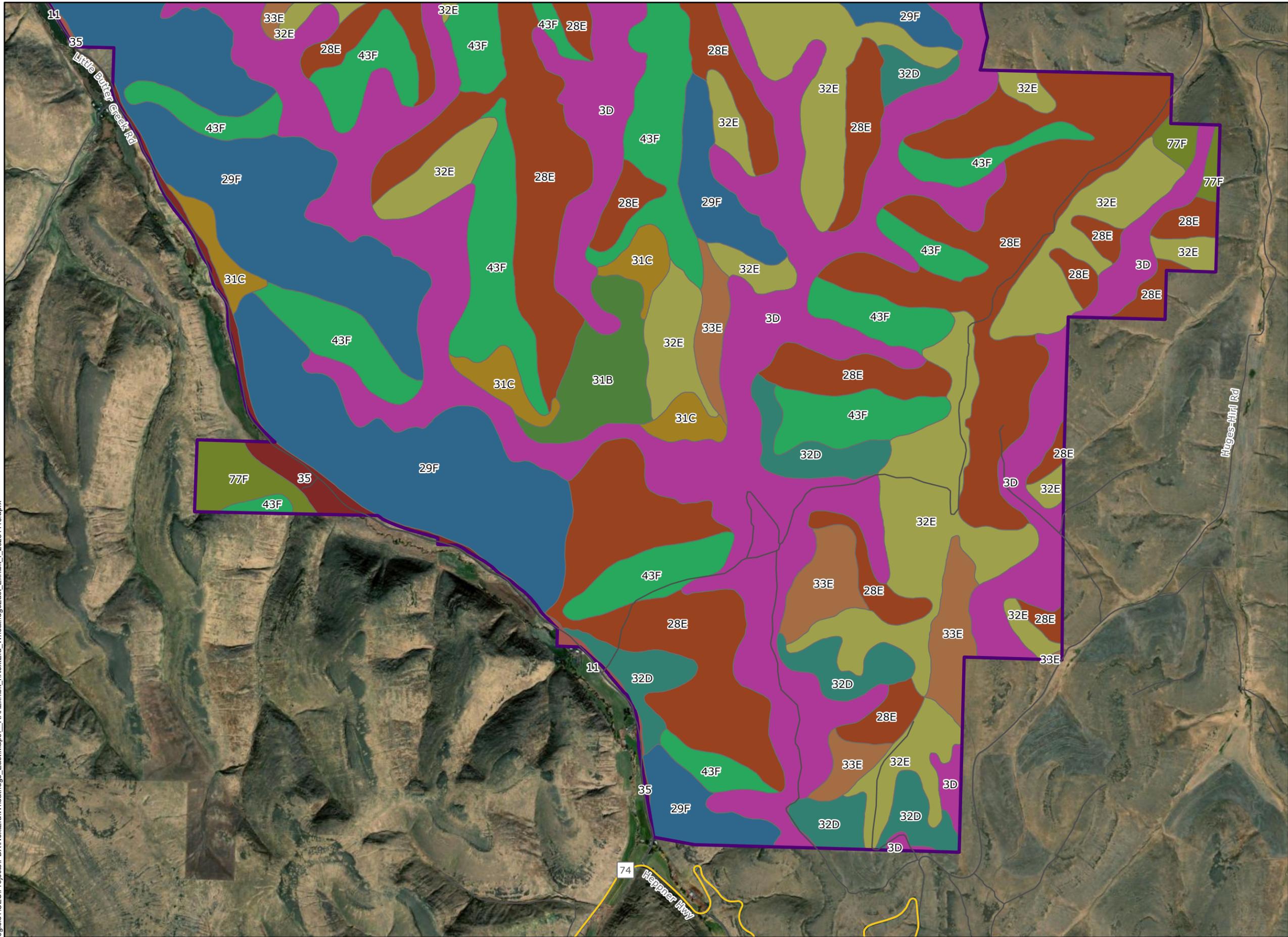
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Wheatridge Renewable Energy Facility East

Figure I-1.11 Soil Type

MORROW AND UMATILLA COUNTIES, OR

- Amended Site Boundary
- State Highway
- Local Roads



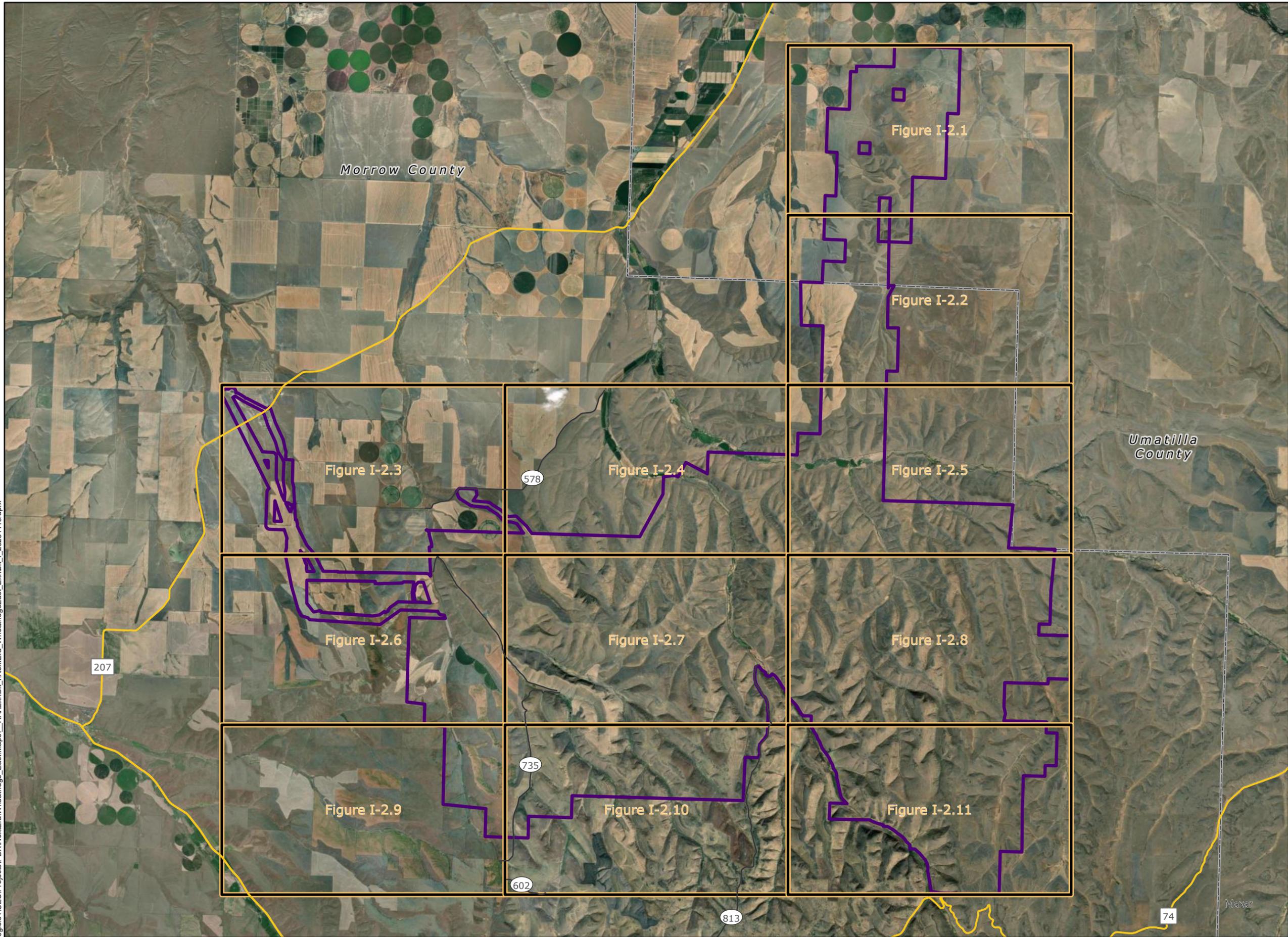
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Wheatridge Renewable Energy Facility East

Figure I-2 Sensitive Soils Index Map

MORROW AND UMATILLA COUNTIES, OR

-  Amended Site Boundary
-  Map Grid
-  County Boundary
-  State Highway
-  County Highway



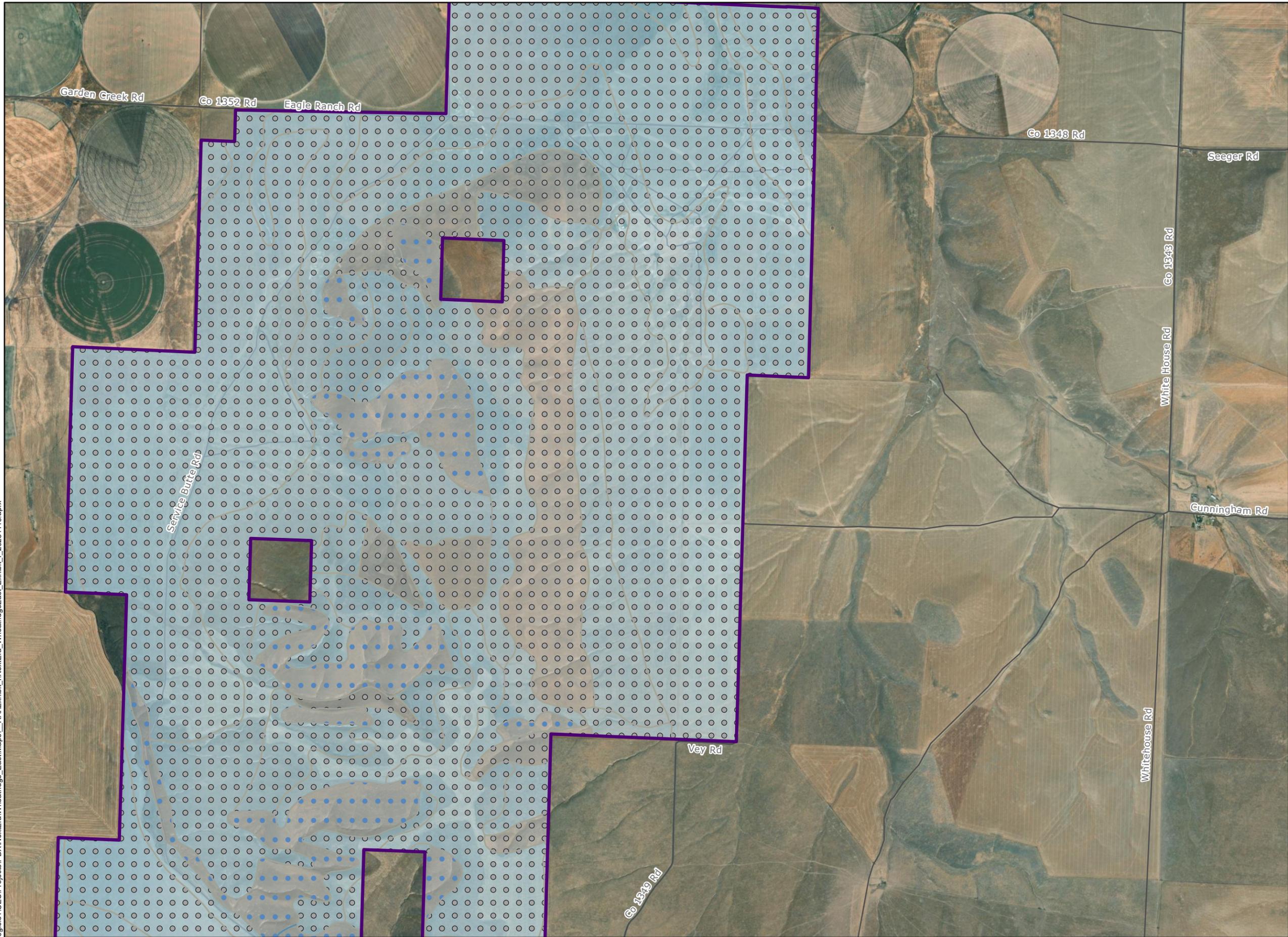
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Wheatridge Renewable Energy Facility East

Figure I-2.1 Sensitive Soils

MORROW AND UMATILLA COUNTIES, OR

-  Amended Site Boundary
-  Local Roads
- Soil Compaction Resistance**
-  Low resistance
-  Moderate resistance
- Fugitive Dust Resistance**
-  Low resistance to dust propagation
-  Moderate resistance to dust propagation
- Erosion Hazard (Stormwater)**
-  Not Rated

