

Exhibit I

Soil Conditions

**Nolin Hills Wind Power Project
January 2022**



d/b/a Nolin Hills Wind, LLC

Prepared by



Tetra Tech, Inc.

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Acronyms and Abbreviations

Applicant	Nolin Hills Wind, LLC
BESS	battery energy storage system
BMP	best management practice
ESCP	Erosion and Sediment Control Plan
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
O&M	operations and maintenance
OAR	Oregon Administrative Rules
Project	Nolin Hills Wind Power Project
SPCC Plan	Spill Prevention, Control, and Countermeasures Plan

1.0 Introduction

Exhibit I was prepared to meet the submittal requirements for the Nolin Hills Wind Power Project (Project), per Oregon Administrative Rule (OAR) 345-021-0010(1)(i), related to soil conditions.

2.0 Analysis Area

The Analysis Area for soil resources is the area within the Site Boundary. The Site Boundary is defined in detail in Exhibits B and C, and is shown on 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;

The analysis area for Exhibit I encompasses the area within the Site Boundary (Figure I-1). The near surface soils were identified using the Natural Resources Conservation Service (NRCS) web-based soil survey (NRCS 2016). There are 52 major soil types in the analysis area (Table I-1; Figure I-1). Ten of these major soil types cover the majority of the Site Boundary: Burke silt loam in the northwest portion of the Site Boundary; Ritzville silt loam and Shano silt loam in the northern portion of the Site Boundary; Cantala silt loam, Condon-Bakeoven complex, Morrow silt loam, and Morrow-Bakeoven complex in the southern portion of the Site Boundary; Condon silt loam in the eastern and southern portion of the Site Boundary; and Licksillet very stony loam and Mikkalo silt loam throughout the Site Boundary. Eight of these 10 soil types are silt loams with depths ranging from 0.5 feet deep to greater than 7 feet deep with moderate to high permeability on slopes ranging from 1 to 40 percent with erosion hazard ratings from slight to severe. The wind turbines and solar array will be sited on flatter surfaces.

Table I-1. General Description of Mapped Soil Units in Project Area

Soil Type ID	Soil Unit	Setting Within Project Site Boundary	Approximate Thickness	Formation Setting	Permeability	Runoff	Hazard for Erosion
1B	Adkins fine sandy loam	0 to 5 percent slopes	>7 feet	Aeolian sands	High	Moderately Low	Severe
15B	Burke silt loam	1 to 7 percent slopes	>7 feet	Loess over strongly cemented alluvium	Moderate	Moderately High	Slight
15C	Burke silt loam	7 to 12 percent slopes	>7 feet	Loess over strongly cemented alluvium	Moderate	Moderately High	Moderate
15E	Burke silt loam	12 to 30 percent slopes	>7 feet	Loess over strongly cemented alluvium	Moderate	Moderately High	Severe
16B	Cantala silt loam	1 to 7 percent slopes	>7 feet	Loess over calcareous, old alluvium	High	Moderately Low	Severe
16C	Cantala silt loam	7 to 12 percent slopes	>7 feet	Loess over calcareous, old alluvium	High	Moderately Low	Slight
16D	Cantala silt loam	12 to 20 percent slopes	>7 feet	Loess over calcareous, old alluvium	High	Moderately Low	Moderate
16E	Cantala silt loam	20 to 35 percent slopes	>7 feet	Loess over calcareous, old alluvium	High	Moderately Low	Severe

Soil Type ID	Soil Unit	Setting Within Project Site Boundary	Approximate Thickness	Formation Setting	Permeability	Runoff	Hazard for Erosion
17A	Catherine variant-Catherine silt loams	0 to 3 percent slopes	>7 feet	Loess	Moderate	Moderately High	Moderate
18B	Condon silt loam	1 to 7 percent slopes	2.5 feet	Loess	Moderate	Moderately High	Moderate
18C	Condon silt loam	7 to 12 percent slopes	2.5 feet	Loess	Moderate	Moderately High	Severe
18E	Condon silt loam	20 to 35 percent slopes	2.5 feet	Loess	Moderate	Moderately High	Severe
19D	Condon silt loam	12 to 20 percent north slopes	2.5 feet	Loess	Moderate	Moderately High	Severe
20D	Condon silt loam	12 to 20 percent south slopes	2.5 feet	Loess	Moderate	Moderately High	Severe
21D	Condon-Bakeoven complex	2 to 20 percent slopes	0.5 feet	Loess	Moderate	Moderately High	Moderate
28A	Freewater gravelly silt loam	0 to 3 percent slopes	>7 feet	Mixed, very gravelly alluvium	High	Moderately Low	Severe
42A	Kimberly fine sandy loam	0 to 3 percent slopes	>7 feet	Mixed alluvium	Very High	Low	Severe
43A	Kimberly silt loam	0 to 3 percent slopes	>7 feet	Mixed alluvium	Very High	Low	Severe
48E	Licksillet very stony loam	7 to 40 percent slopes	1.5 feet	Loess mixed with colluvium from basalt	Low	High	Moderate
49F	Licksillet-Nansene association	35 to 70 percent slopes	1.5 feet	Loess mixed with colluvium from basalt	Low	High	Severe

Soil Type ID	Soil Unit	Setting Within Project Site Boundary	Approximate Thickness	Formation Setting	Permeability	Runoff	Hazard for Erosion
50F	Licksillet-Rock outcrop complex	40 to 70 percent slopes	0 feet	Mixed alluvium	Low	High	Severe
54B	Mikkalo silt loam	2 to 7 percent slopes	2 feet	Loess	Moderate	Moderately High	Severe
54C	Mikkalo silt loam	7 to 12 percent slopes	2 feet	Loess	Moderate	Moderately High	Moderate
54D	Mikkalo silt loam	12 to 20 percent slopes	2 feet	Loess	Moderate	Moderately High	Moderate
54E	Mikkalo silt loam	20 to 35 percent slopes	2 feet	Loess	Moderate	Moderately High	Moderate
56B	Morrow silt loam	1 to 7 percent slopes	2 feet	Loess	Moderate	Moderately High	Severe
56C	Morrow silt loam	7 to 12 percent slopes	2 feet	Loess	Moderate	Moderately High	Severe
56E	Morrow silt loam	20 to 35 percent slopes	2 feet	Loess	Moderate	Moderately High	Moderate
57D	Morrow silt loam	12 to 20 percent north slopes	2 feet	Loess	Moderate	Moderately High	Severe
58D	Morrow silt loam	12 to 20 percent south slopes	2 feet	Loess	Moderate	Moderately High	Slight
59D	Morrow-Bakeoven complex	2 to 20 percent slopes	0.5 feet	Loess	Moderate	Moderately High	Slight
60F	Nansene silt loam	35 to 70 percent slopes	>7 feet	Loess	High	Moderately Low	Severe
63A	Onyx silt loam	0 to 3 percent slopes	>7 feet	Silty alluvium	High	Moderately Low	Severe

Soil Type ID	Soil Unit	Setting Within Project Site Boundary	Approximate Thickness	Formation Setting	Permeability	Runoff	Hazard for Erosion
72A	Powder silt loam	0 to 3 percent slopes	>7 feet	Loess	High	Moderately Low	Severe
73D	Prosser silt loam	12 to 20 percent slopes	2 feet	Loess	Moderate	Moderately High	Slight
73E	Prosser silt loam	20 to 40 percent slopes	2 feet	Loess	Moderate	Moderately High	Severe
74B	Quincy fine sand	0 to 5 percent slopes	>7 feet	Calcareous sandy alluvium	Very High	Low	Severe
75B	Quincy loamy fine sand	0 to 5 percent slopes	>7 feet	Aeolian sands	Very High	Low	Severe
75E	Quincy loamy fine sand	5 to 25 percent slopes	>7 feet	Aeolian sands	Very High	Low	Moderate
76B	Quincy loamy fine sand, gravelly substratum	0 to 5 percent slopes	>7 feet	Aeolian sands over gravelly alluvium	Very High	Low	Severe
80B	Ritzville silt loam	2 to 7 percent slopes	>7 feet	Loess mixed with small amounts of volcanic ash	High	Moderately Low	Slight
80C	Ritzville silt loam	7 to 12 percent slopes	>7 feet	Loess mixed with small amounts of volcanic ash	High	Moderately Low	Slight
80D	Ritzville silt loam	12 to 25 percent slopes	>7 feet	Loess mixed with small amounts of volcanic ash	High	Moderately Low	Severe
81E	Ritzville silt loam	25 to 40 percent slopes,	>7 feet	Loess mixed with small amounts of volcanic ash	High	Moderately Low	Slight

Soil Type ID	Soil Unit	Setting Within Project Site Boundary	Approximate Thickness	Formation Setting	Permeability	Runoff	Hazard for Erosion
87B	Sagehill fine sandy loam	2 to 5 percent slopes	>7 feet	Sandy aeolian deposits and loess over lacustrine deposits	High	Moderately Low	Slight
89B	Shano silt loam	2 to 7 percent slopes	>7 feet	Loess over calcareous, lacustrine deposits	High	Moderately Low	Slight
89C	Shano silt loam	7 to 12 percent slopes	>7 feet	Loess over calcareous, lacustrine deposits	High	Moderately Low	Moderate
89D	Shano silt loam	12 to 25 percent slopes	>7 feet	Loess over calcareous, lacustrine deposits	High	Moderately Low	Not rated
92A	Stanfield silt loam, reclaimed	0 to 3 percent slopes	>7 feet	Silty alluvium	Moderate	Moderately High	Severe
95B	Taunton fine sandy loam	1 to 7 percent slopes	>7 feet	Aeolian sands over strongly cemented alluvium	Moderate	Moderately High	Severe
125F	Wrentham-Rock outcrop complex	35 to 70 percent slopes	0 feet	Loess mixed with colluvium derived from basalt	Moderate	Moderately High	Severe
126A	Xerofluvents	0 to 3 percent slopes	>7 feet	Mixed alluvium	Moderate	Moderately High	Severe
128A	Yakima silt loam	0 to 3 percent slopes	>7 feet	Mixed alluvium	High	Moderately Low	Severe

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 Project Site Boundary encompasses approximately 48,196 acres. Project facilities are located on private land. Land uses within the Site Boundary consist primarily of private agriculture, generally used for dryland wheat production or rangeland. Areas of irrigated agriculture and light industrial use also occur. Land within the Site Boundary is zoned Exclusive Farm Use by Umatilla County, except for a portion of the Umatilla Electric Cooperative Cottonwood transmission line corridor near Interstate 84 that includes areas of Rural Tourist Commercial, Agri Business, and Light Industrial zoning (see Exhibit K). The Site Boundary contains approximately 15,567 acres of soils defined as prime farmland if irrigated; 23,143 acres of farmland of statewide importance; and 9,485 acres of not prime farmland (NRCS 2019).

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.

5.1 Soil Impacts During Construction

Construction of the Project will require a variety of activities with the potential for adversely impacting soils. Activities that may result in impact to soils include:

- Clearing and grubbing of vegetation in temporary construction areas, turbine pads, transmission line, solar array, battery energy storage system (BESS) foundations, collector circuits, substation and operations and maintenance (O&M) construction areas, and new access roads;
- Grading and widening of existing access roads;
- Construction of new access roads;
- Crane paths and movement;
- Heavy equipment and haul truck traffic for the delivery of aggregates, concrete, water, turbine and solar components, cranes, and similar construction supplies; and
- Fueling or maintenance of construction equipment or vehicles.