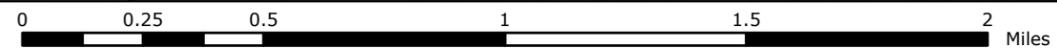


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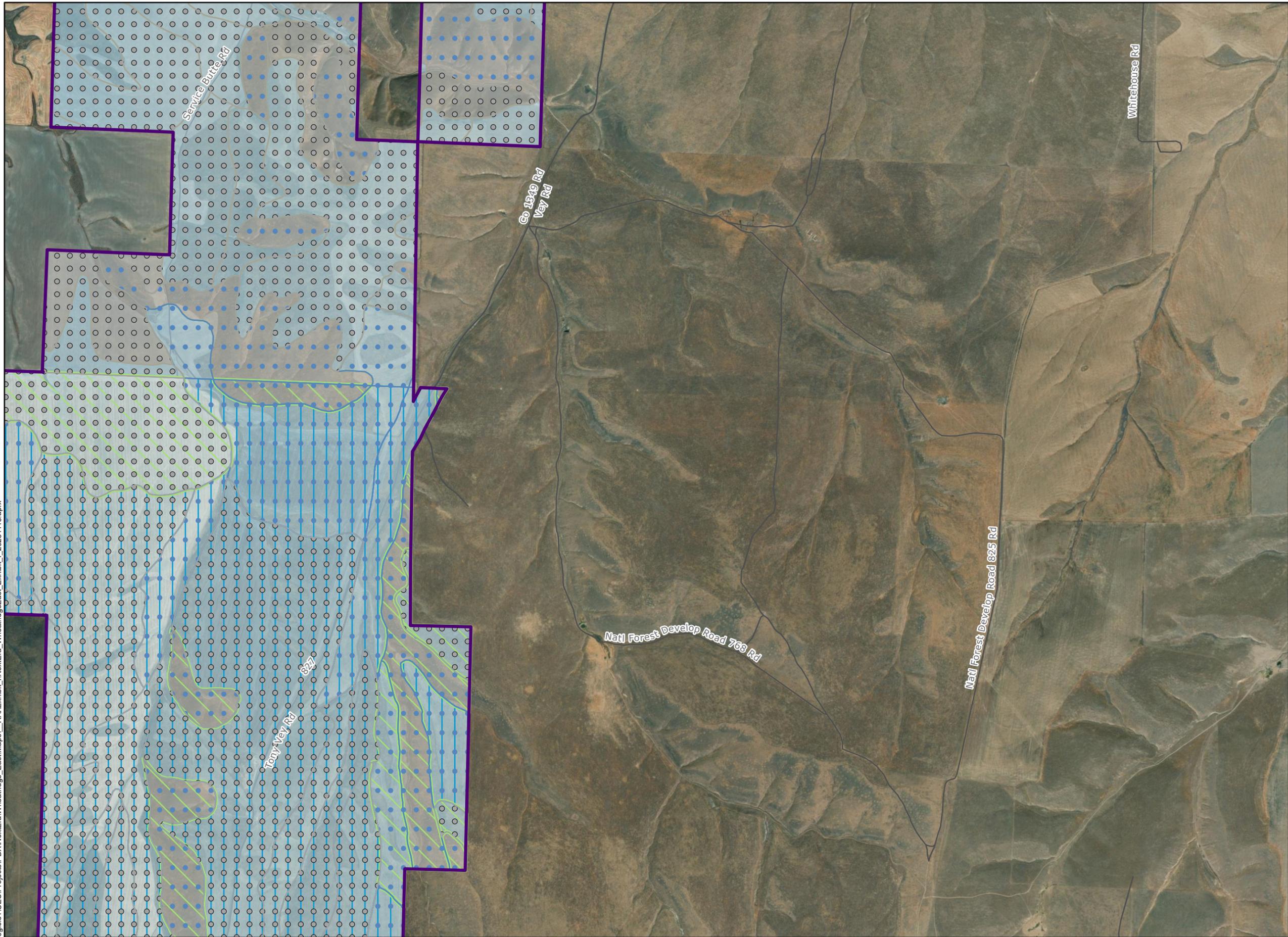
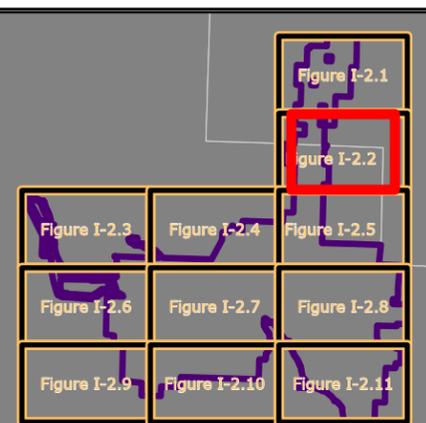
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Wheatridge Renewable Energy Facility East

Figure I-2.2 Sensitive Soils

MORROW AND UMATILLA COUNTIES, OR

-  Amended Site Boundary
-  Local Roads
- Soil Compaction Resistance**
-  Low resistance
-  Moderate resistance
- Fugitive Dust Resistance**
-  Low resistance to dust propagation
-  Moderate resistance to dust propagation
- Erosion Hazard (Stormwater)**
-  Slight
-  Moderate
-  Not Rated



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Wheatridge Renewable Energy Facility East

Figure I-2.3 Sensitive Soils

MORROW AND UMATILLA COUNTIES, OR

-  Amended Site Boundary
-  State Highway
-  County Highway
-  Local Roads
- Soil Compaction Resistance**
-  Low resistance
-  Moderate resistance
- Fugitive Dust Resistance**
-  Low resistance to dust propagation
-  Moderate resistance to dust propagation
- Erosion Hazard (Stormwater)**
-  Slight
-  Moderate



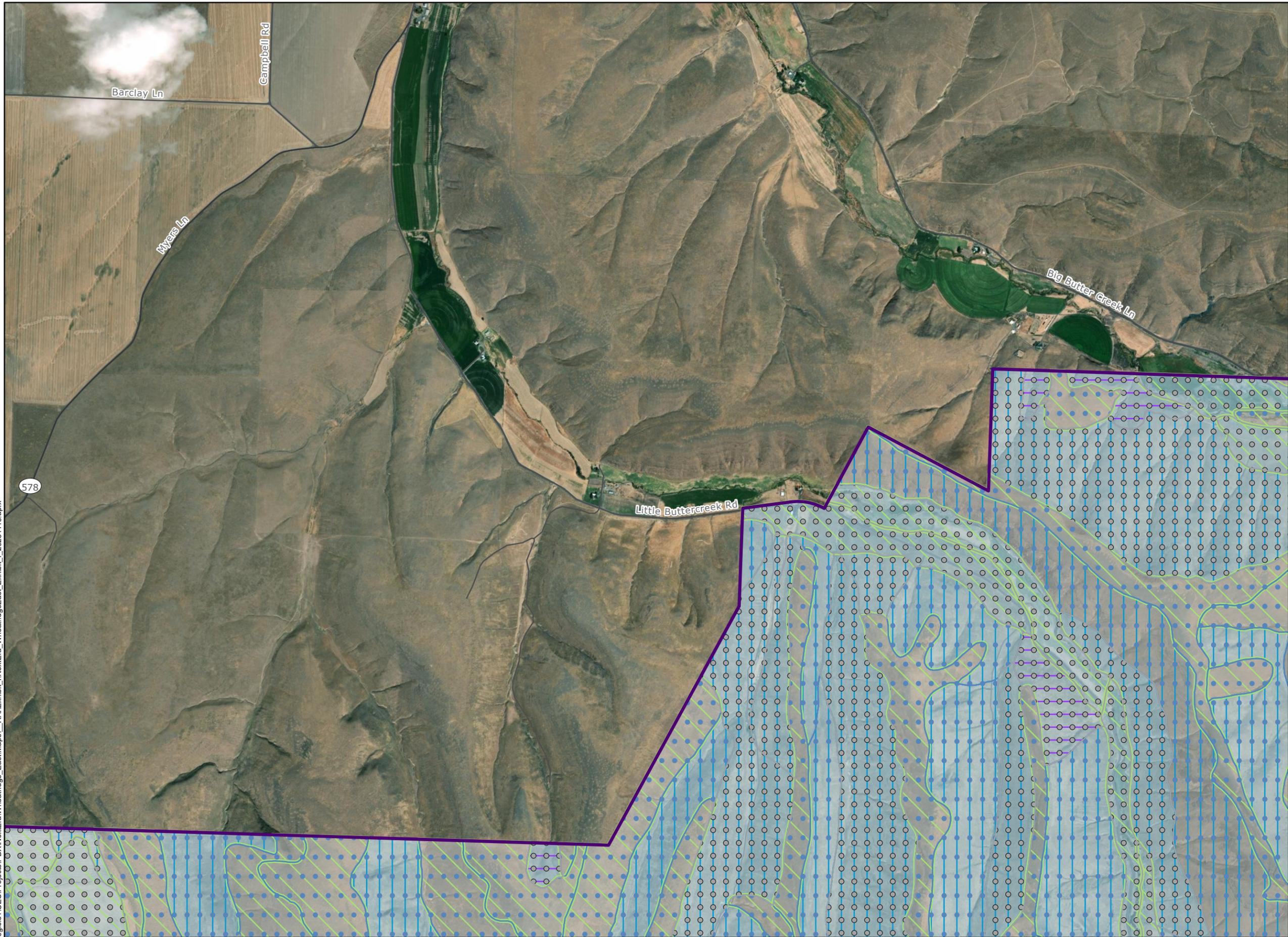
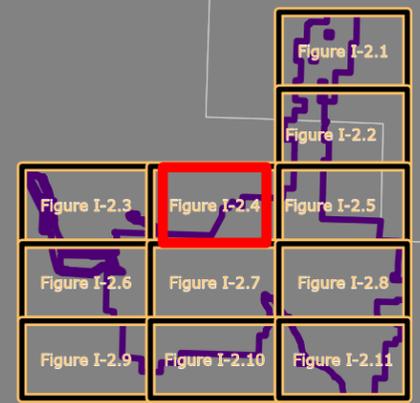
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Wheatridge Renewable Energy Facility East

Figure I-2.4 Sensitive Soils

MORROW AND UMATILLA COUNTIES, OR

-  Amended Site Boundary
-  County Highway
-  Local Roads
- Soil Compaction Resistance**
-  Low resistance
-  Moderate resistance
- Fugitive Dust Resistance**
-  Low resistance to dust propagation
-  Moderate resistance to dust propagation
- Erosion Hazard (Stormwater)**
-  Slight
-  Moderate
-  Severe



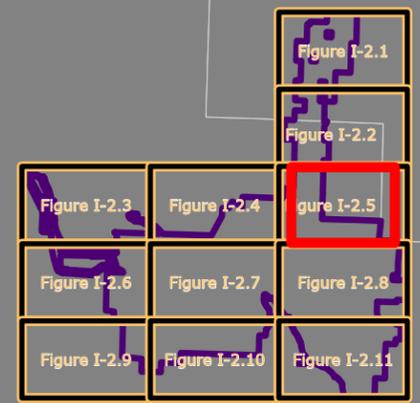
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Wheatridge Renewable Energy Facility East

Figure I-2.5 Sensitive Soils

MORROW AND UMATILLA COUNTIES, OR

-  Amended Site Boundary
-  Local Roads
- Soil Compaction Resistance**
-  Low resistance
-  Moderate resistance
- Fugitive Dust Resistance**
-  Low resistance to dust propagation
-  Moderate resistance to dust propagation
- Erosion Hazard (Stormwater)**
-  Slight
-  Moderate
-  Severe
-  Not Rated



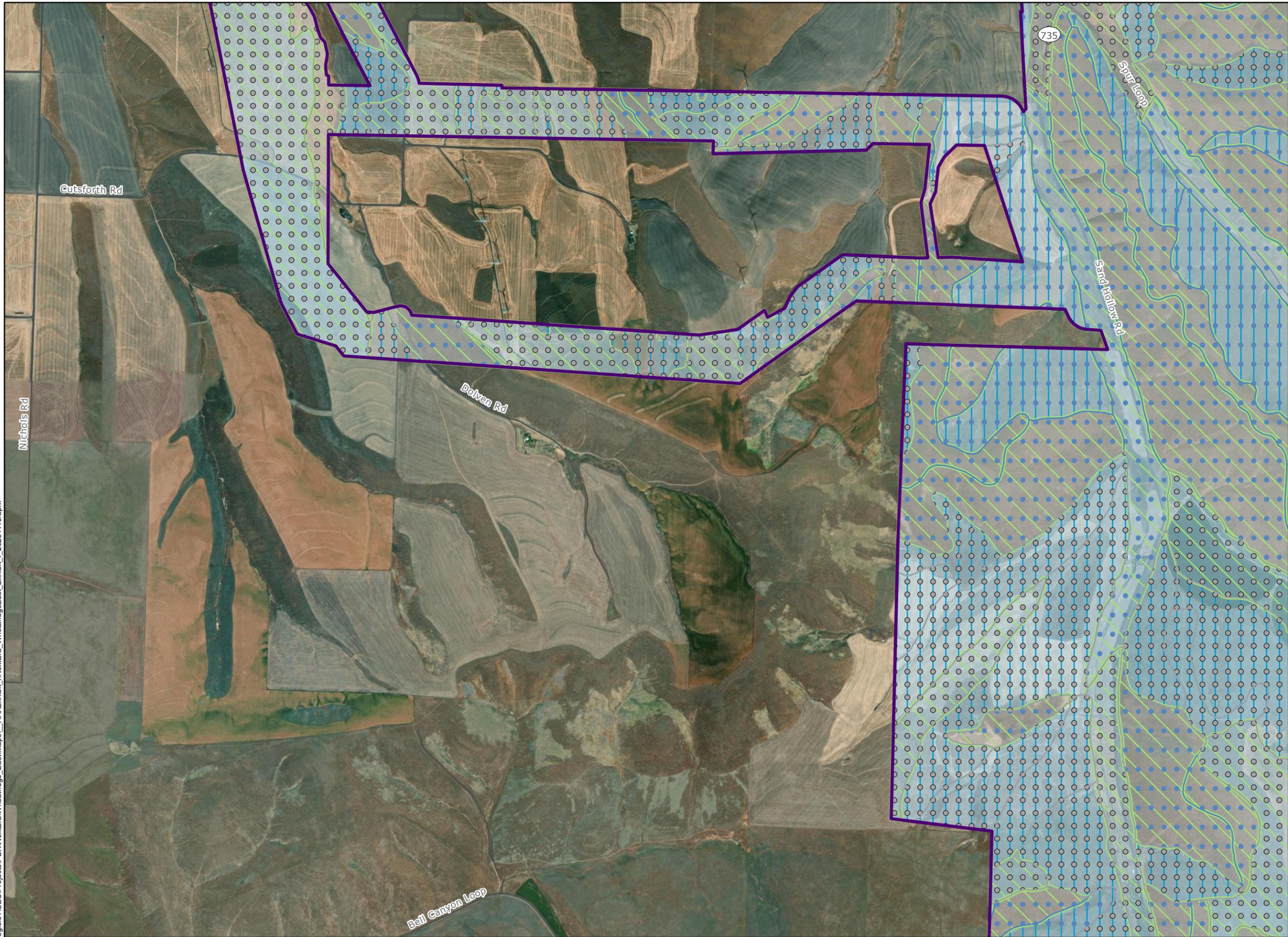
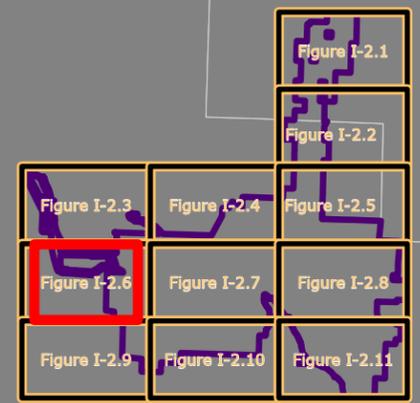
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Wheatridge Renewable Energy Facility East