As identified in Exhibit C, construction will permanently impact approximately 2,035 acres and temporarily disturb approximately 2,075 acres of soil. Of the permanent disturbance acres, approximately 87 acres are prime farmland, if irrigated, and approximately 32 acres are farmland of statewide importance. Other types of soil impacts, such as erosion resulting from construction, operation, and decommissioning activities, will be limited through avoidance of sensitive soil areas to the extent practicable, the implementation of best management practices (BMPs) to control erosion, as well as the implementation of appropriate site restoration practices following construction.

5.1.1 Erosion

Potential impacts from erosion will be minimal and will be addressed through the implementation of erosion control measures required by the Project's National Pollutant Discharge Elimination System (NPDES) 1200-C construction permit. The NPDES 1200-C permit application and Draft Erosion and Sediment Control Plan (ESCP) identifying effective erosion and sediment control measures are provided as Attachment I-1 to this exhibit. These documents have been submitted to the Oregon Department of Environmental Quality, whose response is included in Attachment I-2. Erosion and sediment control measures will meet local, county, state, and federal requirements.

Construction activities can introduce the potential for increased erosion due to soil disturbance, loss of vegetation (exposure of soil), compaction, and changes to surface drainage patterns. Erosion can be caused by increasing exposure to wind or water. Wind erosion is influenced by the wind intensity, vegetative cover, soil texture, soil moisture, grain size of unprotected soil surface, topography, and the frequency of soil disturbance. The runoff potential and water erosion hazard for the identified soils at the site range from low to high with higher erosion potentials associated with steeper slopes, especially on slopes exceeding 25 percent. U.S. Climate Data (2017) reports that Pendleton, Oregon, in the vicinity of the Project, receives approximately 13 inches of rainfall per year. The erosion potential and available precipitation make site soils sensitive to water erosion during winter and spring months when most of the precipitation occurs, particularly where slopes are steep.

BMPs described in the NPDES permit application will minimize the potential for wind or water erosion and sedimentation of soils disturbed by Project construction. Typical measures include, but are not limited to: putting sedimentation control measures in place prior to or concurrently with the initiation of construction in any given location to prevent uncontrolled soil exposure and potential erosion; water spraying on exposed soils and short-term soil stockpiles; covering longer-term soil stockpiles; placing gravel surfacing where appropriate immediately following clearing and grading to limit the time soils are exposed to wind or water erosion; and revegetating disturbed areas as soon as practicable following construction. The areas used only for construction will be reclaimed when the best season exists for replanting, typically in the fall or spring. Reclamation activities may include regrading to original land contours, replacing topsoil, and revegetation (see Exhibit P).

5.1.2 *Compaction*

Construction will require the use of heavy equipment and vehicles that could cause localized soil compaction which, if left unmitigated, could result in loss of agricultural productivity, increased erosion, or increased difficulty in revegetation. During Project construction, Nolin Hills Wind, LLC (the Applicant) will minimize soil compaction, rutting, and structural damage to wet soils and soils with poor drainage by scheduling the majority of the clearing and construction activities during the dry season. Mechanized clearing and maintenance will occur in late summer and early fall months.

The hazards associated with soil compaction will be mitigated following construction through restoration of temporary disturbance areas, including the construction yards and the portions of the access roads not needed for Project operations. Restoration of these areas will involve removal of gravel surfacing, regrading to appropriate contours, and scarification to loosen compacted soils prior to replacement of stockpiled topsoil and revegetation (see Exhibit P). In agricultural areas, deep decompaction to a depth of at least one foot will be performed where deep compaction has occurred due to construction. These actions will fully mitigate for any soil compaction that would occur during construction, in areas that would not be permanently occupied by Project facilities.

5.1.3 *Restoration and Revegetation*

All areas temporarily disturbed during construction activities will be restored and revegetated following completion of Project construction. These activities carry a risk of increased erosion and loss of soil productivity if done improperly.

BMPs to control erosion and sedimentation will be maintained during site restoration or replaced with permanent measures. Areas undergoing restoration, such as the additional temporary width of access roads, will be sprayed down as needed while soils are exposed to prevent wind erosion. Excavated soils will be stockpiled by soil horizon, so that they can be replaced in proper order with the topsoil on the surface, preventing mixing of topsoil and subsoils and maintaining soil productivity. Scarification and decompaction will serve to maintain soil productivity, as well as reduce the potential for erosion on compacted soils. Final grading will incorporate appropriate contours to manage stormwater runoff and minimize erosion and sedimentation.

Areas disturbed by construction and restoration activities will be revegetated as soon as practicable, to limit the exposure time for wind or water erosion to occur. As described in the Revegetation Plan (Exhibit P, Attachment P-4), disturbed areas will be revegetated using a seed mix appropriate to the specific location. Mulching, hydroseeding, temporary irrigation, or other methods as described in the Revegetation Plan could be used in some areas where soil limitations may inhibit revegetation. Restoration of soils with shallow restrictive layers in most cases requires adaptive seed mixtures and implementation of revegetation practices (i.e., fertilization, mulching, monitoring) to enhance revegetation success. Revegetation of areas with rock outcrop may not be possible. Droughty soils may not hold enough water within the root zone to support plant life, making revegetation difficult. In areas of droughty soils, the soil surfaces will be mulched and stabilized to minimize wind erosion and to conserve soil moisture. If possible, large stones

excavated during foundation work will be kept separate from topsoil during construction and during surface preparation as part of restoration. The rock removed during construction will be moved to designated on-site locations.

5.1.4 Soil Contamination

An additional category of potential hazards to soils is contamination by chemicals. Because substantial quantities of oils, fuels, and other potential contaminants are not expected to be stored on-site during construction or operation, the potential for soil contamination is limited (see Exhibit G). The greatest risk of soil contamination will occur during fueling or maintenance of construction equipment. To the extent practicable, fueling and maintenance activities will occur in designated areas located far from streams and wetlands.

The Applicant will prepare a draft Spill Prevention, Control, and Countermeasures Plan (SPCC Plan). The SPCC Plan will be implemented during construction and will outline preventative measures and practices to reduce the likelihood of an accidental release of a hazardous or regulated liquid and, in the event such a release occurs, to expedite the response to and remediation of the release. The SPCC Plan will restrict the location of fuel storage, fueling activities, and construction equipment maintenance and provide procedures for these activities; identify training and lines of communication to facilitate the prevention, response, containment, and cleanup of spills during construction activities; and identify the roles and responsibilities of key Applicant's personnel and contractors. Due to these procedures, the Project is not expected to result in impacts to soils from chemical spills during construction.

5.1.5 Productive Agricultural Soils

Except for those areas removed from potential agricultural production by permanent Project facilities, the Project will not adversely impact soils on which agriculture is dependent. The BMPs to control erosion and sedimentation identified in the ESCP will conserve productive agricultural soils as well as non-agricultural soils. Existing vegetation will be preserved, to the extent practicable. Topsoil will be stripped and stockpiled separately from subsoils and replaced on the surface as a final stage of site restoration. Silt fencing will be installed prior to any soil-disturbing activities and used as a perimeter control on the contour down gradient of excavations and around stockpiles to control sedimentation. Appropriate soil stockpiling and replacement of soils during site restoration, along with decompaction of temporarily disturbed areas, will maintain soil productivity even in areas disturbed by construction activities. Temporary revegetation will be used during construction when necessary and permanent revegetation will take place as soon as site conditions and weather allow following land-disturbing activities. As described in Exhibit G, fuels will be the only hazardous material that may be stored in substantial quantities on-site during construction; the Applicant anticipates that up to 500 gallons of diesel fuel and 200 gallons of gasoline may be kept on-site for fueling of construction equipment. These will both be stored in temporary above-ground tanks in the construction yards, within an area that provides for secondary containment. Fuels will be delivered to the construction yard by a licensed specialized tanker vehicle. There will

be no substantial quantities of lubricating oils, hydraulic fluid for construction equipment, or other hazardous materials maintained on-site during construction. Lubricating oil or hydraulic fluids for construction equipment will not be stored in substantial quantities on-site but will instead be delivered on an as-needed basis using a specialized vehicle by a licensed contractor. Construction vehicles will be fueled and maintained to the extent practicable in dedicated areas with secondary containment, and away from streams or wetlands. The SPCC Plan will identify the requirement of spill kits containing items such as absorbent pads will be located on equipment and in on-site temporary storage to ensure a quick response to spills. With the use of secondary containment for fuel storage areas, other potential hazardous materials being present only in small quantities, and a requirement to keep spill response kits on-hand during fuel or oil transfers, should any spill occur it would be limited in size such that it would not affect soil productivity beyond the spill area. The contaminated soil will be removed for off-site remediation and replaced with clean soil from elsewhere on the Project.

5.2 Soil Impacts During Operation

Project operations will have no impact on soil erosion. Operations will be confined to gravel-surfaced areas including the apron constructed around each turbine, the BESS, access roads, substations, and O&M Building. No additional ground disturbance is anticipated to occur during Project operations. The potential for soil contamination will be limited by not maintaining substantial supplies of oil, fuel, pesticides or other hazardous materials on-site, and by observing appropriate safety measures during maintenance procedures such as oil changes for the turbine gearboxes. While secondary containment will be used for the substation transformers, an SPCC Plan will be prepared (see Exhibit G) that will outline preventative measures and practices to reduce the likelihood of an accidental spill, and to expedite the response to and remediation of a spill should one occur during operations. If a spill were to occur, the impact area will be limited, and the spill remediated immediately to prevent impacts to soils.

5.3 Soil Impacts During Decommissioning

In the event of decommissioning, potential erosion hazards will be similar to those occurring during Project construction. During decommissioning activities, soil will be exposed to accelerated erosion because of lack of vegetation during the removal of turbine pads, BESS foundations, underground cables, and roadways. Similar measures employed during construction will be used during decommissioning to prevent and control erosion, to rectify for soil compaction, to prevent spills, and to revegetate disturbed areas.

Potential impacts to soils from decommissioning will be similar to those described above for construction activities.

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 adverse impact to soils.

The Project has been designed to avoid impacts to sensitive soils to the extent practicable. For example, impacts to soils on which agriculture is dependent have been minimized through the use of existing roads to the extent possible. Potential impacts to soil from construction, operations, and decommissioning of the proposed Project should be mitigated by adhering to BMPs identified in the ESCP. Localized impacts to soils from temporary disturbance areas will be minimized through the use of BMPs and efforts to restore soil surfaces and vegetation following disturbances.

The Revegetation Plan and/or the ESCP will include, but are not necessarily limited to, the following minimization measures and BMPs:

- **Stabilized Construction Entrance/Exit:** A stabilized construction entrance/exit will be installed at locations where construction vehicles will access newly constructed roads and/or disturbed areas from paved roads. The stabilized construction entrance/exits will be inspected and maintained for the duration of the Project's lifespan.
- **Preserve Existing Vegetation:** To the extent practicable, existing vegetation will be preserved. Where vegetation clearing is necessary, root systems will be conserved if possible.
- **Silt Fencing:** Silt fencing will be installed throughout the Project on the contour downgradient of excavations, the O&M Building, and substations.
- **Straw Wattles:** Straw wattles will 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 immediately stabilize areas of soil disturbance, and during reseeding efforts.
- **Stabilization Matting:** Jute matting, straw matting, or turf reinforcement matting will be used in conjunction with mulching to stabilize steep slopes that were exposed during access road installation.
- **Soil Binders and Tackifiers:** Soil binders and tackifiers will 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 the foundation construction locations. This will prevent concrete washout water from leaving 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:** To facilitate installation of the turbine footings, large excavations will be created. Soil from these excavations will be temporarily stockpiled and used as backfill for the completed footing. Silt fencing will be installed around the stockpile material as a perimeter control. Mulch or plastic sheeting will be used to cover the stockpiled material. Soils will be stockpiled and reused in order to prevent mixing of productive topsoils with deeper subsoils.
- **Revegetation:** After construction is completed, the site will be revegetated with an approved seed mix. When required, the seed will be applied in conjunction with mulch and/or stabilization matting to protect the seeds as the grass establishes. Revegetation will take place as soon as site conditions and weather allow 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 construction of the stream crossings.
- **Pollutant Management:** During construction and operations, source control measures will be identified in the SPCC Plan to reduce the potential of chemical pollution to surface water or groundwater during construction.
- **Construction Timing:** To the extent practicable, construction activities will be scheduled to occur in the dry season, when soils are less susceptible to compaction. Similarly, soil disturbance should be postponed when soils are excessively wet such as following a precipitation event.

The final design of the Project is not complete. The discussion above is intended to represent a broad range of BMPs that may be implemented. The actual BMPs used for construction and operation will be identified in the ESCP.

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.

Impact to soils from Project construction and operation will be limited because of the mitigation efforts required by the NPDES 1200-C construction permit and ESCP. Accordingly, a formal monitoring program is not merited. Visual observation will be made during Project construction and operation; if problem areas are observed, mitigation and reclamation measures will be implemented and a formal monitoring program established for those specific areas.

8.0 Conclusions

OAR Chapter 345, Division 22 does not provide an approval standard specific to Exhibit I. The potential for soil erosion, compaction, and contamination during Project construction will be minimized by avoiding problematic areas to the extent practical, and then by adherence to the ESCP and SPCC Plan. Implementation of an SPCC Plan during construction and operations will further reduce any risk of contamination. Specific construction and site restoration practices will be implemented to mitigate construction impacts on soil productivity. The Project will not adversely impact productive farmland soils except where permanent impacts are proposed. Taking into account the implementation of avoidance measures, BMPs, and post-construction restoration, the Applicant concludes that the design, construction, and operation of the Project are not likely to result in a significant adverse impact to soils.

9.0 References

- NRCS (Natural Resources Conservation Service). 2016. Web Soil Survey. Soil maps website.
<https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm> (Accessed March 2018).
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(Accessed on May 9, 2017).






Figures

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Nolin Hills Wind Power Project

Figure I-1 Soil Type Index Map

UMATILLA COUNTY, OREGON

-  Map Grid
-  Proposed Site Boundary
-  Secondary Highway
-  Secondary Road
-  County Boundary

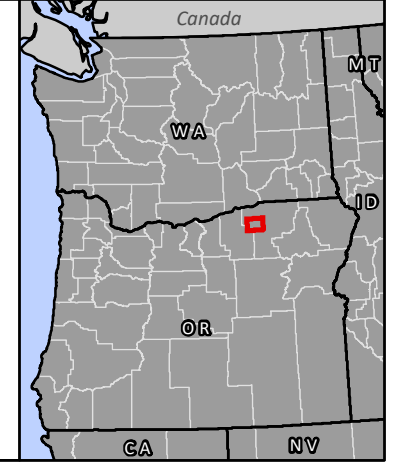
* Soil type descriptions can be found in Exhibit I, Table I-1



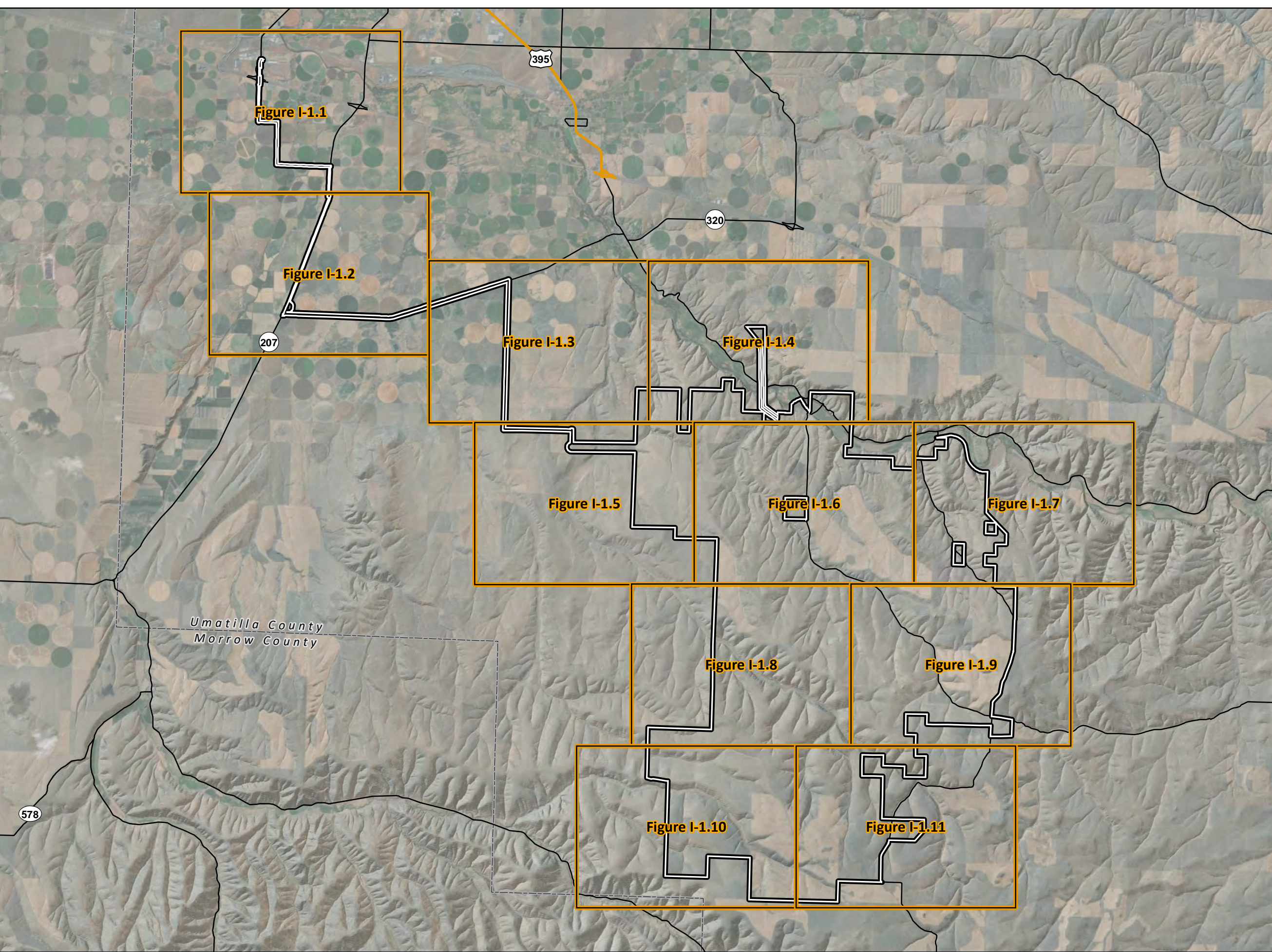
Data Sources

Capital Power-Project Infrastructure;
USDA-Aerial Imagery; ESRI-Roads;
USA NRSC Soil Survey-Soils

Reference Map

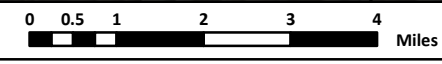


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Umatilla County
Morrow County

1:140,000 WGS 1984 UTM Zone 11N






NOT FOR CONSTRUCTION

Nolin Hills Wind Power Project

Figure I-1.1
Soil Type

UMATILLA COUNTY, OREGON

-  Proposed Site Boundary
-  County Boundary
-  Soil Unit*

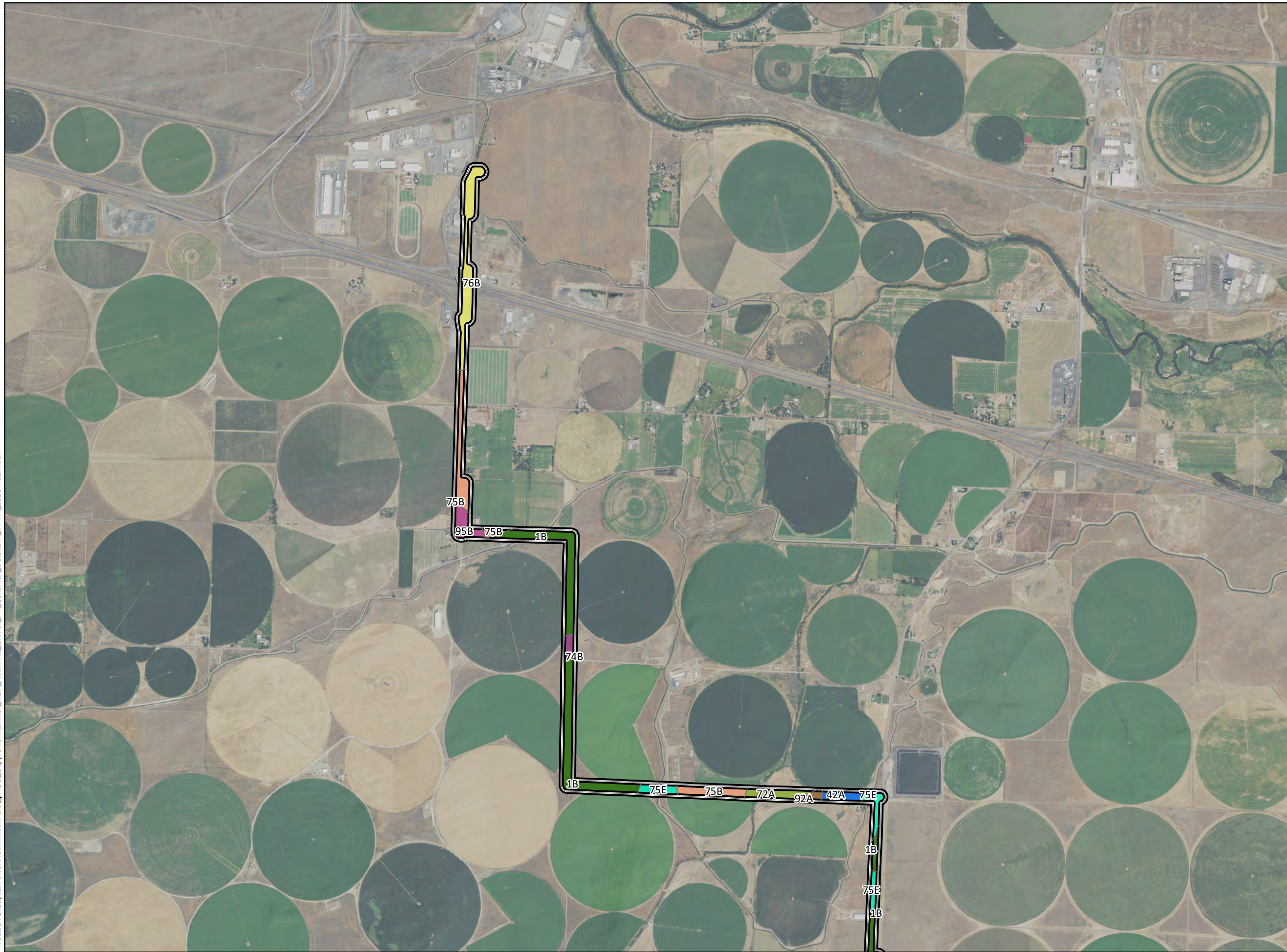
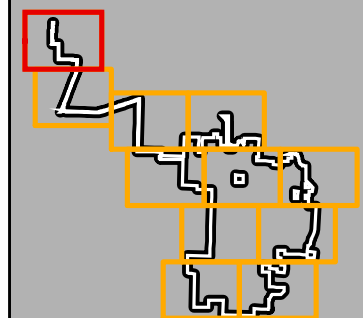
* Soil type descriptions can be found in
Exhibit I, Table I-1