Figure I-2.6 Sensitive Soils

MORROW AND UMATILLA COUNTIES, OR

-  Amended Site Boundary
-  County Highway
-  Local Roads
- Soil Compaction Resistance
-  Low resistance
-  Moderate resistance
- Fugitive Dust Resistance
-  Low resistance to dust propagation
-  Moderate resistance to dust propagation
- Erosion Hazard (Stormwater)
-  Slight
-  Moderate



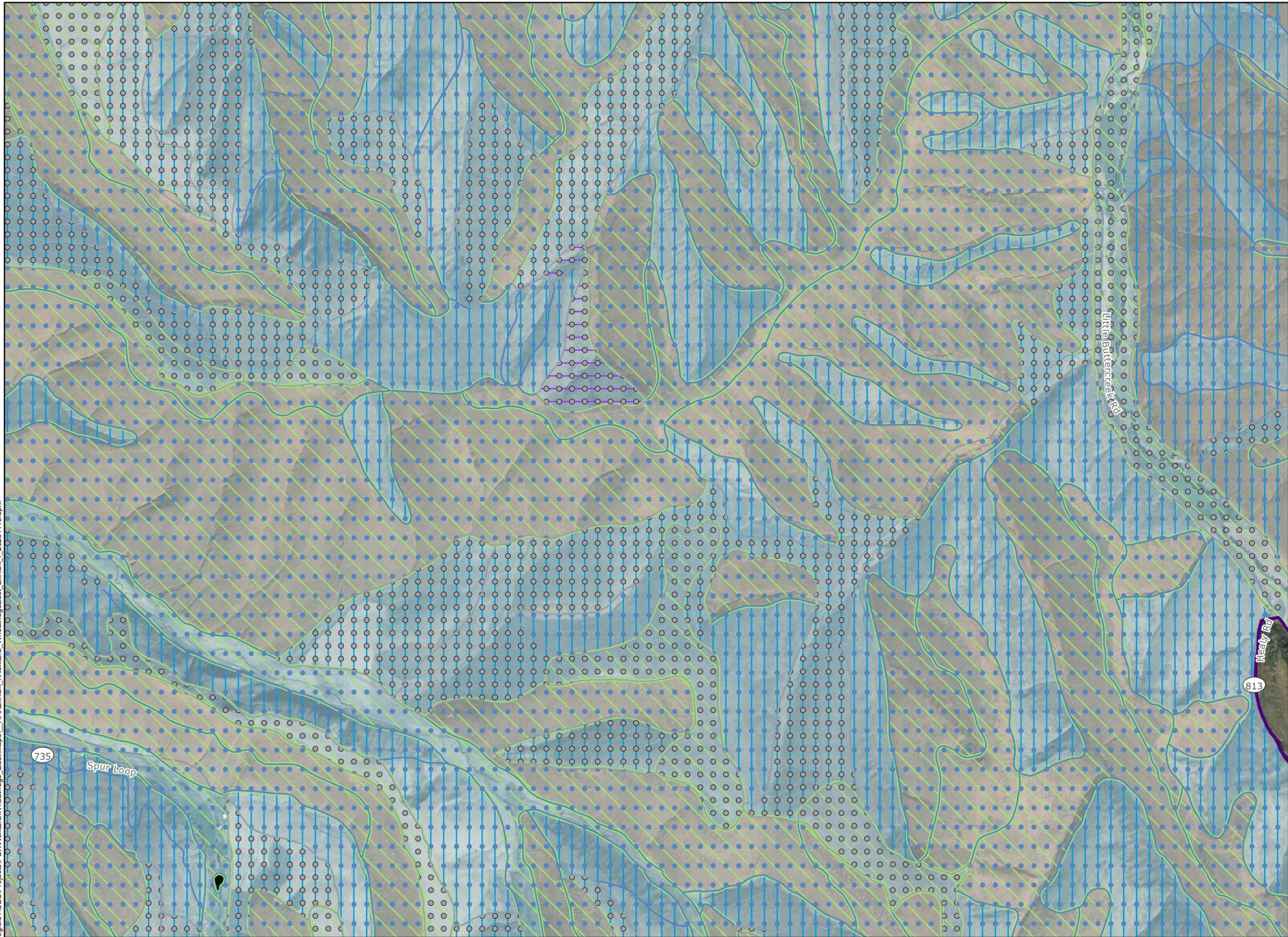
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Figure I-2.7 Sensitive Soils

MORROW AND UMATILLA COUNTIES, OR

-  Amended Site Boundary
-  County Highway
-  Local Roads
- Soil Compaction Resistance**
-  Low resistance
-  Moderate resistance
-  Not Rated
- Fugitive Dust Resistance**
-  Low resistance to dust propagation
-  Moderate resistance to dust propagation
-  Not Rated
- Erosion Hazard (Stormwater)**
-  Slight
-  Moderate
-  Severe
-  Not Rated



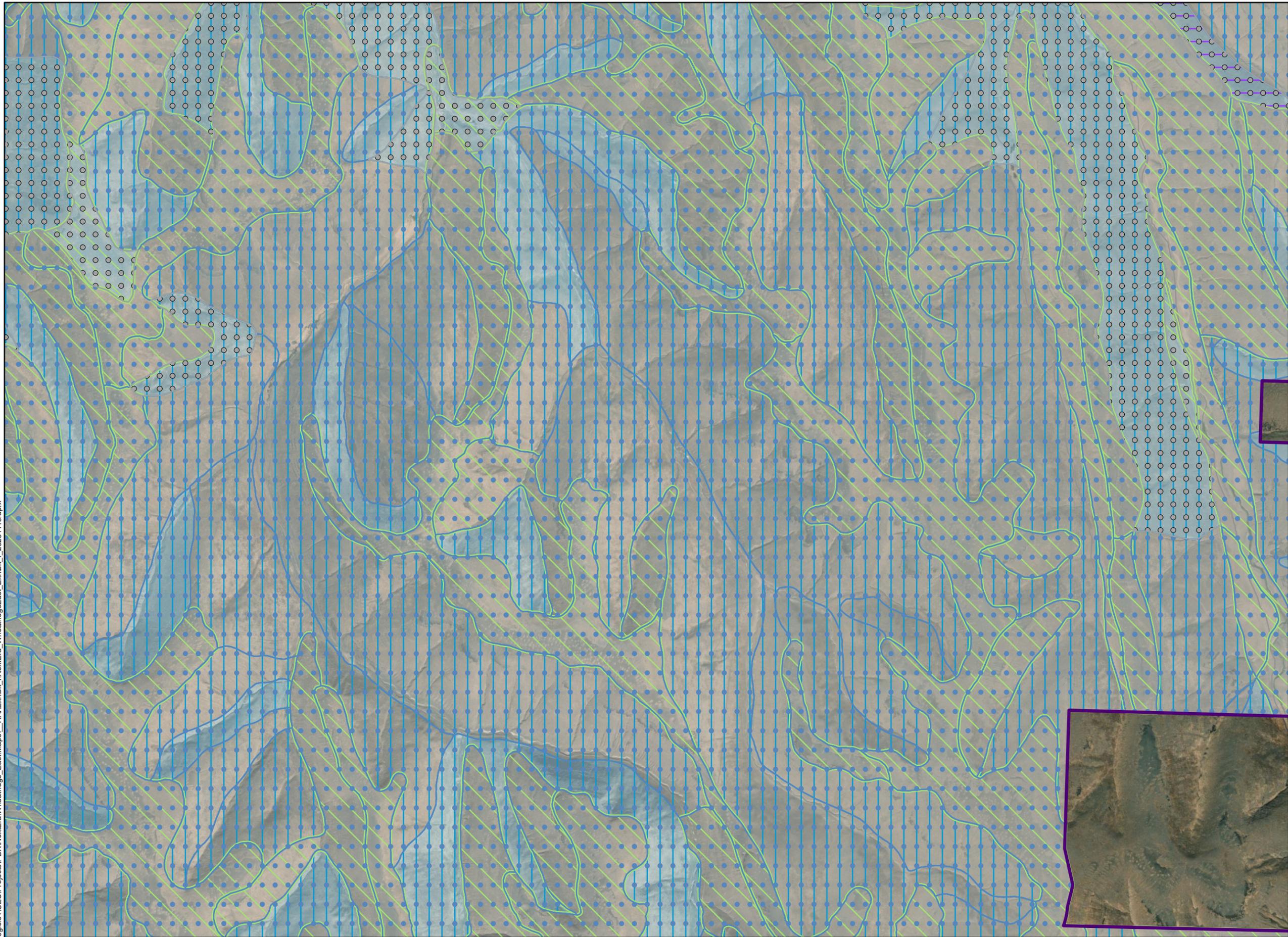
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Wheatridge Renewable Energy Facility East

Figure I-2.8 Sensitive Soils

MORROW AND UMATILLA COUNTIES, OR

-  Amended Site Boundary
-  Local Roads
- Soil Compaction Resistance**
 -  Low resistance
 -  Moderate resistance
- Fugitive Dust Resistance**
 -  Low resistance to dust propagation
 -  Moderate resistance to dust propagation
- Erosion Hazard (Stormwater)**
 -  Slight
 -  Moderate
 -  Severe



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Figure I-2.9 Sensitive Soils

MORROW AND UMATILLA COUNTIES, OR

-  Amended Site Boundary
-  Local Roads
- Soil Compaction Resistance**
 -  Low resistance
 -  Moderate resistance
- Fugitive Dust Resistance**
 -  Low resistance to dust propagation
 -  Moderate resistance to dust propagation
- Erosion Hazard (Stormwater)**
 -  Slight
 -  Moderate



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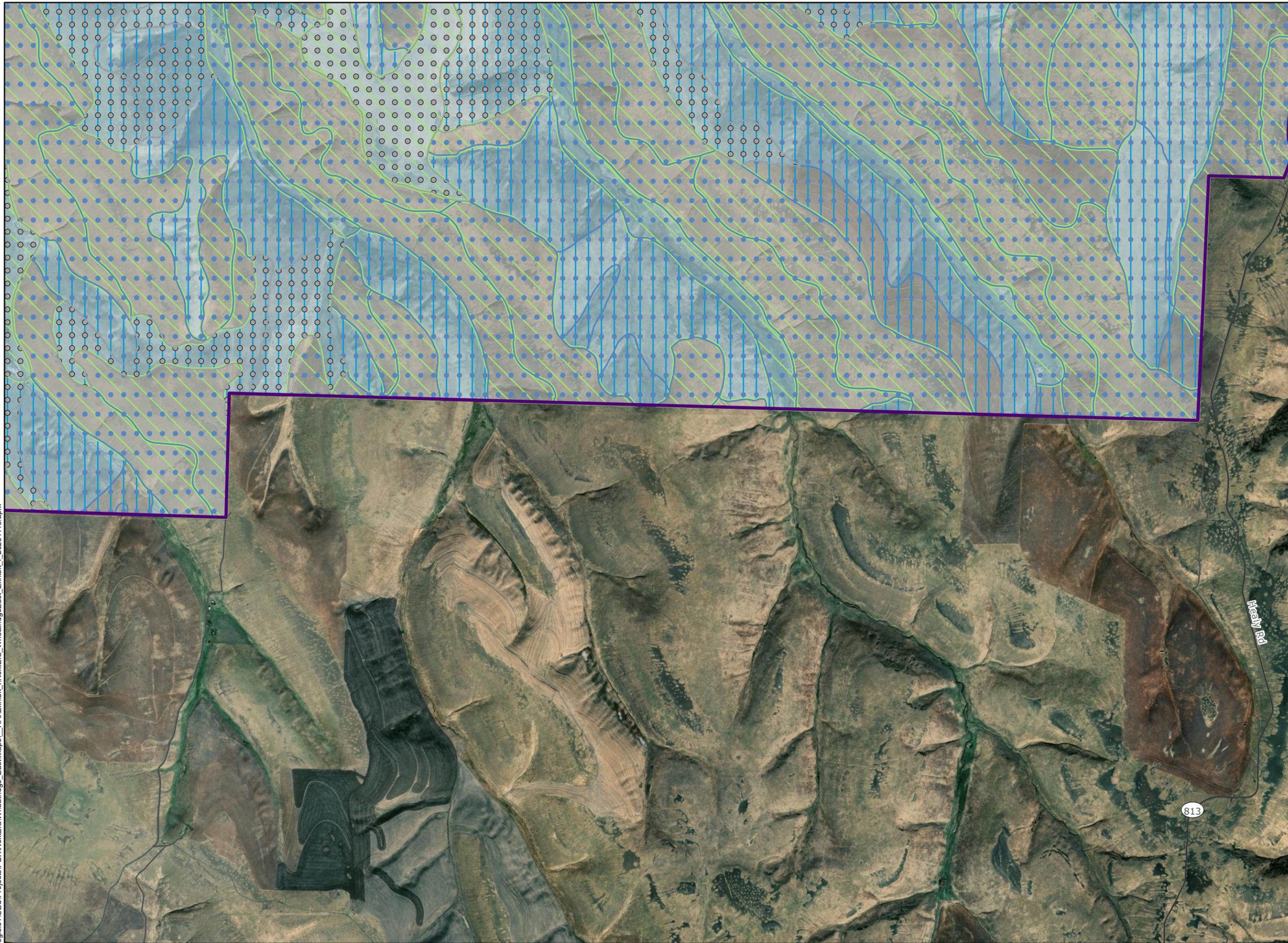
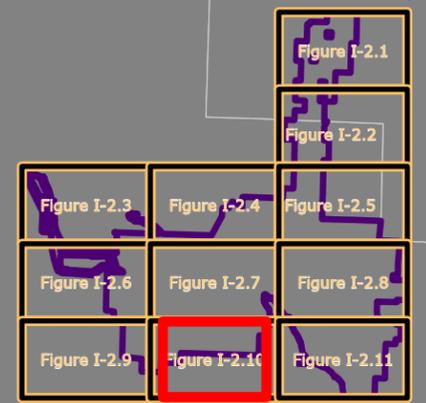
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Figure I-2.10 Sensitive Soils