Data Sources

Reference Map

Capital Power-Project Infrastructure;
USDA-Aerial Imagery; ESRI-Roads;
USA NRSC Soil Survey-Soils






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NOT FOR CONSTRUCTION

Nolin Hills Wind Power Project

Figure I-1.2
Soil Type

UMATILLA COUNTY, OREGON

-  Proposed Site Boundary
-  County Boundary
-  Soil Unit*

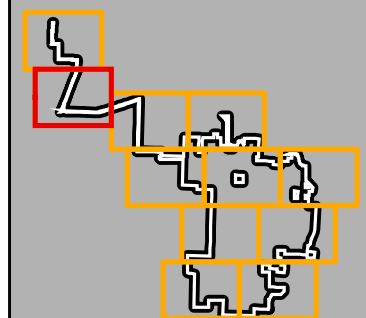
* Soil type descriptions can be found in Exhibit I, Table I-1



Data Sources

Reference Map

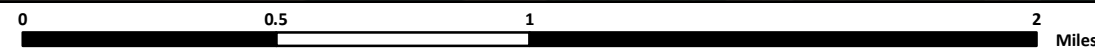
Capital Power-Project Infrastructure;
USDA-Aerial Imagery; ESRI-Roads;
USA NRSC Soil Survey-Soils



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1:24,000 WGS 1984 UTM Zone 11N






NOT FOR CONSTRUCTION

Nolin Hills Wind Power Project

**Figure I-1.3
Soil Type**

UMATILLA COUNTY, OREGON

-  Proposed Site Boundary
-  County Boundary
-  Soil Unit*

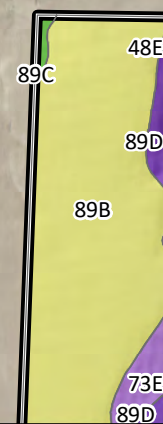
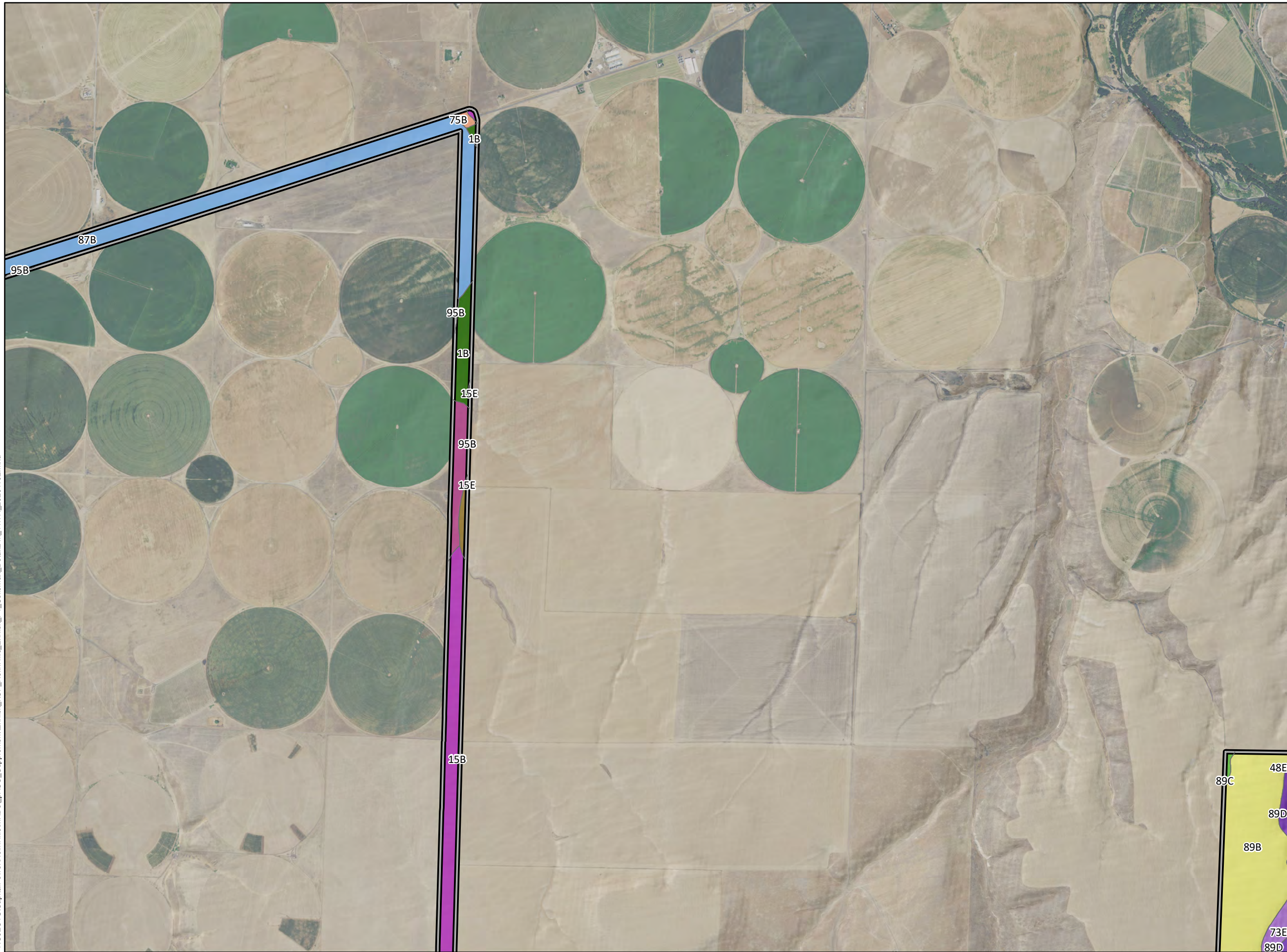
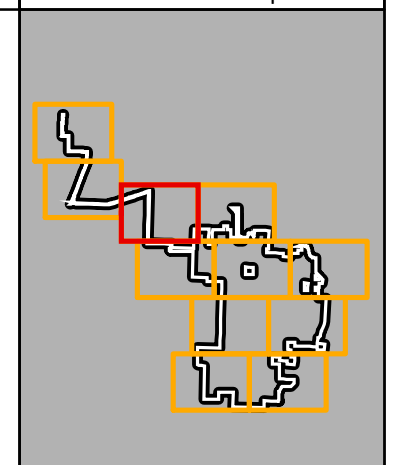
* Soil type descriptions can be found in Exhibit I, Table I-1



Data Sources

Reference Map

Capital Power-Project Infrastructure;
USDA-Aerial Imagery; ESRI-Roads;
USA NRSC Soil Survey-Soils






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NOT FOR CONSTRUCTION

Nolin Hills Wind Power Project

**Figure I-1.4
Soil Type**

UMATILLA COUNTY, OREGON

-  Proposed Site Boundary
-  County Boundary
-  Soil Unit*

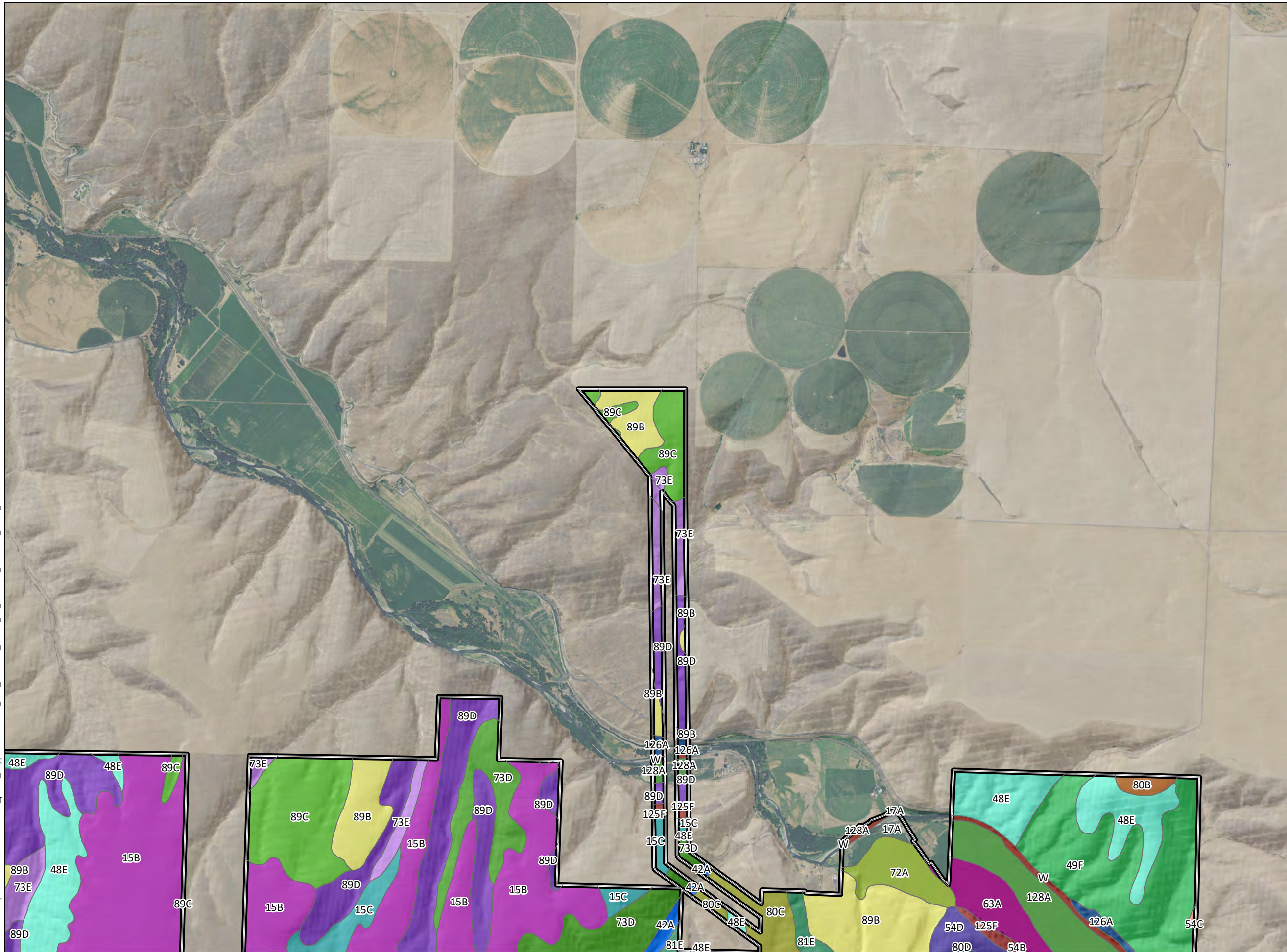
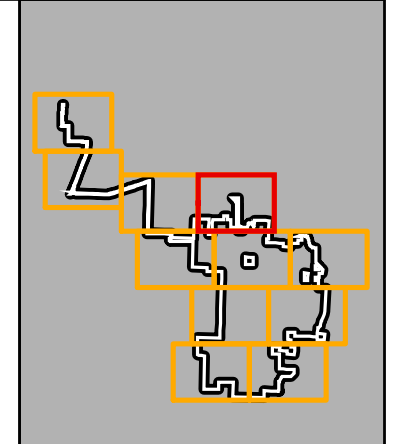
* Soil type descriptions can be found in Exhibit I, Table I-1



Data Sources

Reference Map

Capital Power-Project Infrastructure;
USDA-Aerial Imagery; ESRI-Roads;
USA NRSC Soil Survey-Soils



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1:24,000 WGS 1984 UTM Zone 11N 0 0.5 1 2 Miles

NOT FOR CONSTRUCTION

Nolin Hills Wind Power Project

Figure I-1.5 Soil Type

UMATILLA COUNTY, OREGON

-  Proposed Site Boundary
-  County Boundary
-  Soil Unit*

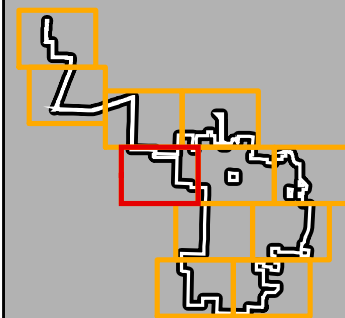
* Soil type descriptions can be found in Exhibit I, Table I-1



Data Sources

Capital Power-Project Infrastructure;
USDA-Aerial Imagery; ESRI-Roads;
USA NRSC Soil Survey-Soils

Reference Map






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NOT FOR CONSTRUCTION

Nolin Hills Wind Power Project

**Figure I-1.6
Soil Type**

UMATILLA COUNTY, OREGON

-  Proposed Site Boundary
-  County Boundary
-  Soil Unit*

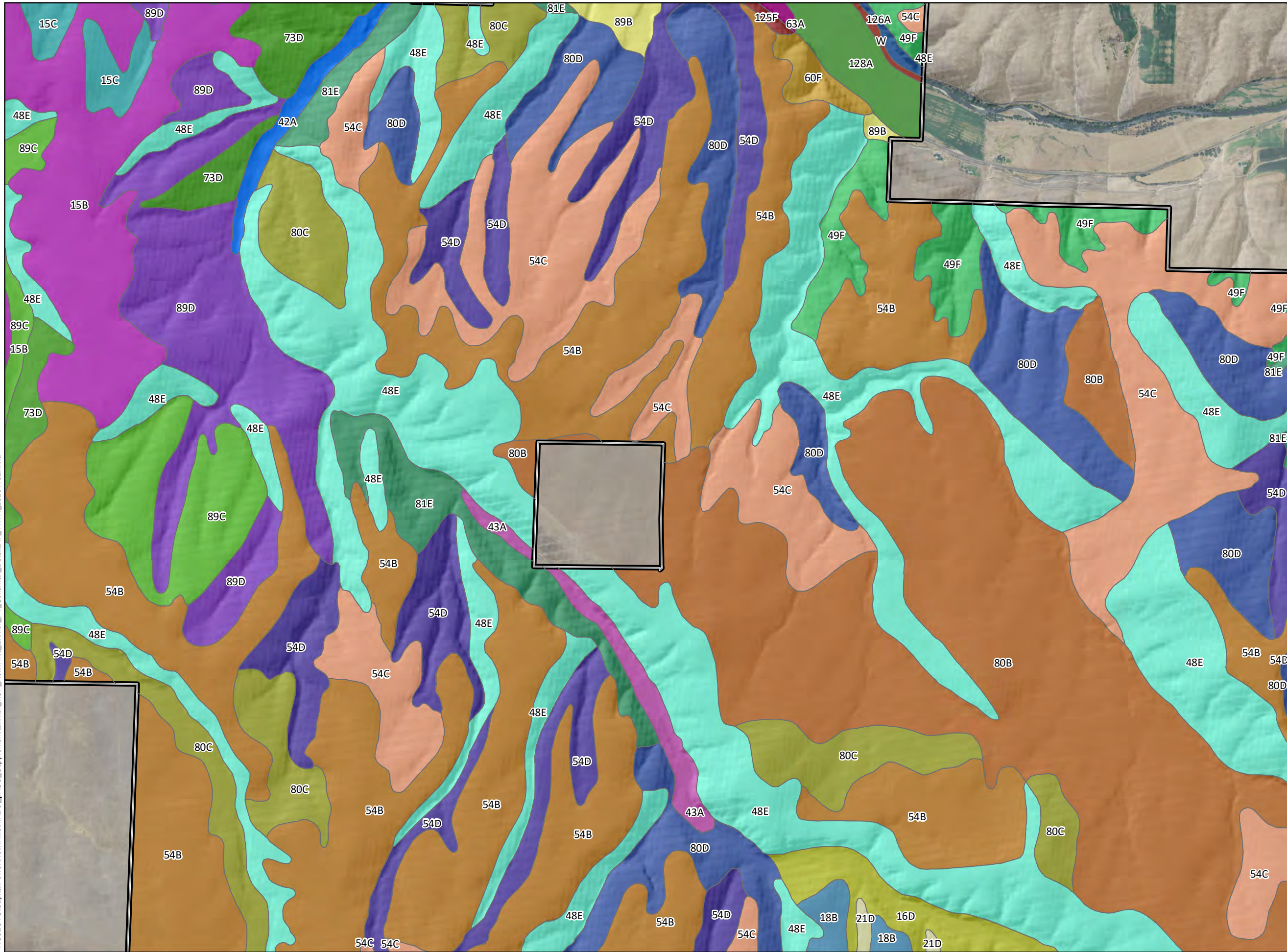
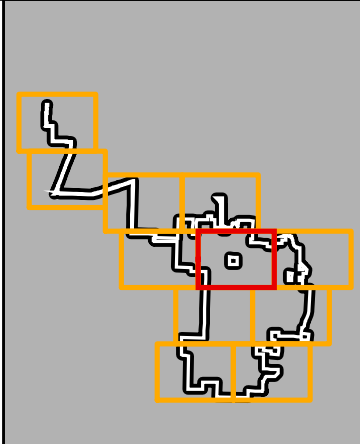
* Soil type descriptions can be found in Exhibit I, Table I-1



Data Sources

Capital Power-Project Infrastructure;
USDA-Aerial Imagery; ESRI-Roads;
USA NRSC Soil Survey-Soils

Reference Map






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NOT FOR CONSTRUCTION

Nolin Hills Wind Power Project

Figure I-1.7 Soil Type

UMATILLA COUNTY, OREGON

-  Proposed Site Boundary
-  County Boundary
-  Soil Unit*

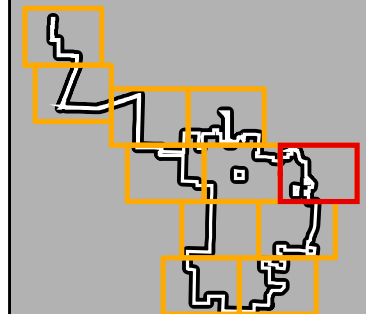
* Soil type descriptions can be found in Exhibit I, Table I-1



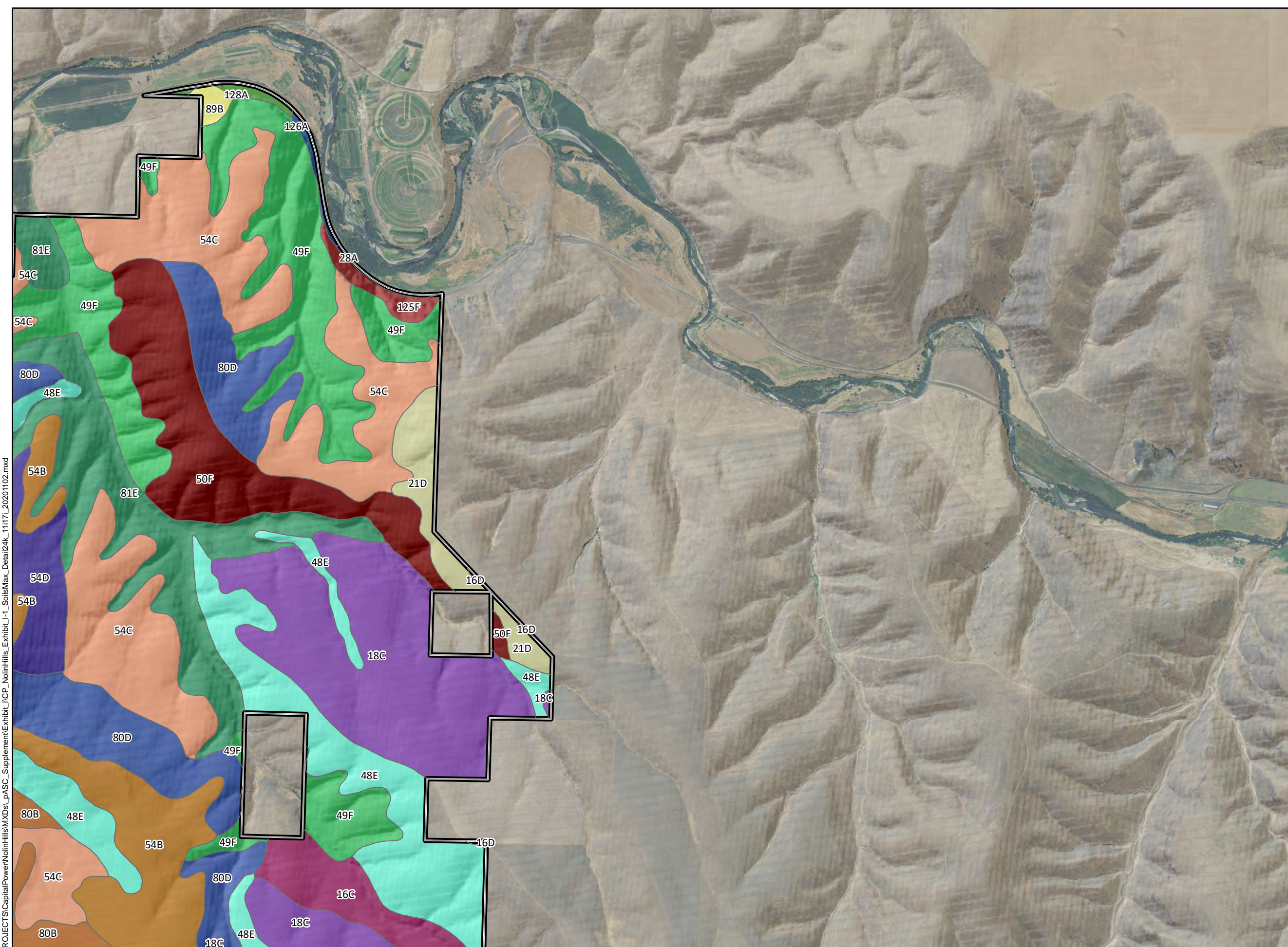
Data Sources

Reference Map

Capital Power-Project Infrastructure;
USDA-Aerial Imagery; ESRI-Roads;
USA NRSC Soil Survey-Soils






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Nolin Hills Wind Power Project

Figure I-1.8 Soil Type

UMATILLA COUNTY, OREGON

-  Proposed Site Boundary
-  County Boundary
-  Soil Unit*

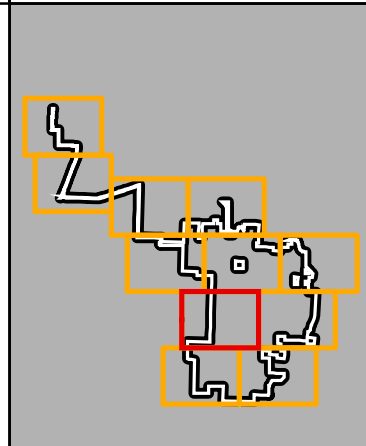
* Soil type descriptions can be found in Exhibit I, Table I-1