MORROW AND UMATILLA COUNTIES, OR

- Amended Site Boundary
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- Local Roads
- Soil Compaction Resistance**
 - Low resistance
 - Moderate resistance
- Fugitive Dust Resistance**
 - Low resistance to dust propagation
 - Moderate resistance to dust propagation
- Erosion Hazard (Stormwater)**
 - Slight
 - Moderate

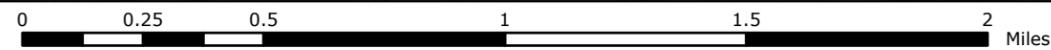


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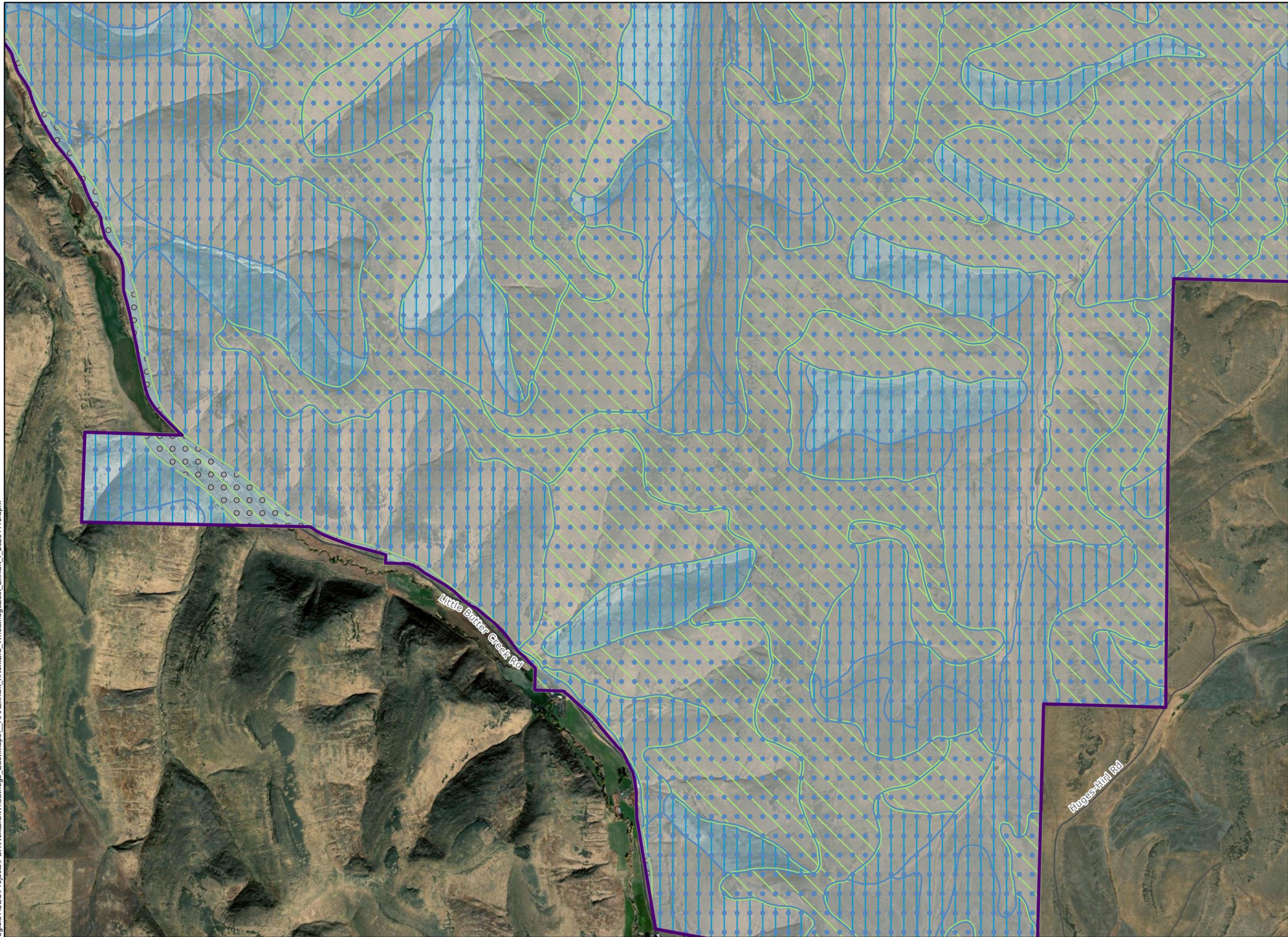
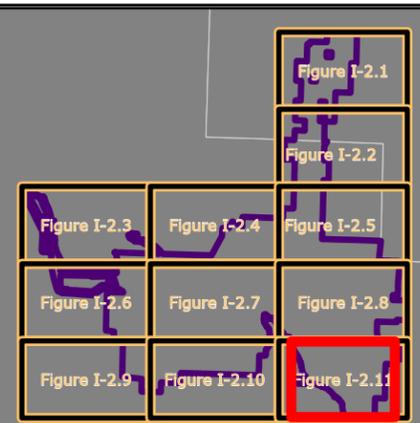
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Wheatridge Renewable Energy Facility East

Figure I-2.11 Sensitive Soils

MORROW AND UMATILLA COUNTIES, OR

-  Amended Site Boundary
-  Local Roads
- Soil Compaction Resistance**
-  Low resistance
-  Moderate resistance
- Fugitive Dust Resistance**
-  Low resistance to dust propagation
-  Moderate resistance to dust propagation
- Erosion Hazard (Stormwater)**
-  Slight
-  Moderate

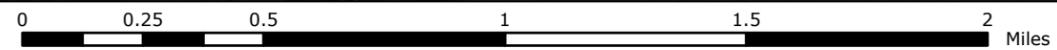


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Attachment I-1. Draft Erosion and Sediment Control Plan

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NEXTERA ENERGY RESOURCES, LLC WHEATRIDGE RENEWABLE ENERGY FACILITY EAST EROSION AND SEDIMENT CONTROL PLAN (ESCP) DRAWINGS

1750 SW HARBOR WAY, SUITE 400
PORTLAND, OR 97201
PHONE: (503) 221-8636 FAX: (503) 227-1287



www.tetratech.com

NARRATIVE DESCRIPTIONS

PROJECT LOCATION:
APPROX. 15 MILES EAST OF LEXINGTON
MORROW & UMATILLA COUNTIES, OREGON
LATITUDE= 45°29'15" N LONGITUDE= 119°22'52" W

SITE SOIL CLASSIFICATION:
SEE SHEET ESC-1

EXISTING SITE CONDITIONS:
EXISTING CONDITIONS CONSISTS OF PRIVATE
AGRICULTURAL LAND GENERALLY USED FOR
DRYLAND WHEAT PRODUCTION OR AS
RANGELAND. THERE ARE NUMEROUS STEEP
CANYONS AND HILLS ACROSS THE SITE AS
WELL.

RECEIVING WATER BODIES:
WATERBODIES IN THE PROJECT AREA INCLUDE 2 PERENNIAL
STREAMS; BUTTER CREEK AND LITTLE BUTTER CREEK, AND
NUMEROUS INTERMITTENT/EPHEMERAL EROSIONAL
FEATURES.

PROPERTY DESCRIPTION:
LOCATED BETWEEN LEXINGTON AND PINE CITY IN
MORROW AND UMATILLA COUNTIES, OREGON.

NATURE OF CONSTRUCTION ACTIVITY AND ESTIMATED TIME TABLE:
NEXTERA TO CONSTRUCT THE WHEATRIDGE EAST WIND FARM WHICH WILL CONSIST OF:
ERECTION OF 106 2.82 MW WIND TURBINES; 94.7 MILES OF UNDERGROUND ELECTRIC COLLECTION LINES;
64 MILES OF GRAVEL ACCESS ROADS; TRANSMISSION LINE POLES WITH UP TO 26 MILES OF 230 KV LINE;
FIVE METEOROLOGICAL TOWERS; A LAYDOWN YARD; TWO PROJECT SUBSTATIONS AND UP TO 5 ACRES
OF BATTERY STORAGE SYSTEMS.

CLEARING/GRUBBING/ACCESS ROADS (DATES, FROM: FEB 2024 & TO: NOV 2024)

THE TOTAL SITE AREA FOR THE PROJECT IS APPROXIMATELY 79,666 ACRES. THE MAXIMUM PERMANENT
DISTURBED AREA IS 148.85 ACRES AND THE MAXIMUM TEMPORARY DISTURBED AREA IS 1,044.59 ACRES.
THERE WILL BE APPROXIMATELY 337,920 LINEAR FEET (64 MILES) OF ACCESS ROADS AND 60 ACRES OF
LAYDOWN YARD. THE TURBINES WILL HAVE A TEMPORARY DISTURBANCE AREA OF 223.7 ACRES AND A
PERMANENT DISTURBANCE AREA OF 8.8 ACRES. THE TWO SUBSTATIONS WILL TOTAL 7.1 ACRES AND 6.5
ACRES OF PERMANENT DISTURBANCE, AND WILL HAVE NO TEMPORARY DISTURBANCE. THE BESS AREA
WILL TOTAL 5 ACRES.

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.

SHEET INDEX

ESC-0	EROSION AND SEDIMENT CONTROL COVER SHEET
ESC-1	EROSION AND SEDIMENT CONTROL NOTES CONT'D
ESC-2	EROSION AND SEDIMENT CONTROL PLAN AREA 1
ESC-3	EROSION AND SEDIMENT CONTROL PLAN AREA 2
ESC-4	EROSION AND SEDIMENT CONTROL PLAN AREA 3
ESC-5	EROSION AND SEDIMENT CONTROL PLAN AREA 4
ESC-6	EROSION AND SEDIMENT CONTROL PLAN AREA 5
ESC-7	EROSION AND SEDIMENT CONTROL PLAN AREA 6
ESC-8	EROSION AND SEDIMENT CONTROL PLAN AREA 7
ESC-9	EROSION AND SEDIMENT CONTROL PLAN AREA 8
ESC-10	EROSION AND SEDIMENT CONTROL DETAILS
ESC-11	EROSION AND SEDIMENT CONTROL DETAILS

DEVELOPER

DEVELOPER/
COMPANY: NEXTERA ENERGY RESOURCES, LLC
CONTACT: DAVID LAWLOR
ADDRESS: 700 UNIVERSE BLVD
JUNO BEACH, FL 33408
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PLANNING/ENGINEERING/ SURVEYING FIRM

COMPANY: TETRA TECH
CONTACT: KRISTEN GULICK
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PORTLAND, OR 97201
PHONE: (541) 740-3316
EMAIL: KRISTEN.GULICK@TETRATECH.COM

PERMITTEE'S SITE INSPECTOR

INSPECTOR: TBD
COMPANY/AGENCY: TBD
PHONE: TBD
EMAIL: TBD
DESCRIPTION OF EXPERIENCE: TBD

INSPECTION FREQUENCY: TBD

SITE CONDITION	MINIMUM FREQUENCY
1. ACTIVE PERIOD	DAILY WHEN STORMWATER RUNOFF, INCLUDING RUNOFF FROM SNOWMELT, IS OCCURRING.
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 NECESSARY MAINTENANCE AND REPAIR MUST BE MADE PRIOR TO LEAVING THE SITE.
3. INACTIVE PERIODS GREATER THAN FOURTEEN CONSECUTIVE 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

BMP MATRIX FOR CONSTRUCTION PHASES

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

BMP'S	2024-2025											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Pipe Slope Drains												
Energy Dissipaters												
Temporary Diversion Dikes												
Check Dams												
Temporary Seeding and Planting											X	X
Permanent Seeding and Planting												
Mycorrhizae/Biofertilizers												
Mulches (type)						X	X	X	X	X	X	X
Construction Entrance			X	X								
Compost Blankets												
Compost Socks												
Compost Berm												
Soil Trackifiers											X	X
Sodding Vegetative Buffer Strips												
Sediments Fencing		X	X	X	X	X	X	X	X	X	X	X
Erosio Control Blankets & Mts												
Earth Dikes												
Drainage Swales												
Rock Outlet Protection												
Sediments Trap												
Straw Wattles												
Storm Drain Inlet Protection												
Temporary or Permanent Sedimentation Basins												
Unpaved Roads Graveled or other BMP on Road												
Dewatering												
Paving Operations Controls												
Concrete Truck Washout					X	X	X	X	X	X	X	X

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

PROJECT LOCATION:

MORROW & UMATILLA COUNTIES, OREGON

CLIENT INFORMATION:

NEXTERA ENERGY RESOURCES, LLC
700 UNIVERSE BLVD
JUNO BEACH, FL, 33408

PROJECT No.:

194-1109-0093

CLIENT PROJECT No.:

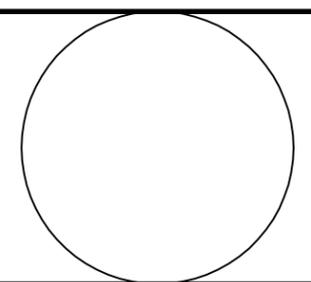
WHEATRIDGE RENEWABLE ENERGY FACILITY EAST

PROJECT DESCRIPTION / NOTES:

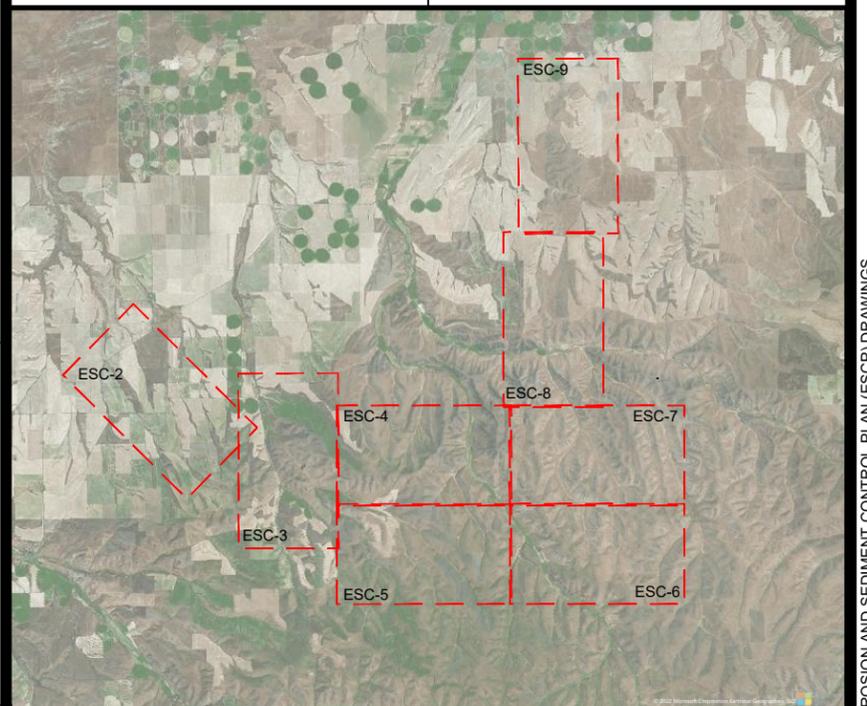
CONSTRUCT A 300 MW WIND POWER FACILITY IN MORROW AND UMATILLA COUNTIES

ISSUED:

ISSUED FOR EDQ REVIEW



VICINTY MAP



STANDARD EROSION AND SEDIMENT CONTROL PLAN DRAWING NOTES:

- 1. HOLD A PRE-CONSTRUCTION MEETING OF PROJECT CONSTRUCTION PERSONNEL THAT INCLUDES THE INSPECTOR TO DISCUSS EROSION AND SEDIMENT CONTROL MEASURES AND CONSTRUCTION LIMITS. (SCHEDULE A.8.C.I.(3))
- 2. ALL INSPECTIONS MUST BE MADE IN ACCORDANCE WITH DEQ 1200-C PERMIT REQUIREMENTS.
- 3. INSPECTION LOGS MUST BE KEPT IN ACCORDANCE WITH DEQ'S 1200-C PERMIT REQUIREMENTS.
- 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. DURING INACTIVE PERIODS OF GREATER THAN SEVEN (7) CONSECUTIVE CALENDAR DAYS, RETAIN THE ESCP AT THE CONSTRUCTION SITE OR AT ANOTHER LOCATION. (SCHEDULE B.2.A)
- 5. ALL PERMIT REGISTRANTS MUST IMPLEMENT THE ESCP. FAILURE TO IMPLEMENT ANY OF THE CONTROL MEASURES OR PRACTICES DESCRIBED IN THE ESCP IS A VIOLATION OF THE PERMIT. (SCHEDULE A.8.A)
- 6. THE ESCP MEASURES SHOWN ON THIS PLAN ARE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, UPGRADE THESE MEASURES AS NEEDED TO COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL EROSION AND SEDIMENT CONTROL REGULATIONS. (SCHEDULE A.8.C.II.(1)(C))
- 7. SUBMISSION OF ALL ESCP REVISIONS IS NOT REQUIRED. SUBMITTAL OF THE ESCP REVISIONS IS ONLY UNDER SPECIFIC CONDITIONS. SUBMIT ALL NECESSARY REVISIONS TO DEQ OR AGENT. (SCHEDULE A.12.C.III)
- 8. PHASE CLEARING AND GRADING TO THE MAXIMUM EXTENT PRACTICAL TO PREVENT EXPOSED INACTIVE AREAS FROM BECOMING A SOURCE OF EROSION. (SCHEDULE A.8.C.II.(1)(D))
- 9. IDENTIFY, MARK, AND PROTECT (BY FENCING OFF 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. (SCHEDULE A.8.C.I.(1) & (2))
- 10. 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. (SCHEDULE A.7.B.III(1) AND A.7.B.III(3))
- 11. EROSION AND SEDIMENT CONTROL MEASURES INCLUDING PERIMETER SEDIMENT CONTROL MUST BE IN PLACE BEFORE VEGETATION IS DISTURBED AND MUST REMAIN IN PLACE AND BE MAINTAINED, REPAIRED, AND PROMPTLY IMPLEMENTED FOLLOWING PROCEDURES ESTABLISHED FOR THE DURATION OF CONSTRUCTION, INCLUDING PROTECTION FOR ACTIVE STORM DRAIN INLETS AND CATCH BASINS AND APPROPRIATE NON-STORMWATER POLLUTION CONTROLS. (SCHEDULE A.7.D.I AND A.8.C)
- 12. ESTABLISH CONCRETE TRUCK AND OTHER CONCRETE EQUIPMENT WASHOUT AREAS BEFORE BEGINNING CONCRETE WORK. (SCHEDULE A.8.C.I.(6))
- 13. APPLY TEMPORARY AND/OR PERMANENT SOIL STABILIZATION MEASURES IMMEDIATELY ON ALL DISTURBED AREAS AS GRADING PROGRESSES AND FOR ALL ROADWAYS INCLUDING GRAVEL ROADWAYS. (SCHEDULE A.8.C.II.(2))
- 14. ESTABLISH MATERIAL AND WASTE STORAGE AREAS, AND OTHER NON-STORMWATER CONTROLS. (SCHEDULE A.8.C.I.(7))
- 15. PREVENT TRACKING OF SEDIMENT ONTO PUBLIC OR PRIVATE ROADS USING BMPS SUCH AS: 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. (SCHEDULE A.7.D.II.(1) AND A.8.C.I(4))
- 16. WHEN TRUCKING SATURATED SOILS FROM THE SITE, EITHER USE WATER-TIGHT TRUCKS OR DRAIN LOADS ON SITE. (SCHEDULE A.7.D.II.(3))
- 17. 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, LEFTOVER PAINTS, SOLVENTS, AND GLUES FROM CONSTRUCTION OPERATIONS. (SCHEDULE A.7.E.I.(2))
- 18. 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. (SCH A.7.E.III.)
- 19. USE WATER, SOIL-BINDING AGENT OR OTHER DUST CONTROL TECHNIQUE AS NEEDED TO AVOID WIND-BLOWN SOIL. (SCHEDULE A.7.B.II)
- 20. 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. (SCHEDULE A.9.B.III)
- 21. IF A STORMWATER 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 PLAN APPROVAL BEFORE OPERATING THE TREATMENT SYSTEM. OPERATE AND MAINTAIN THE TREATMENT SYSTEM ACCORDING TO MANUFACTURER'S SPECIFICATIONS. (SCHEDULE A.9.D)
- 22. 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. (SCHEDULE A.7.B)
- 23. 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. (SCHEDULE A.7.E.II.(2))
- 24. CONSTRUCTION ACTIVITIES MUST AVOID OR MINIMIZE EXCAVATION AND CREATION OF BARE GROUND DURING WET WEATHER. (SCHEDULE A.7.A.I)
- 25. SEDIMENT FENCE: REMOVE TRAPPED SEDIMENT BEFORE IT REACHES ONE THIRD OF THE ABOVE GROUND FENCE HEIGHT AND BEFORE FENCE REMOVAL. (SCHEDULE A.9.C.I)
- 26. OTHER SEDIMENT BARRIERS (SUCH AS BIOBAGS); REMOVE SEDIMENT BEFORE IT REACHES TWO INCHES DEPTH ABOVE GROUND HEIGHT, AND BEFORE BMP REMOVAL. (SCHEDULE A.9.C.II)
- 27. 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. (SCHEDULE A.9.C.III & IV)
- 28. 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 DIVISION OF STATE LANDS REQUIRED TIMEFRAME. (SCHEDULE A.9.B.I)
- 29. 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. (SCHEDULE A.9.B.II)
- 30. THE ENTIRE SITE MUST BE TEMPORARILY STABILIZED USING VEGETATION OR A HEAVY MULCH LAYER, TEMPORARY SEEDING, OR OTHER METHOD SHOULD ALL CONSTRUCTION ACTIVITIES CEASE FOR 30 DAYS OR MORE. (SCHEDULE A.7.F.I)
- 31. 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. (SCHEDULE A.7.F.II)
- 32. PROVIDE PERMANENT EROSION CONTROL MEASURES ON ALL EXPOSED AREAS. DO NOT REMOVE TEMPORARY SEDIMENT CONTROL PRACTICES UNTIL PERMANENT VEGETATION OR OTHER COVER OF EXPOSED AREAS IS ESTABLISHED. HOWEVER, DO REMOVE ALL TEMPORARY EROSION CONTROL MEASURES AS EXPOSED AREAS BECOME STABILIZED, UNLESS DOING SO CONFLICTS WITH LOCAL REQUIREMENTS. PROPERLY DISPOSE OF CONSTRUCTION MATERIALS AND WASTE, INCLUDING SEDIMENT RETAINED BY TEMPORARY BMPS. (SCHEDULE A.7.B.III(2) AND A.8.C.III)

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 BMPS THAT MUST BE INSTALLED ARE A GRAVEL CONSTRUCTION ENTRANCE, PERIMETER SEDIMENT CONTROL, AND INLET PROTECTION. THESE BMPS MUST BE MAINTAINED FOR THE DURATION OF THE PROJECT.
- 4. IF VEGETATIVE SEED MIXES ARE SPECIFIED, SEEDING MUST TAKE THE PLACE NO LATER THAN SEPTEMBER 1; 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 OR 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 BMPS MUST BE USED WHICH MAY INCLUDE THE APPLICATION OF FINE WATER SPRAYING, PLASTIC SHEETING, MULCHING OR OTHER APPROVED MEASURES.
- 9. ALL EXPOSED SOILS MUST BE COVERED DURING THE WET WEATHER PERIOD.

SITE SOIL CLASSIFICATIONS:

- 2D BAKEOVEN VERY COBBLY LOAM, 2 TO 20 PERCENT SLOPES
- 3D BAKEOVEN-MORROW COMPLEX, 2 TO 20 PERCENT SLOPES
- 4D BAKEOVEN-VALBY COMPLEX, 2 TO 20 PERCENT SLOPES
- 11 ENDERSBY FINE SANDY LOAM
- 12 ESQUARTZEL SILT LOAM
- 22 KIMBERLY FINE SANDY LOAM
- 28E LICKSKILLET VERY STONY LOAM, 7 TO 40 PERCENT SLOPES
- 29F LICKSKILLET-ROCK OUTCROP COMPLEX, 40 TO 70 PERCENT SLOPES
- 30B MIKKALO SILT LOAM, 2 TO 7 PERCENT SLOPES
- 30C MIKKALO SILT LOAM, 7 TO 12 PERCENT SLOPES
- 30D MIKKALO SILT LOAM, 12 TO 20 PERCENT SLOPES
- 31B MORROW SILT LOAM, 1 TO 7 PERCENT SLOPES
- 31C MORROW SILT LOAM, 7 TO 12 PERCENT SLOPES
- 32E MORROW SILT LOAM, 20 TO 35 PERCENT NORTH SLOPES
- 33E MORROW SILT LOAM, 30 TO 30 PERCENT SOUTH SLOPES
- 34F NANSENE SILT LOAM, 35 TO 70 PERCENT SLOPES
- 35 ONYX SILT LOAM
- 36 PEDIGO SILT LOAM
- 43B RHEA SILT LOAM, 1 TO 7 PERCENT SLOPES
- 43C RHEA SILT LOAM, 7 TO 12 PERCENT SLOPES
- 43D RHEA SILT LOAM, 12 TO 20 PERCENT SLOPES
- 43E RHEA SILT LOAM, 20 TO 35 PERCENT SLOPES
- 43F RHEA SILT LOAM, 35 TO 50 PERCENT SLOPES
- 45B RITZVILLE SILT LOAM, 2 TO 7 PERCENT SLOPES
- 45C RITZVILLE SILT LOAM, 7 TO 12 PERCENT SLOPES
- 45D RITZVILLE SILT LOAM, 12 TO 20 PERCENT SLOPES
- 46E RITZVILLE SILT LOAM, 20 TO 40 PERCENT NORTH SLOPES
- 63B VALBY SILT LOAM, 1 TO 7 PERCENT SLOPES
- 63C VALBY SILT LOAM, 7 TO 12 PERCENT SLOPES
- 64D VALBY SILT LOAM, 12 TO 20 PERCENT NORTH SLOPES
- 65D VALBY SILT LOAM, 12 TO 20 PERCENT SOUTH SLOPES
- 65E VALBY SILT LOAM, 20 TO 30 PERCENT SOUTH SLOPES
- 75B WILLIS SILT LOAM, 2 TO 5 PERCENT SLOPES
- 75C WILLIS SILT LOAM, 5 TO 12 PERCENT SLOPES
- 75D WILLIS SILT LOAM, 12 TO 20 PERCENT SLOPES
- 77F WRENTHAM-ROCK OUTCROP COMPLEX, 35 TO 70 PERCENT SLOPES
- 78 XERIC TORRIORTHENTS, NEARLY LEVEL
- 82B CONDON SILT LOAM, 1 TO 7 PERCENT SLOPES
- 83D CONDON SILT LOAM, 12 TO 20 PERCENT NORTH SLOPES
- 85C CONDON SILT LOAM, 7 TO 12 PERCENT SLOPES
- 15B BURKE SILT LOAM, 1 TO 7 PERCENT SLOPES
- 15C BURKE SILT LOAM, 7 TO 12 PERCENT SLOPES
- 15E BURKE SILT LOAM, 12 TO 20 PERCENT SLOPES
- 18B CORDON SILT LOAM, 1 TO 7 PERCENT SLOPES
- 18C CORDON SILT LOAM, 7 TO 12 PERCENT SLOPES
- 19D CORDON SILT LOAM, 12 TO 20 PERCENT NORTH SLOPES
- 42A KIMBERLY FINE SANDY LOAM, 0 TO 3 PERCENT SLOPES
- 43A KIMBERLY SILT LOAM, 0 TO 3 PERCENT SLOPES
- 48E LICKSKILLET VERY STONY LOAM, 7 TO 40 PERCENT SLOPES
- 50F LICKSKILLET-ROCK OUTCROP COMPLEX, 40 TO 70 PERCENT SLOPES
- 54B MIKKALO SILT LOAM, 2 TO 7 PERCENT SLOPES
- 54C MIKKALO SILT LOAM, 7 TO 12 PERCENT SLOPES
- 54D MIKKALO SILT LOAM, 12 TO 20 PERCENT SLOPES
- 54E MKKALO SILT LOAM, 20 TO 35 PERCENT SLOPES
- 80B RITZVILLE SILT LOAM, 2 TO 7 PERCENT SLOPES
- 80C RITZVILLE SILT LOAM, 7 TO 12 PERCENT SLOPES
- 81E RITZVILLE SILT LOAM, 25 TO 40 PERCENT NORTH SLOPES
- 87B SAGEHILL FINE SANDY LOAM, 2 TO 5 PERCENT SLOPES
- 88B SHANO VERY FINE SANDY LOAM, 2 TO 7 PERCENT SLOPES
- 88C SHANO VERY FINE SANDY LOAM, 7 TO 12 PERCENT SLOPES
- 88D SHANO VERY FINE SANDY LOAM, 12 TO 25 PERCENT SLOPES
- 89B SHANO SILT LOAM, 2 TO 7 PERCENT SLOPES
- 89C SHANO SILT LOAM, 7 TO 12 PERCENT SLOPES
- 89D SHANO SILT LOAM, 12 TO 25 PERCENT SLOPES
- 121B WILLIS SILT LOAM, 2 TO 7 PERCENT SLOPES
- 121D WILLIS SILT LOAM, 12 TO 35 PERCENT SLOPES