Data Sources

Reference Map

Capital Power-Project Infrastructure;
USDA-Aerial Imagery; ESRI-Roads;
USA NRSC Soil Survey-Soils






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Nolin Hills Wind Power Project

**Figure I-1.9
Soil Type**

UMATILLA COUNTY, OREGON

-  Proposed Site Boundary
-  County Boundary
-  Soil Unit*

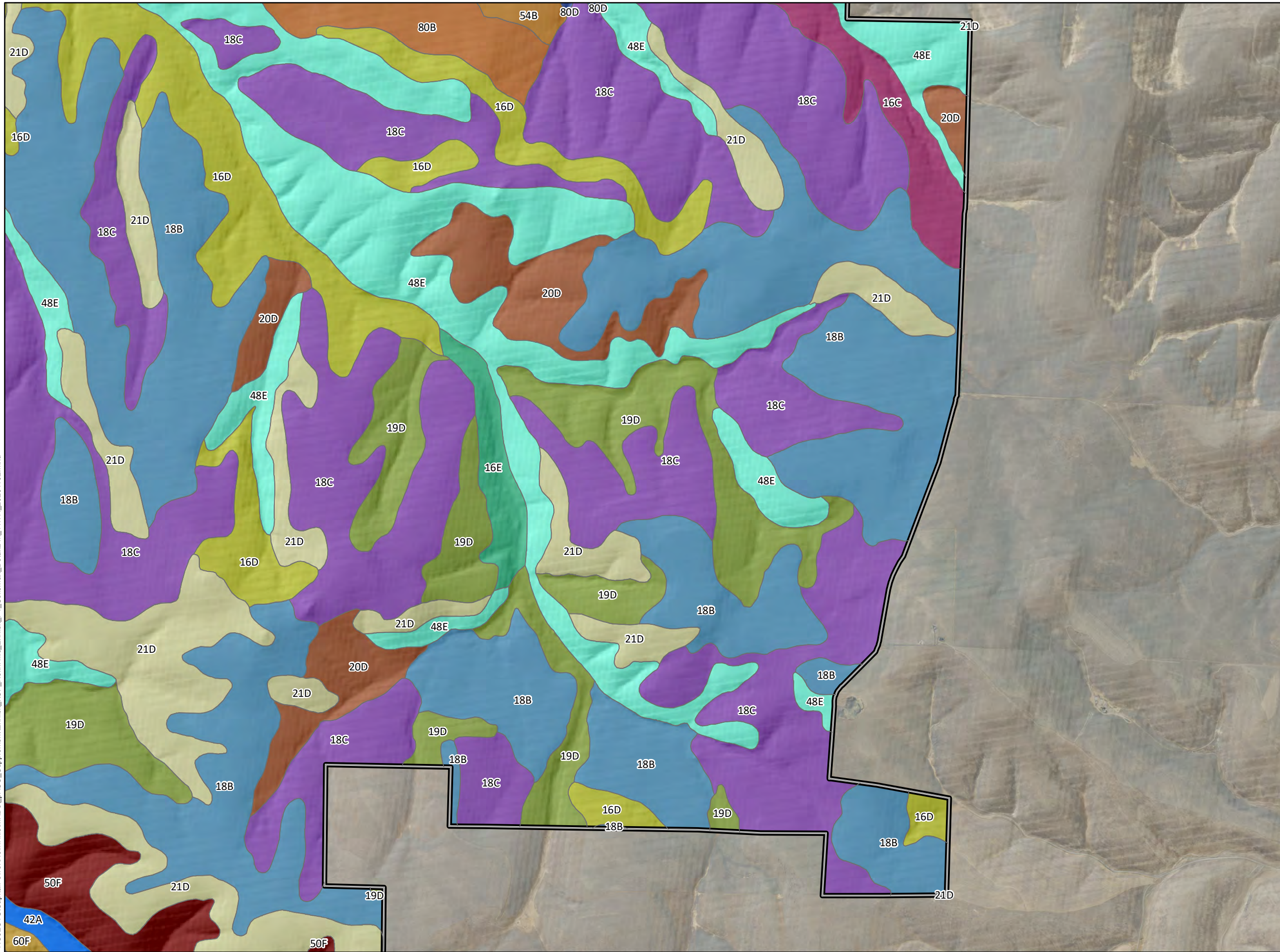
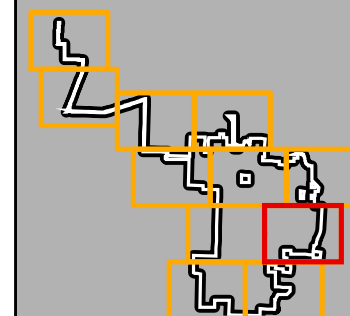
* Soil type descriptions can be found in Exhibit I, Table I-1



Data Sources

Reference Map

Capital Power-Project Infrastructure;
USDA-Aerial Imagery; ESRI-Roads;
USA NRSC Soil Survey-Soils






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NOT FOR CONSTRUCTION

Nolin Hills Wind Power Project

Figure I-1.10 Soil Type

UMATILLA COUNTY, OREGON

-  Proposed Site Boundary
-  County Boundary
-  Soil Unit*

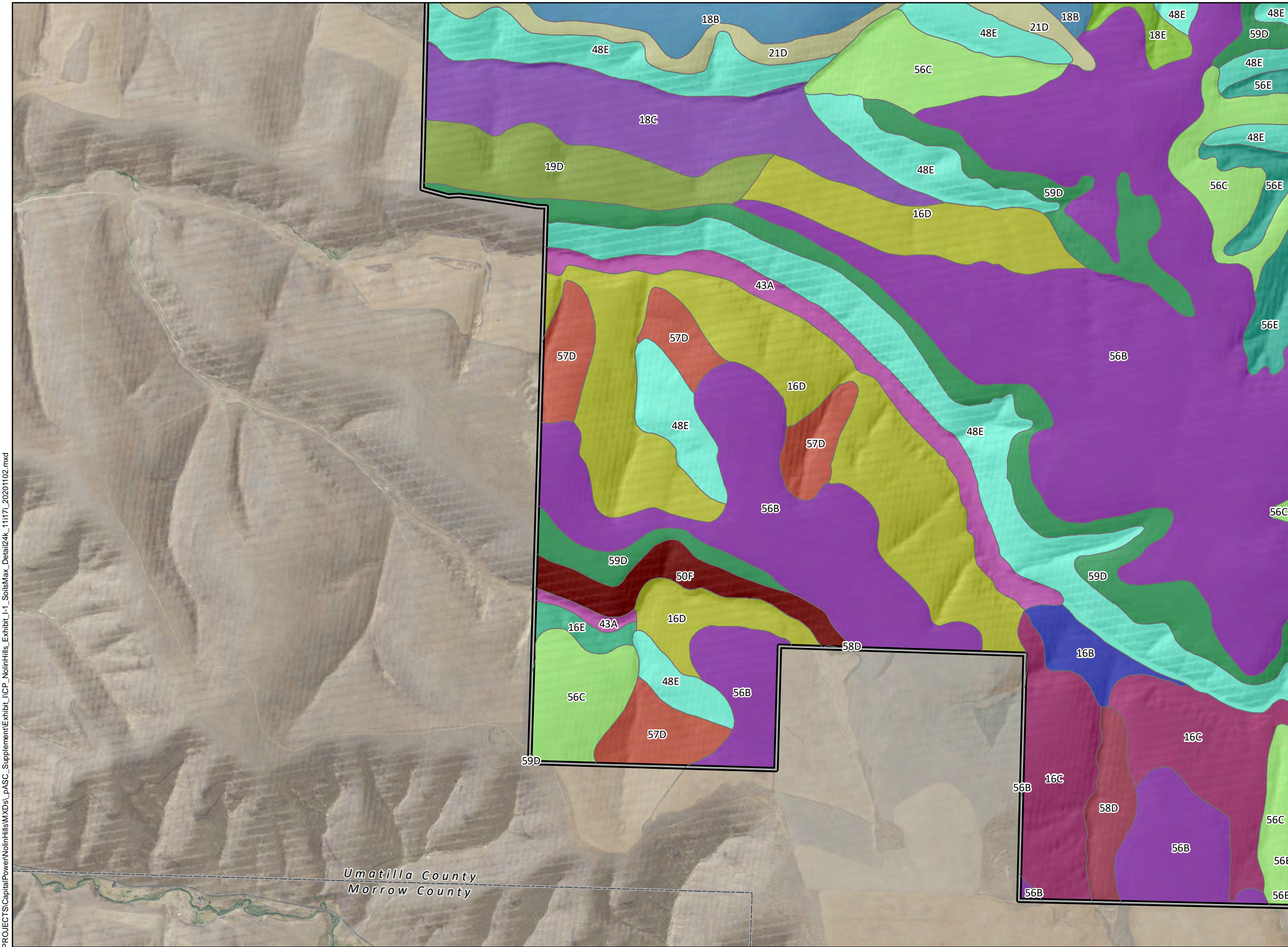
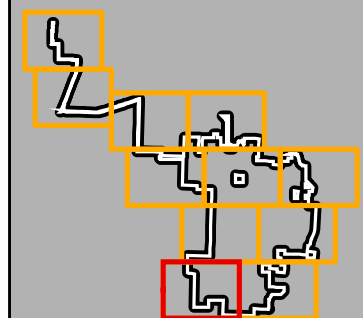
* Soil type descriptions can be found in Exhibit I, Table I-1



Data Sources

Reference Map

Capital Power-Project Infrastructure;
USDA-Aerial Imagery; ESRI-Roads;
USA NRSC Soil Survey-Soils



Umatilla County
Morrow County

1:24,000 WGS 1984 UTM Zone 11N

0 0.5 1 2 Miles




NOT FOR CONSTRUCTION

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Nolin Hills Wind Power Project

Figure I-1.11
Soil Type

UMATILLA COUNTY, OREGON

-  Proposed Site Boundary
-  County Boundary
-  Soil Unit*

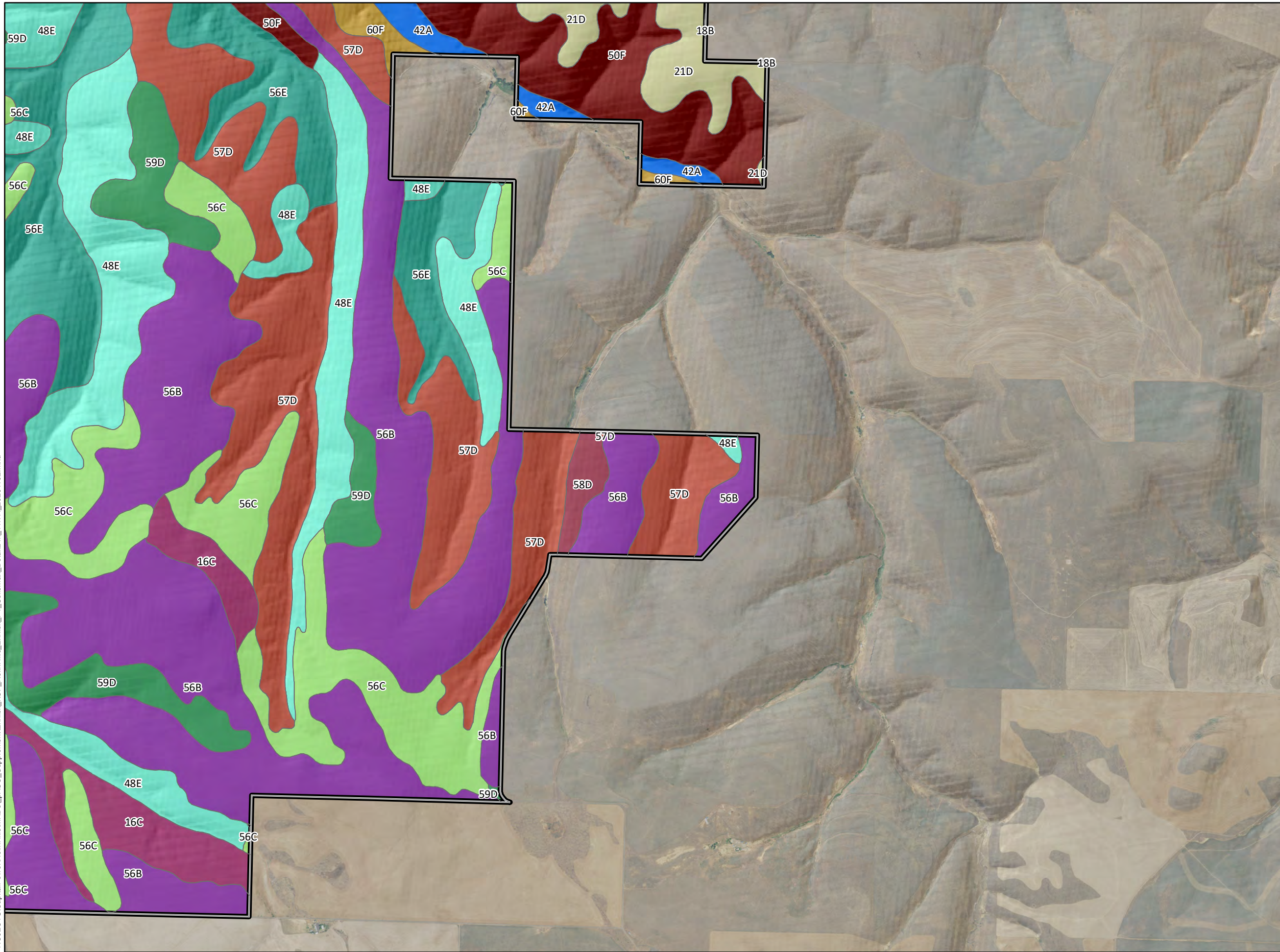
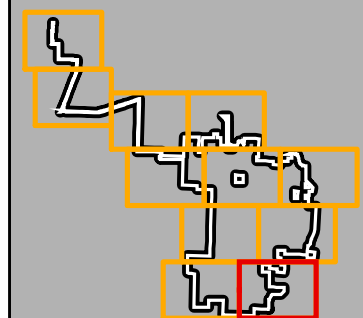
* Soil type descriptions can be found in
Exhibit I, Table I-1



Data Sources

Reference Map

Capital Power-Project Infrastructure;
USDA-Aerial Imagery; ESRI-Roads;
USA NRSC Soil Survey-Soils



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Attachment I-1: NPDES 1200-C Permit Application with Erosion and Sediment Control Plan

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**OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY
APPLICATION FOR NEW NPDES GENERAL PERMIT 1200-C**

Instructions for Completion of 1200-C Construction Stormwater Application: For stormwater discharges to surface waters from construction activities, disturbing one acre or more that do not meet automatic coverage requirements (see page 3 for additional information).

A. PROJECT INFORMATION

1. Enter the legal name of the applicant. This must be the legal Oregon name (i.e., Acme Products, Inc.) or the legal representative of the company if it operates under an assumed business name (i.e., John Smith, dba Acme Products). The name must be a legal, active name registered with the Oregon Department of Commerce, Corporation Division (503) 378-4752, (http://egov.sos.state.or.us/br/pkg_web_name_srch_inq_login), unless otherwise exempted by their regulations. The permit will be issued to the legal name of the applicant.
 - Permit coverage may be transferred from one party to another. For example, a developer may apply for a permit and then transfer the permit to a contractor. Transfer forms: <http://www.oregon.gov/deq/wq/wqpermits/Pages/Forms.aspx>
2. Provide invoice contact information for billing of DEQ annual permit fee if different from the applicant in #1 above. This is the person or entity legally responsible for payment of the annual fee invoice. This must be the same company as the applicant. not a third party independent of the applicant.
3. Provide contact information for the Architect or Consulting Engineer who designed the Erosion and Sediment Control Plan (ESCP) and Dewatering Plan, if applicable.
4. Provide information on the Erosion and Sediment Control Inspector. This is not a DEQ or DEQ Agent inspector; this is an inspector employed by the applicant. As of January 1, 2017, for project 5 acres or more include inspectors' qualification program, certification number and expiration date.
5. Provide the common name of the project (for example, the name of the subdivision), the location of the site, and, if available, a street address.
6. Check the box that best describes the nature of the construction activity. If "other" is selected, describe the use and include a Standard Industrial Classification Code (visit <http://www.osha.gov/pls/imis/sicsearch.html> for codes). For projects that have submitted a joint permit application, please provide the US Army Corps of Engineers assigned number.
7. Enter latitude and longitude for the approximate center of the site, to the nearest 15 seconds. Latitude and longitude can be obtained from DEQ's location finder web site at <http://deqapp1/website/lit/data.asp>. To get the longitude and latitude to appear you can also zoom in and re-center until you find the area. You may want to turn off DEQ interests to eliminate the yellow dots and you may want to turn on the Aerial Photos to help you locate the site (note that the aerial photos are over ten years old). The latitude and longitude will be indicated on the left side of the page once you have checked the locate place at the top of the page and clicked on a location.
8. If known, specify approximate start date. Provide information on the project size as indicated (based on the total project and not just a single phase).
9. For projects that anticipate dewatering or the need for active treatment system, additional details of BMPs and an operation and maintenance plan is required. This includes a plan review fee (Table 70H) for treatment of contaminants beyond sediment. [Fee table](#)
10. Indicate the name(s) of the receiving water(s) (i.e., indicate where stormwater runoff during construction will flow). Request information from local authority or other resource to determine the name of the receiving waterbody. Your receiving water may be a lake, stream, river, wetland or other waterbody, and may or may not be located adjacent to the site. Your stormwater may discharge directly to the receiving water or indirectly via a storm sewer system, an open drain or ditch, or other conveyance structure. Do NOT list a man-made conveyance, such as a storm sewer system, as your receiving water. If you discharge to an irrigation channel or ditch you must also indicate the owner or operator of the irrigation channel or ditch. Indicate the first natural receiving water your stormwater discharge enters.

For example, if your discharge enters a storm sewer system, that empties into Trout Creek, which flows into Pine River, your receiving water is Trout Creek, because it is the first natural waterbody your discharge will reach. Similarly, a discharge into a ditch that feeds Spring Creek should be identified as "Spring Creek" since the ditch is a manmade conveyance. If you discharge into a municipal separate storm sewer system (MS4), you must identify the waterbody into which that portion of the storm sewer discharges. That information should be readily available from the operator of the MS4.

11. Indicate whether stormwater runoff during construction will discharge directly to or through a storm sewer or drainage system that discharges to a Total Maximum Daily Load (TMDL) or 303(d) listed waterbody for turbidity or sedimentation. To make this determination, the following tools are available on DEQ's website:

- WQ Assessment page: <http://www.deq.state.or.us/wq/assessment/rpt2012/search.asp> to use scroll down to search criteria: waterbody and listing status Category 5 (303d) and Category 4a (TMDL approved).

B. SIGNATURE OF LEGALLY AUTHORIZED REPRESENTATIVE

DEFINITION OF LEGALLY AUTHORIZED REPRESENTATIVE:

Please also provide the information requested in brackets []

- **Corporation** - president, secretary, treasurer, vice-president, or any person who performs principal business functions; or a manager of one or more facilities that is authorized in accordance to corporate procedure to sign such documents.
- **Partnership** - General partner *[list of general partners, their addresses, and telephone numbers]*.
- **Sole Proprietorship** - Owner(s) *[each owner must sign the application]*.
- **City, County, State, Federal, or other Public Facility** - Principal executive officer or ranking elected official.
- **Limited Liability Company** - Member *[articles of organization]*.
- **Trusts** - Acting trustee *[list of trustees, their addresses, and telephone numbers]*.

(please see 40 CFR §122.22 for more detail, if needed)

APPLICATION AND FEE SUBMITTAL

To authorize permit registration, the following must be completed and submitted to the appropriate DEQ regional office or DEQ Agent

- DEQ application form signed by the Legally Authorized Representative and meeting the signature requirements above.
- DEQ LUCS and associated Findings.
- Stormwater Erosion and Sediment Control Plan Narrative, if applicable.
- Dewatering and/or Treatment Plan, if applicable.
- Stormwater Erosion and Sediment Control Plan Drawings; full-sized hard copy and electronic file.
- Applicable permit fee. Appropriate fees are available at <http://www.oregon.gov/deq/Rulemaking%20Docs/340-045-0075WQFeeTables.pdf>. All stormwater permits charge an application fee and an annual fee upon registration. DEQ will invoice the annual fee amount if your project coverage extends more than a year. **Please note:** if submitting a dewatering or active treatment O&M Plan to address contaminants beyond sediment, a disposal system plan review fee may be charged as indicated in Table 70H.

APPLICATION AND FEE SUBMITTAL

Submit this application, Narrative Parts I, II & III (if applicable), LUCS, Erosion and Sediment Control Plan (full-sized hard copies and electronic copy), Dewatering and/or Treatment Plan and the applicable fee to the appropriate DEQ regional office or DEQ Agent listed below. Contact the appropriate DEQ regional office or DEQ Agent for the best way to submit the electronic version of the ESCP.

AGENTS AND REGIONAL OFFICES CONTACTS

City of Eugene 99 W. 10th Avenue Eugene, OR 97401 541-682-2706	City of Hermiston 215 Gladys Avenue Hermiston, OR 97838 541-667-5025	City of Troutdale 342 SW 4th Street Troutdale, OR 97060 503-674-3300			
Clean Water Services 2550 SW Hillsboro Highway Hillsboro, OR 97123 503-681-5101 <i>Includes Banks, Beaverton, Cornelius, Durham, Forest Grove, Gaston, Hillsboro, King City, North Plains, Sherwood, Tigard, Tualatin, and portions of Washington Co.</i>	Rogue Valley Sewer Services 138 West Vilas Road, PO Box 3130 Central Point, OR 97502 541-664-6300				
DEQ Northwest Region	DEQ Western Region	DEQ Eastern Region			
700 Lloyd Building at 700 NE Multnomah St., Suite #600, Portland, OR 97232 503-229-5263 or 1-800-452-4011	165 East 7th Avenue, Suite 100 Eugene, OR 97401 541-686-7930 or 1-800-844-8467	800 SE Emigrant Avenue, Suite 330 Pendleton, OR 97801 541-278-4605 or 1-800-304-3513			
Clackamas	Benton	Lane	Baker	Hood River	Sherman
Clatsop	Coos	Lincoln	Crook	Jefferson	Umatilla
Columbia	Curry	Linn	Deschutes	Klamath	Union
Multnomah	Douglas	Marion	Gilliam	Lake	Wallowa
Tillamook	Jackson	Polk	Grant	Malheur	Wasco
Washington	Josephine	Yamhill	Harney	Marrow	Wheeler

DEQ USE ONLY

File #: _____

Application #: _____

LLID/RM: _____

River Mile: _____

Legal Name Confirmed:

Notes: _____



State of Oregon
Department of
Environmental
Quality

**DEPARTMENT OF
ENVIRONMENTAL QUALITY**

**APPLICATION FOR NEW
NPDES GENERAL PERMIT
1200-C**

For stormwater discharges to surface waters from construction activities disturbing one acre or more that do not meet automatic coverage requirements.*

DEQ USE ONLY

Date Received: _____

Amount: \$ _____

Check #: _____

Check Name: _____

Deposit #: _____

Receipt #: _____

Notes: _____

*A project *may* be eligible for “automatic coverage” under NPDES general permit 1200-CN if stormwater *does not* discharge to a waterbody with a TMDL or 303(d) listing for sediment or turbidity *and* it meets one of the following criteria (see 1200-CN at <http://www.oregon.gov/deq/FilterPermitsDocs/1200cnPermit.pdf>):

- 1) Disturbs less than one acre and is located in Gresham, Troutdale, or Wood Village.
- 2) Disturbs less than five acres and is located in Albany, Corvallis, Eugene, Milwaukie, Multnomah Co. (unincorporated areas), Springfield, West Linn, or Wilsonville.
- 3) Disturbs less than five acres and is within the jurisdictions of Clackamas Co. Water Environment Services [Gladstone, areas within Clackamas Co. Service Dist. #1 (excluding Happy Valley), and areas within the Surface Water Management Agency of Clackamas Co. (including Rivergrove)], Clean Water Services (Banks, Beaverton, Cornelius, Durham, Forest Grove, Hillsboro, King City, North Plains, Sherwood, Tigard, Tualatin, and Washington Co. within Urban Growth Boundary), or Rogue Valley Sewer Services.