DRAFT



TETRA TECH
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MARK	DATE	DESCRIPTION	BY

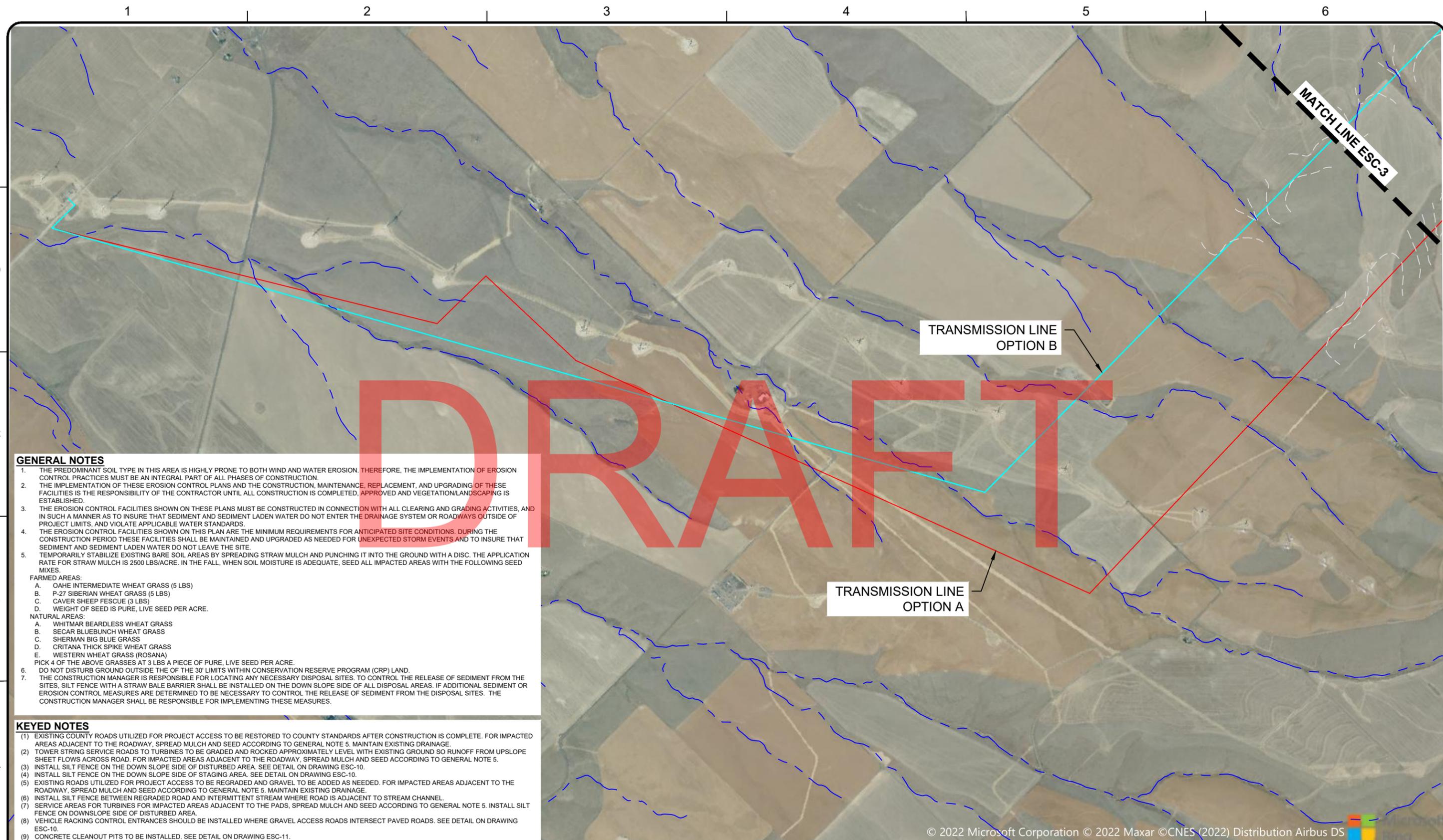
NEXTERA ENERGY
WHEATRIDGE EAST WIND ENERGY PROJECT
EROSION AND SEDIMENT CONTROL PLAN
NOTES CONT'D

Project No.:	194-1109-0093
Designed By:	CAN
Drawn By:	CAN
Checked By:	JPP
ESC-1	

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GENERAL NOTES

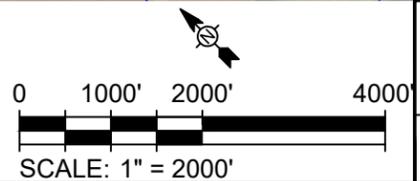
1. THE PREDOMINANT SOIL TYPE IN THIS AREA IS HIGHLY PRONE TO BOTH WIND AND WATER EROSION. THEREFORE, THE IMPLEMENTATION OF EROSION CONTROL PRACTICES MUST BE AN INTEGRAL PART OF ALL PHASES OF CONSTRUCTION.
2. THE IMPLEMENTATION OF THESE EROSION CONTROL PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED, APPROVED AND VEGETATION/LANDSCAPING IS ESTABLISHED.
3. 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.
4. 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.
5. 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 FOLLOWING SEED MIXES.
FARMED AREAS:
 A. OAHIE INTERMEDIATE WHEAT GRASS (5 LBS)
 B. P-27 SIBERIAN WHEAT GRASS (5 LBS)
 C. CAVER SHEEP FESCUE (3 LBS)
 D. WEIGHT OF SEED IS PURE, LIVE SEED PER ACRE.
NATURAL AREAS:
 A. WHITMAR BEARDLESS WHEAT GRASS
 B. SECAR BLUEBUNCH WHEAT GRASS
 C. SHERMAN BIG BLUE GRASS
 D. CRITANA THICK SPIKE WHEAT GRASS
 E. WESTERN WHEAT GRASS (ROSANA)
 PICK 4 OF THE ABOVE GRASSES AT 3 LBS A PIECE OF PURE, LIVE SEED PER ACRE.
6. DO NOT DISTURB GROUND OUTSIDE THE OF THE 30' LIMITS WITHIN CONSERVATION RESERVE PROGRAM (CRP) LAND.
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 5. MAINTAIN EXISTING DRAINAGE.
- (2) TOWER STRING SERVICE ROADS TO TURBINES 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 5.
- (3) INSTALL SILT FENCE ON THE DOWN SLOPE SIDE OF DISTURBED AREA. SEE DETAIL ON DRAWING ESC-10.
- (4) INSTALL SILT FENCE ON THE DOWN SLOPE SIDE OF STAGING AREA. SEE DETAIL ON DRAWING ESC-10.
- (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 5. MAINTAIN EXISTING DRAINAGE.
- (6) INSTALL SILT FENCE BETWEEN REGRADED ROAD AND INTERMITTENT STREAM WHERE ROAD IS ADJACENT TO STREAM CHANNEL.
- (7) SERVICE AREAS FOR TURBINES FOR IMPACTED AREAS ADJACENT TO THE PADS, SPREAD MULCH AND SEED ACCORDING TO GENERAL NOTE 5. INSTALL SILT FENCE ON DOWNSLOPE SIDE OF DISTURBED AREA.
- (8) VEHICLE RACKING CONTROL ENTRANCES SHOULD BE INSTALLED WHERE GRAVEL ACCESS ROADS INTERSECT PAVED ROADS. SEE DETAIL ON DRAWING ESC-10.
- (9) CONCRETE CLEANOUT PITS TO BE INSTALLED. SEE DETAIL ON DRAWING ESC-11.

LEGEND

- ③ KEYED NOTES
- EXISTING STREAM
- UNNAMED TRIBUTARY
- COLLECTOR LINE
- ACCESS ROAD
- SURFACE FLOW DIRECTION
- 2 EXISTING 20' CONTOUR
- T WIND TURBINE LOCATION
- S SUBSTATION
- Y LAYDOWN YARD
- R RAILROAD TIE



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MARK	DATE	DESCRIPTION	BY

NEXTERA ENERGY
 WHEATRIDGE EAST WIND ENERGY PROJECT
 EROSION AND SEDIMENT CONTROL PLAN
 AREA 1

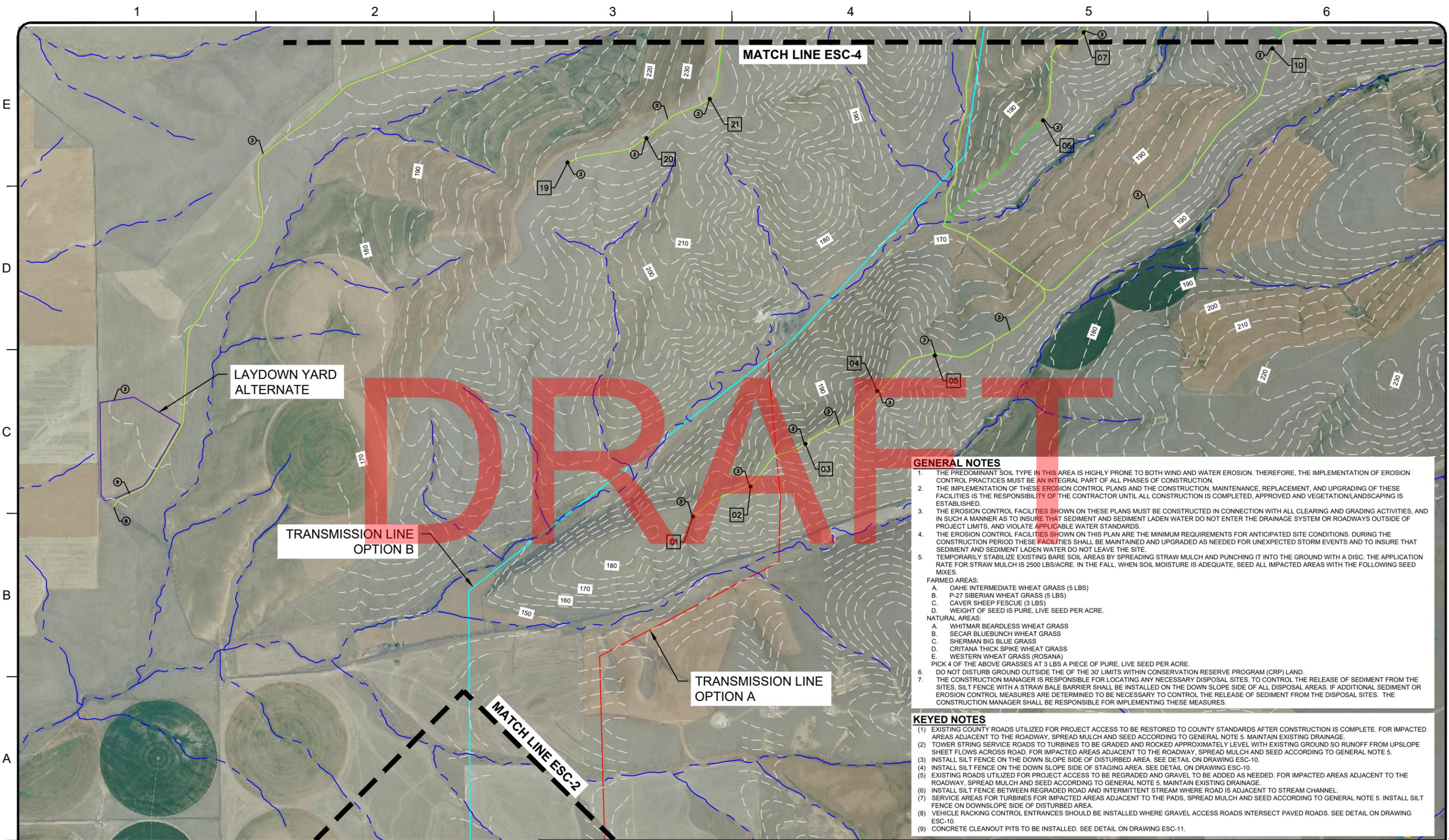
Project No.:	194-1109-0093
Designed By:	CAN
Drawn By:	CAN
Checked By:	JPP
ESC-2	

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Bar Measures 1 inch

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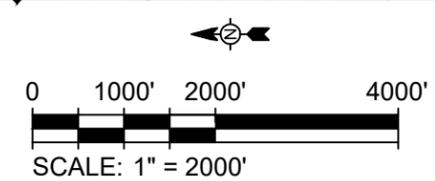


- GENERAL NOTES**
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 3. THE EROSION CONTROL FACILITIES SHOWN ON THESE PLANS MUST BE CONSTRUCTED IN CONNECTION WITH ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO INSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DO NOT ENTER THE DRAINAGE SYSTEM OR ROADWAYS OUTSIDE OF PROJECT LIMITS, AND VIOLATE APPLICABLE WATER STANDARDS.
 4. 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.
 5. 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 FOLLOWING SEED MIXES.
- FARMED AREAS:**
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LEGEND

- ③ KEYED NOTES
- EXISTING STREAM
- UNNAMED TRIBUTARY
- COLLECTOR LINE
- ACCESS ROAD
- SURFACE FLOW DIRECTION
- EXISTING 5' CONTOUR
- ⊠ WIND TURBINE LOCATION
- ⊠ SUBSTATION
- ⊠ LAYDOWN YARD



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MARK	DATE	DESCRIPTION	BY

NEXTERA ENERGY
WHEATRIDGE EAST WIND ENERGY PROJECT
EROSION AND SEDIMENT CONTROL PLAN
AREA 2

Project No.: 194-1109-0093
Designed By: CAN
Drawn By: CAN
Checked By: JPP
ESC-3

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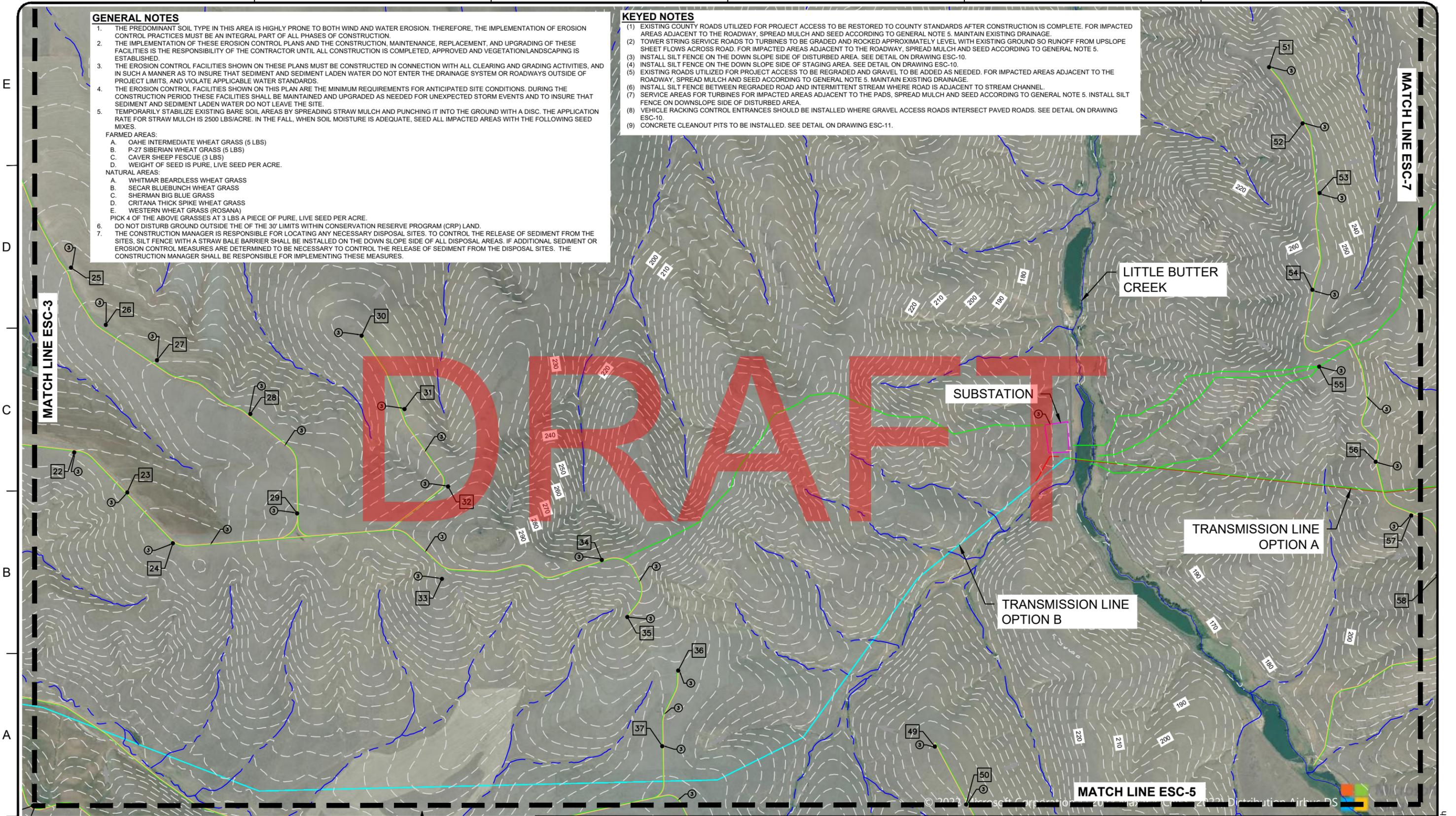
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KEYED NOTES

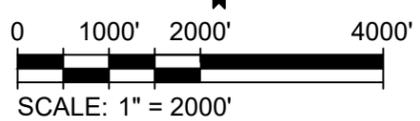
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DRAFT



LEGEND

- Ⓢ KEYED NOTES
- EXISTING STREAM
- UNNAMED TRIBUTARY
- COLLECTOR LINE
- ACCESS ROAD
- SURFACE FLOW DIRECTION
- 2 EXISTING 5' CONTOUR
- 2 WIND TURBINE LOCATION
- 2 SUBSTATION
- 2 LAYDOWN YARD



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MARK	DATE	DESCRIPTION	BY

NEXTERA ENERGY
WHEATRIDGE EAST WIND ENERGY PROJECT
EROSION AND SEDIMENT CONTROL PLAN
AREA 3

Project No.:	194-1109-0093
Designed By:	CAN
Drawn By:	CAN
Checked By:	JPP
ESC-4	

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GENERAL NOTES

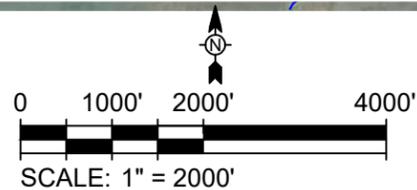
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LEGEND

- KEYED NOTES
- EXISTING STREAM
- UNNAMED TRIBUTARY
- COLLECTOR LINE
- ACCESS ROAD
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- EXISTING 5' CONTOUR
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MARK	DATE	DESCRIPTION	BY

NEXTERA ENERGY	
WHEATRIDGE EAST WIND ENERGY PROJECT	
EROSION AND SEDIMENT CONTROL PLAN AREA 4	

Project No.:	194-1109-0093
Designed By:	CAN
Drawn By:	CAN
Checked By:	JPP
ESC-5	

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- EXISTING STREAM
- UNNAMED TRIBUTARY
- COLLECTOR LINE
- ACCESS ROAD
- SURFACE FLOW DIRECTION
- EXISTING 5' CONTOUR
- WIND TURBINE LOCATION
- SUBSTATION
- LAYDOWN YARD

0 1000' 2000' 4000'

SCALE: 1" = 2000'

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MARK	DATE	DESCRIPTION	BY

NEXTERA ENERGY

WHEATRIDGE EAST WIND ENERGY PROJECT

EROSION AND SEDIMENT CONTROL PLAN
 AREA 5

Project No.:	194-1109-0093
Designed By:	CAN
Drawn By:	CAN
Checked By:	JPP
ESC-6	

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Bar Measures 1 inch

11/2/2022 4:07:16 PM - C:\CIVIL 3D PROJECTS\WHEATRIDGE EAST\CAD\WHEATRIDGE EAST WND ESCP_MP.DWG - NIETEN, CATTILIN

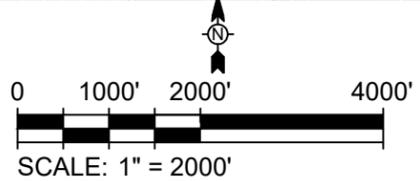


- GENERAL NOTES**
- THE PREDOMINANT SOIL TYPE IN THIS AREA IS HIGHLY PRONE TO BOTH WIND AND WATER EROSION. THEREFORE, THE IMPLEMENTATION OF EROSION CONTROL PRACTICES MUST BE AN INTEGRAL PART OF ALL PHASES OF CONSTRUCTION.
 - THE IMPLEMENTATION OF THESE EROSION CONTROL PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED, APPROVED AND VEGETATION/LANDSCAPING IS ESTABLISHED.
 - 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.
 - 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.
 - 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 FOLLOWING SEED MIXES.
- FARMED AREAS:**
- OAHE INTERMEDIATE WHEAT GRASS (5 LBS)
 - P-27 SIBERIAN WHEAT GRASS (5 LBS)
 - CAVER SHEEP FESCUE (3 LBS)
 - WEIGHT OF SEED IS PURE, LIVE SEED PER ACRE.
- NATURAL AREAS:**
- WHITMAR BEARDLESS WHEAT GRASS
 - SECAR BLUEBUNCH WHEAT GRASS
 - SHERMAN BIG BLUE GRASS
 - CRITANA THICK SPIKE WHEAT GRASS
 - WESTERN WHEAT GRASS (ROSANA)
- PICK 4 OF THE ABOVE GRASSES AT 3 LBS A PIECE OF PURE, LIVE SEED PER ACRE.
- DO NOT DISTURB GROUND OUTSIDE THE OF THE 30' LIMITS WITHIN CONSERVATION RESERVE PROGRAM (CRP) LAND.
 - 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**
- 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 5. MAINTAIN EXISTING DRAINAGE.
 - TOWER STRING SERVICE ROADS TO TURBINES 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 5.
 - INSTALL SILT FENCE ON THE DOWN SLOPE SIDE OF DISTURBED AREA. SEE DETAIL ON DRAWING ESC-10.
 - INSTALL SILT FENCE ON THE DOWN SLOPE SIDE OF STAGING AREA. SEE DETAIL ON DRAWING ESC-10.
 - 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 5. MAINTAIN EXISTING DRAINAGE.
 - INSTALL SILT FENCE BETWEEN REGRADED ROAD AND INTERMITTENT STREAM WHERE ROAD IS ADJACENT TO STREAM CHANNEL.
 - SERVICE AREAS FOR TURBINES FOR IMPACTED AREAS ADJACENT TO THE PADS, SPREAD MULCH AND SEED ACCORDING TO GENERAL NOTE 5. INSTALL SILT FENCE ON DOWNSLOPE SIDE OF DISTURBED AREA.
 - VEHICLE RACKING CONTROL ENTRANCES SHOULD BE INSTALLED WHERE GRAVEL ACCESS ROADS INTERSECT PAVED ROADS. SEE DETAIL ON DRAWING ESC-10.
 - CONCRETE CLEANOUT PITS TO BE INSTALLED. SEE DETAIL ON DRAWING ESC-11.

LEGEND

- KEYED NOTES
- EXISTING STREAM
- UNNAMED TRIBUTARY
- COLLECTOR LINE
- ACCESS ROAD
- SURFACE FLOW DIRECTION
- EXISTING 5' CONTOUR
- WIND TURBINE LOCATION
- SUBSTATION
- LAYDOWN YARD



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MARK	DATE	DESCRIPTION	BY

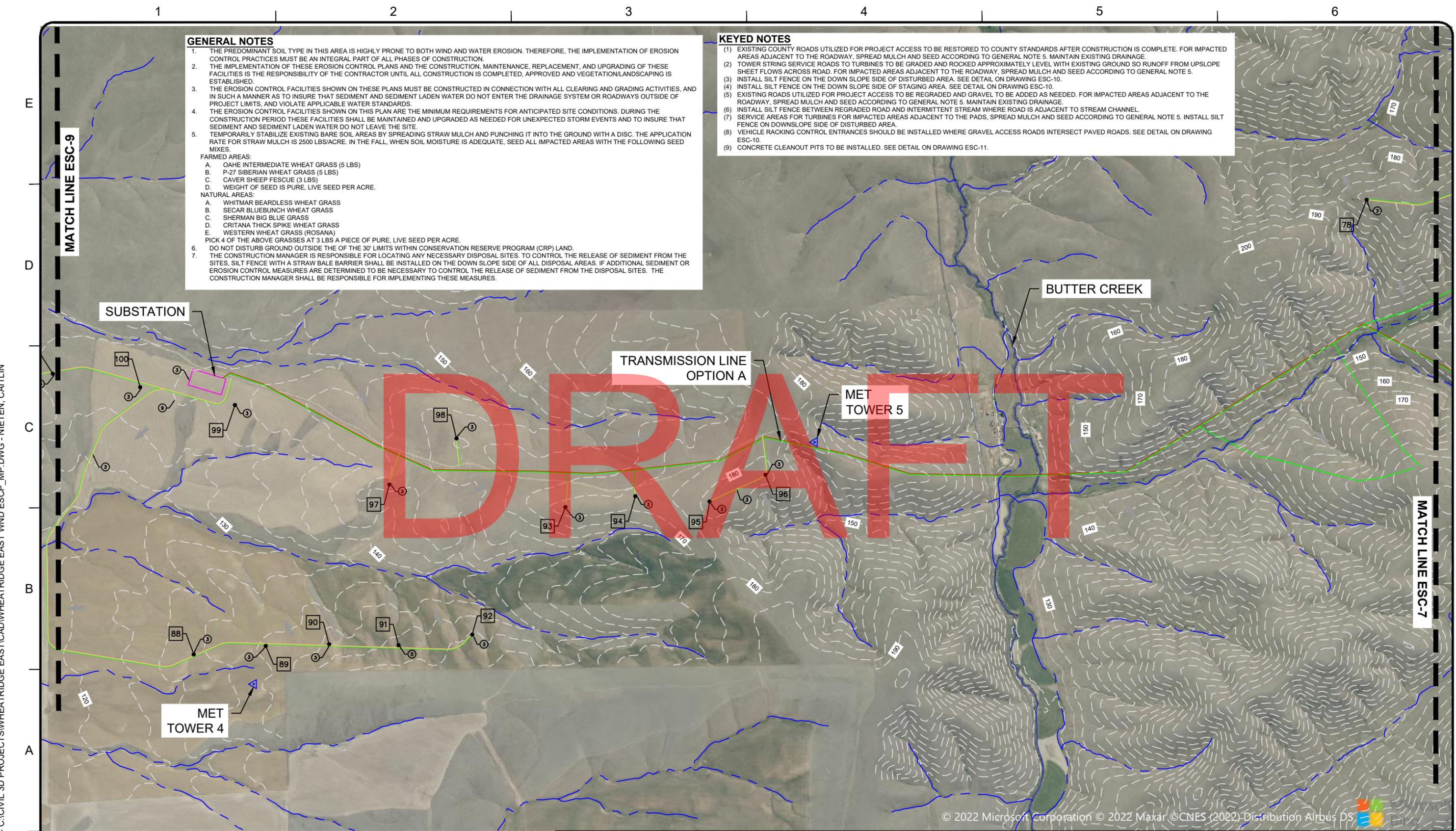
NEXTERA ENERGY
WHEATRIDGE EAST WIND ENERGY PROJECT
EROSION AND SEDIMENT CONTROL PLAN
AREA 6

Project No.: 194-1109-0093
Designed By: CAN
Drawn By: CAN
Checked By: JPP
ESC-7

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Bar Measures 1 inch

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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. 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.
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5. 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 FOLLOWING SEED MIXES.
 - FARMED AREAS:
 - A. OAAE INTERMEDIATE WHEAT GRASS (5 LBS)
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 - C. CAVER SHEEP FESCUE (3 LBS)
 - D. WEIGHT OF SEED IS PURE, LIVE SEED PER ACRE.
 - NATURAL AREAS:
 - A. WHITMAR BEARDLESS WHEAT GRASS
 - B. SECAR BLUEBUNCH WHEAT GRASS
 - C. SHERMAN BIG BLUE GRASS
 - D. CRITANA THICK SPIKE WHEAT GRASS
 - E. WESTERN WHEAT GRASS (ROSANA)
6. PICK 4 OF THE ABOVE GRASSES AT 3 LBS A PIECE OF PURE, LIVE SEED PER ACRE.
7. DO NOT DISTURB GROUND OUTSIDE THE OF THE 30' LIMITS WITHIN CONSERVATION RESERVE PROGRAM (CRP) LAND.
8. 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 5. MAINTAIN EXISTING DRAINAGE.
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- (9) CONCRETE CLEANOUT PITS TO BE INSTALLED. SEE DETAIL ON DRAWING ESC-11.

SUBSTATION

TRANSMISSION LINE
OPTION A

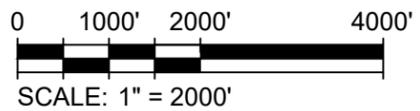
BUTTER CREEK

MET
TOWER 5

MET
TOWER 4

LEGEND

- KEYED NOTES
- EXISTING STREAM
- UNNAMED TRIBUTARY
- COLLECTOR LINE
- ACCESS ROAD
- SURFACE FLOW DIRECTION
- EXISTING 5' CONTOUR
- WIND TURBINE LOCATION
- SUBSTATION
- LAYDOWN YARD



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MARK	DATE	DESCRIPTION	BY

NEXTERA ENERGY
WHEATRIDGE EAST WIND ENERGY PROJECT
EROSION AND SEDIMENT CONTROL PLAN
AREA 7

Project No.:	194-1109-0093
Designed By:	CAN
Drawn By:	CAN
Checked By:	JPP
ESC-8	

Bar Measures 1 inch

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GENERAL NOTES

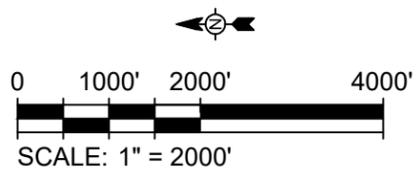
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- (9) CONCRETE CLEANOUT PITS TO BE INSTALLED. SEE DETAIL ON DRAWING ESC-11.

LEGEND

	KEYED NOTES		EXISTING 5' CONTOUR
	EXISTING STREAM		WIND TURBINE LOCATION
	UNNAMED TRIBUTARY		SUBSTATION
	COLLECTOR LINE		LAYDOWN YARD
	ACCESS ROAD		
	SURFACE FLOW DIRECTION		



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MARK	DATE	DESCRIPTION	BY

NEXTERA ENERGY
WHEATRIDGE EAST WIND ENERGY PROJECT
EROSION AND SEDIMENT CONTROL PLAN
AREA 8

Project No.:	194-1109-0093
Designed By:	CAN
Drawn By:	CAN
Checked By:	JPP
ESC-9	

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Bar Measures 1 inch

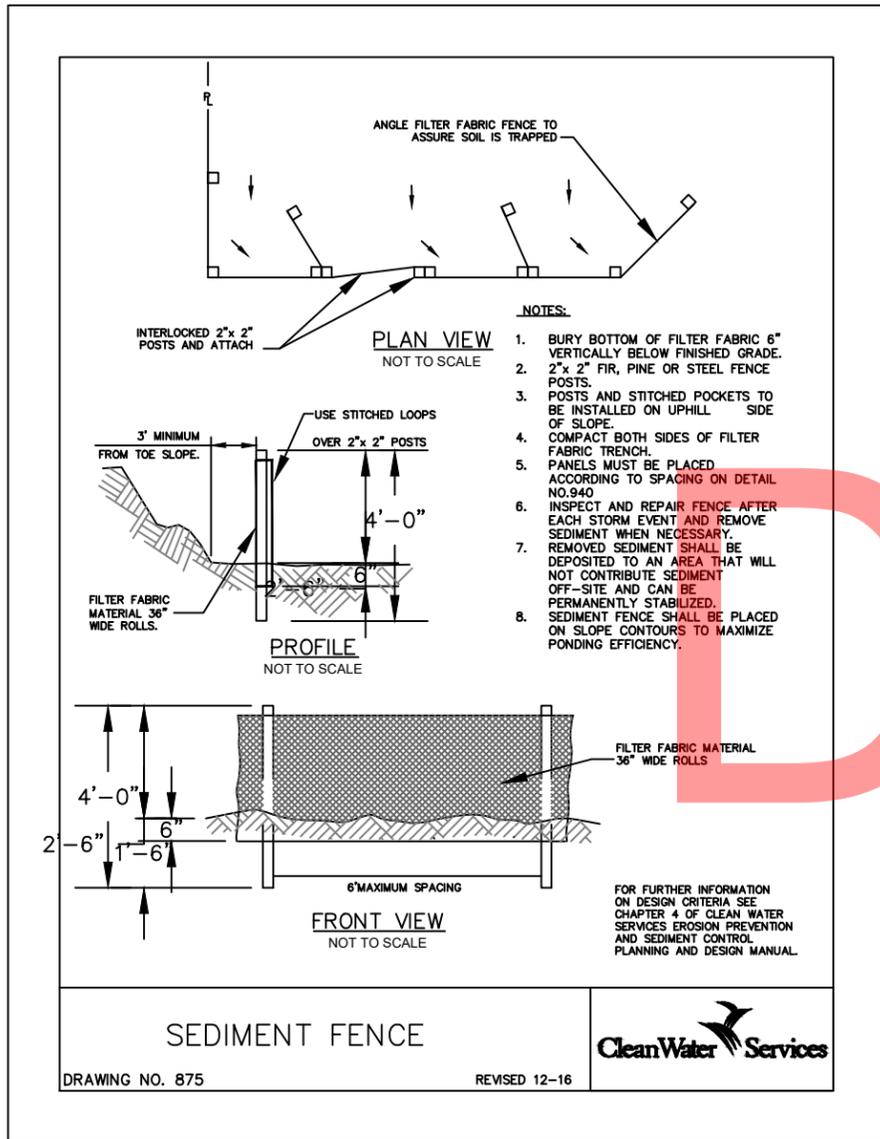
E

D

C

B

A



FOR FURTHER INFORMATION ON DESIGN CRITERIA SEE CHAPTER 4 OF CLEAN WATER SERVICES EROSION PREVENTION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.

SPACING FOR CHECK DAMS

DITCH GRADE	6 INCH	12 INCH	18 INCH
6%	NOT ALLOWED	16 FT O.C.	26 FT O.C.
5%	NOT ALLOWED	20 FT	30 FT
4%	NOT ALLOWED	26 FT	40 FT
3%	15 FT	33 FT	50 FT
2%	25 FT	50 FT	80 FT

BARRIER SPACING FOR GENERAL APPLICATION

INSTALL PARALLEL ALONG CONTOURS AS FOLLOWS

% SLOPE	SLOPE	MAXIMUM SPACING ON SLOPE
10% OR FLATTER	10:1 OR FLATTER	300 FT
>10% OR <15%	>10:1 OR <7.5:1	150 FT
>15% OR <20%	>7.5:1 OR <5:1	100 FT
>20% OR <30%	>5:1 OR <3.5:1	50 FT
>30% OR <50%	>3.5:1 OR <2:1	25 FT

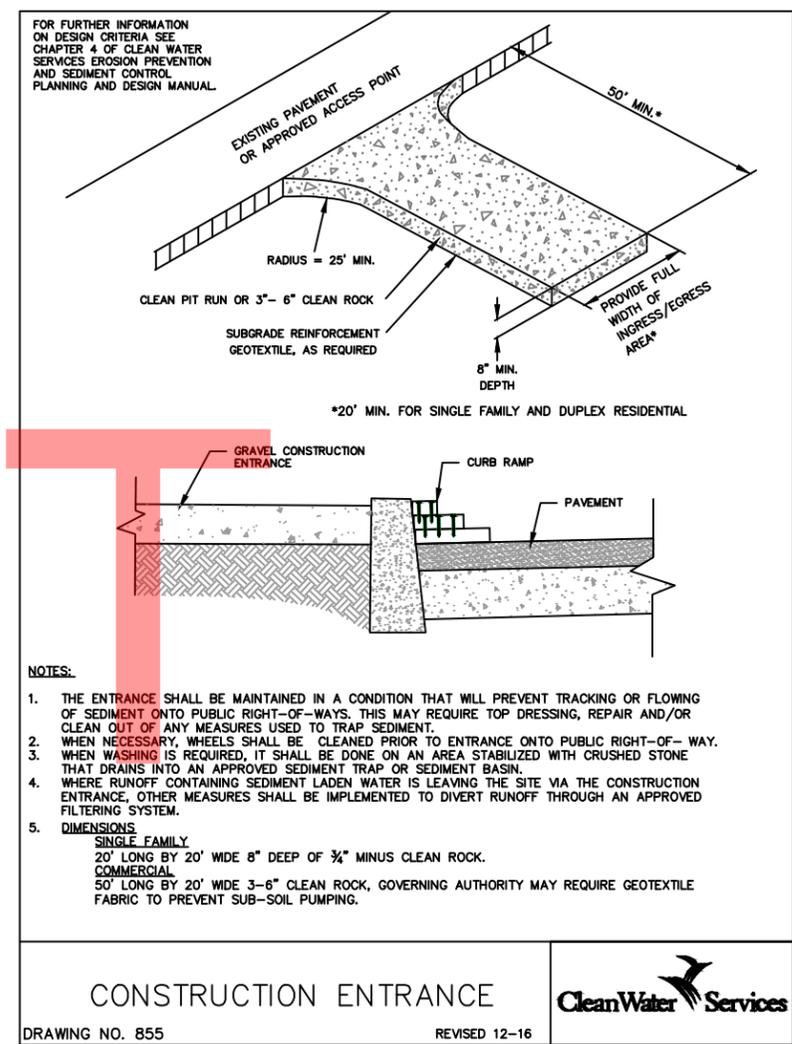
NOTES:

1. FOR MORE INFORMATION REGARDING THESE TABLES SEE CHAPTER 4 TABLES 4-3 AND 4-7 OF CLEAN WATER SERVICES EROSION PREVENTION AND SEDIMENT CONTROL DESIGN MANUAL.

SPACING TABLES

DRAWING NO. 940 REVISED 12-16

Clean Water Services



NOTES:

1. FOR FURTHER GUIDANCE ON BMP INSTALLATION REFER TO "CONSTRUCTION STORMWATER BEST MANAGEMENT PRACTICES MANUAL, 1200-C NPDES GENERAL PERMIT", FEBRUARY 2021, BY THE OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY.

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MARK	DATE	DESCRIPTION	BY

NEXTERA ENERGY

WHEATRIDGE EAST WIND ENERGY PROJECT

EROSION AND SEDIMENT CONTROL DETAILS

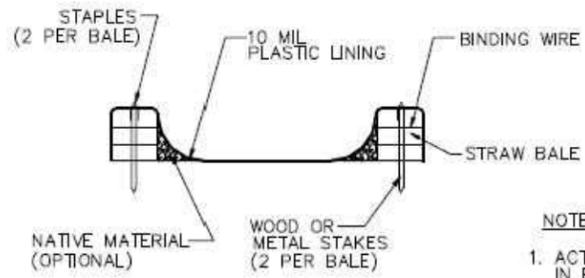
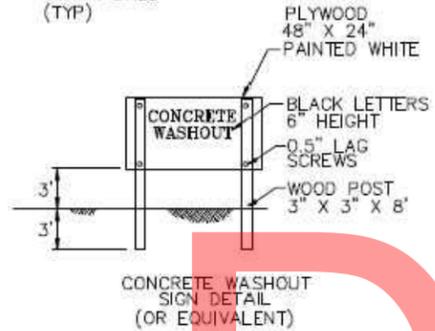
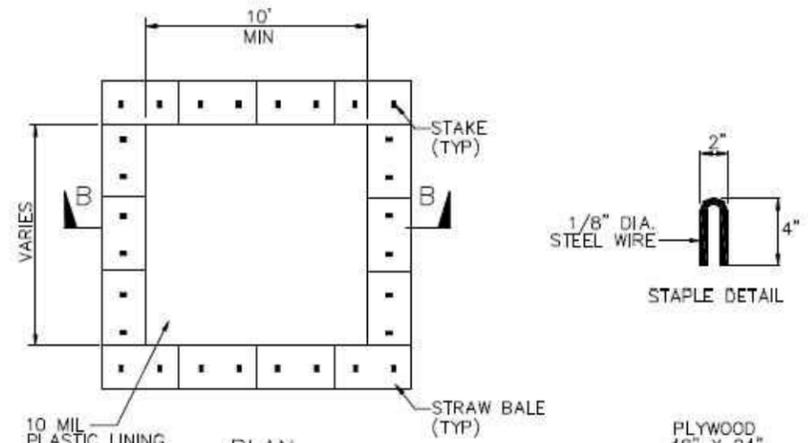
Project No.: 194-1109-0093

Designed By: CAN

Drawn By: CAN

Checked By: JPP

ESC-10



- NOTES**
1. ACTUAL LAYOUT DETERMINED IN FIELD.
 2. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30 FT. OF THE TEMPORARY CONCRETE WASHOUT FACILITY.

CONCRETE WASHOUT DETAIL

DRAFT

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