A. PROJECT INFORMATION

1. _____
Applicant (entity legally responsible for permit)

_____ Contact Name (if different from applicant)

_____ Address

_____ City _____ State _____ Zip

_____ Telephone _____ E-Mail Address

2. Invoicing information (person or entity legally responsible for payment of annual fee invoice; not a third party independent of the applicant)

_____ Invoice Contact Name (if different from applicant)

_____ Address

_____ City _____ State _____ Zip

_____ Telephone _____ E-Mail Address

3. _____
Architect/Engineering Firm (Erosion & Sediment Control Plan)

_____ Project Manager

_____ Telephone _____ E-Mail Address

4. _____
Applicant's Designated Erosion and Sediment Control Inspector

_____ Company Name

_____ Telephone _____ E-Mail Address

_____ Qualification program, certification number and expiration date

5. _____ <div style="text-align: center;">Name of Project</div> <hr/> <div style="text-align: center;">Address or Cross Street</div> <hr/> <div style="display: flex; justify-content: space-between;"> City State Zip </div> <hr/> <div style="text-align: center;">County</div>	6. Nature of Construction Activity <input type="checkbox"/> Single Family (SIC Code 1521) <input type="checkbox"/> Multi-Family Residential (SIC Code 1522) <input type="checkbox"/> Commercial (SIC Code 1542) <input type="checkbox"/> Industrial (SIC Code 1541) <input type="checkbox"/> Highway (SIC Code 1611) <input type="checkbox"/> Restoration (SIC Code 1629) <input type="checkbox"/> Utilities (SIC Code 1623): _____ <input type="checkbox"/> Other (SIC Code required): _____ Army Corps No. (if any): _____
---	--

7. Approximate location of center of site Latitude: _____ Longitude: _____ <i>**For assistance: DEQ Location Improvement Tool at: http://deqapp1/website/lit/data.asp**</i>	8. Approximate start date: _____ Project Size Total Site Acreage (acres): _____ Total Disturbed Area (acres): _____ Total Number of Lots: _____
--	--

9. Is there soil or groundwater contamination located within the site boundary? YES NO
 Will you be dewatering during construction (plan review fee may apply)? YES NO
 Depth to groundwater: _____ Data Source: _____

10. Receiving waterbody - Must identify final discharge location of construction stormwater flows.

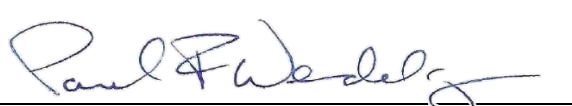
Waters of the State (name or description):
 Municipal storm sewer or drainage system (include downstream receiving waterbody):
 Ditch (include downstream receiving waterbody):
 Irrigation channel or ditch (include owner or operator):
 Infiltration device(s) (construction stormwater discharge to underground injection control/drywell is prohibited)
 Other: Stormwater will be treated by BMPs prior to discharging off site to remove sediment. Most stormwater will infiltrate, excess treated water from extreme storm events will leave the site via ephemerals and tributary streams and may ultimately reach Umatilla River.

11. Stormwater runoff during construction discharges directly to or through a storm sewer or drainage system that discharges to a waterbody with a Total Maximum Daily Load (TMDL) or 303(d) listing for turbidity or sedimentation? YES NO
***For assistance: DEQ assessment database page at <http://www.deq.state.or.us/wq/assessment/rpt2012/search.asp>*

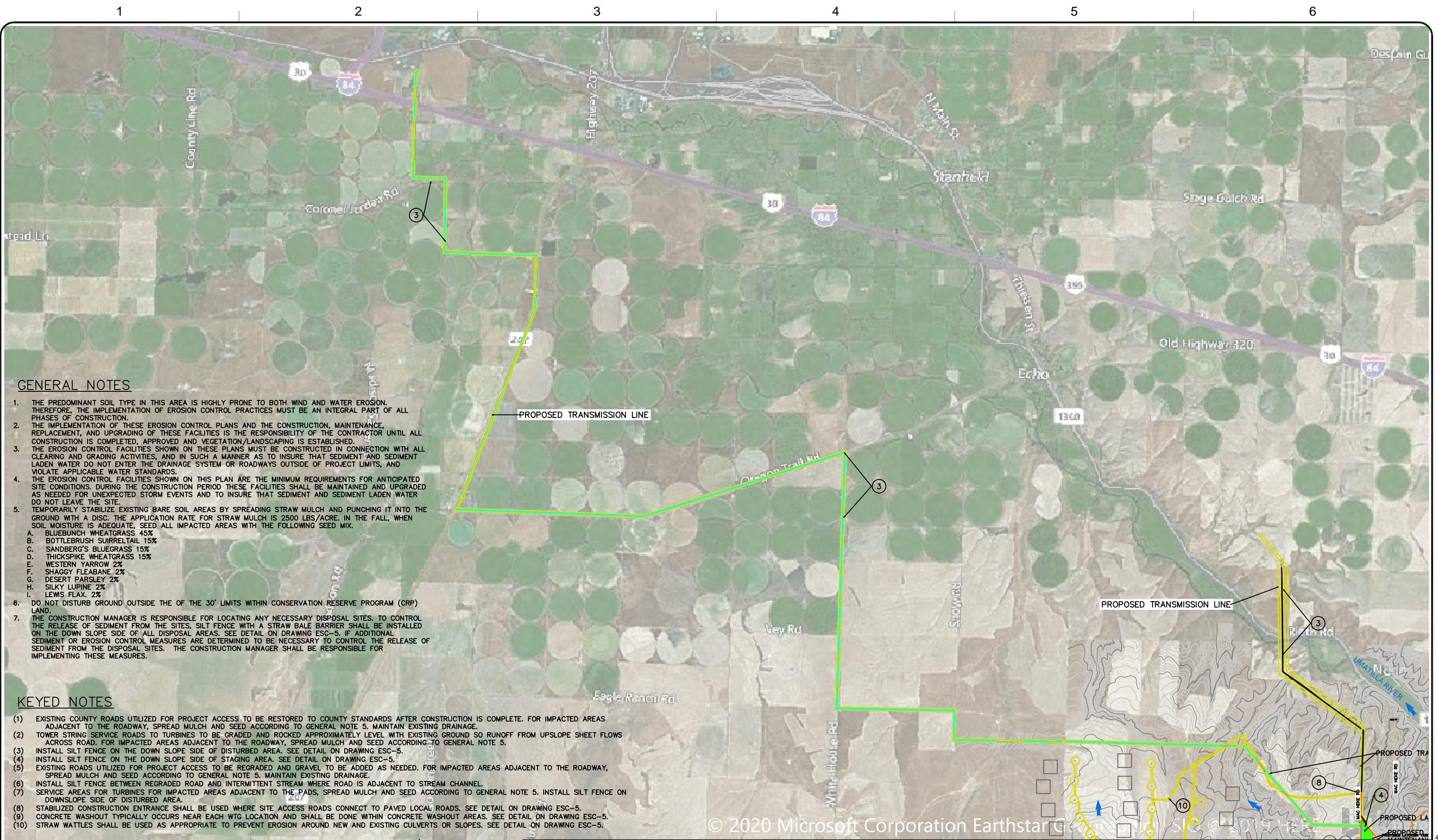
B. SIGNATURE OF LEGALLY AUTHORIZED REPRESENTATIVE

The legally authorized representative *must* sign the application (see instructions – Section C).

I hereby certify that the information contained in this application is true and correct to the best of my knowledge and belief. In addition, I agree to pay all permit fees required by Oregon Administrative Rules 340-045. This includes a compliance determination fee invoiced annually by DEQ to maintain the permit.

Name of Legally Authorized Representative (Type or Print)	Title
	
Signature of Legally Authorized Representative	Date

9/28/2020 10:13:41 AM - \\TTS232FS1\PROJECTS\CAPITAL POWER\NOLIN HILLS\ESCP\CAD\NOLIN ESCP DRAFT SET.DWG - MATHERS, ERIC



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 MIX.
 - A. BLUEBUNCH WHEATGRASS 45%
 - B. BOTTLEBRUSH SUIRRELTAIL 15%
 - C. SANDBERG'S BLUEGRASS 15%
 - D. THICKSPIKE WHEATGRASS 15%
 - E. WESTERN YARROW 2%
 - F. SHAGGY FLEABANE 2%
 - G. DESERT PARSLEY 2%
 - H. SILKY LUPINE 2%
 - I. LEWIS FLAX. 2%
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. SEE DETAIL ON DRAWING ESC-5. 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.

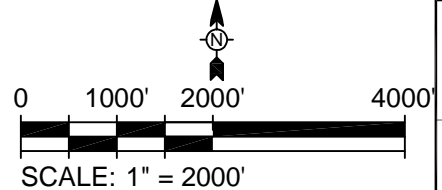
KEYED NOTES

- (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-5.
- (4) INSTALL SILT FENCE ON THE DOWN SLOPE SIDE OF STAGING AREA. SEE DETAIL ON DRAWING ESC-5.
- (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) STABILIZED CONSTRUCTION ENTRANCE SHALL BE USED WHERE SITE ACCESS ROADS CONNECT TO PAVED LOCAL ROADS. SEE DETAIL ON DRAWING ESC-5.
- (9) CONCRETE WASHOUT TYPICALLY OCCURS NEAR EACH WTG LOCATION AND SHALL BE DONE WITHIN CONCRETE WASHOUT AREAS. SEE DETAIL ON DRAWING ESC-5.
- (10) STRAW WATTLES SHALL BE USED AS APPROPRIATE TO PREVENT EROSION AROUND NEW AND EXISTING CULVERTS OR SLOPES. SEE DETAIL ON DRAWING ESC-5.

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LEGEND

- ① KEYED NOTES (SEE ESC-1)
- PROJECT BOUNDARY
- ACCESS ROAD CENTERLINE
- LIMITS OF DISTURBANCE
- 2 EXISTING 20' CONTOUR
- WIND TURBINE LOCATION
- SURFACE FLOW DIRECTION
- TRANSMISSION LINE



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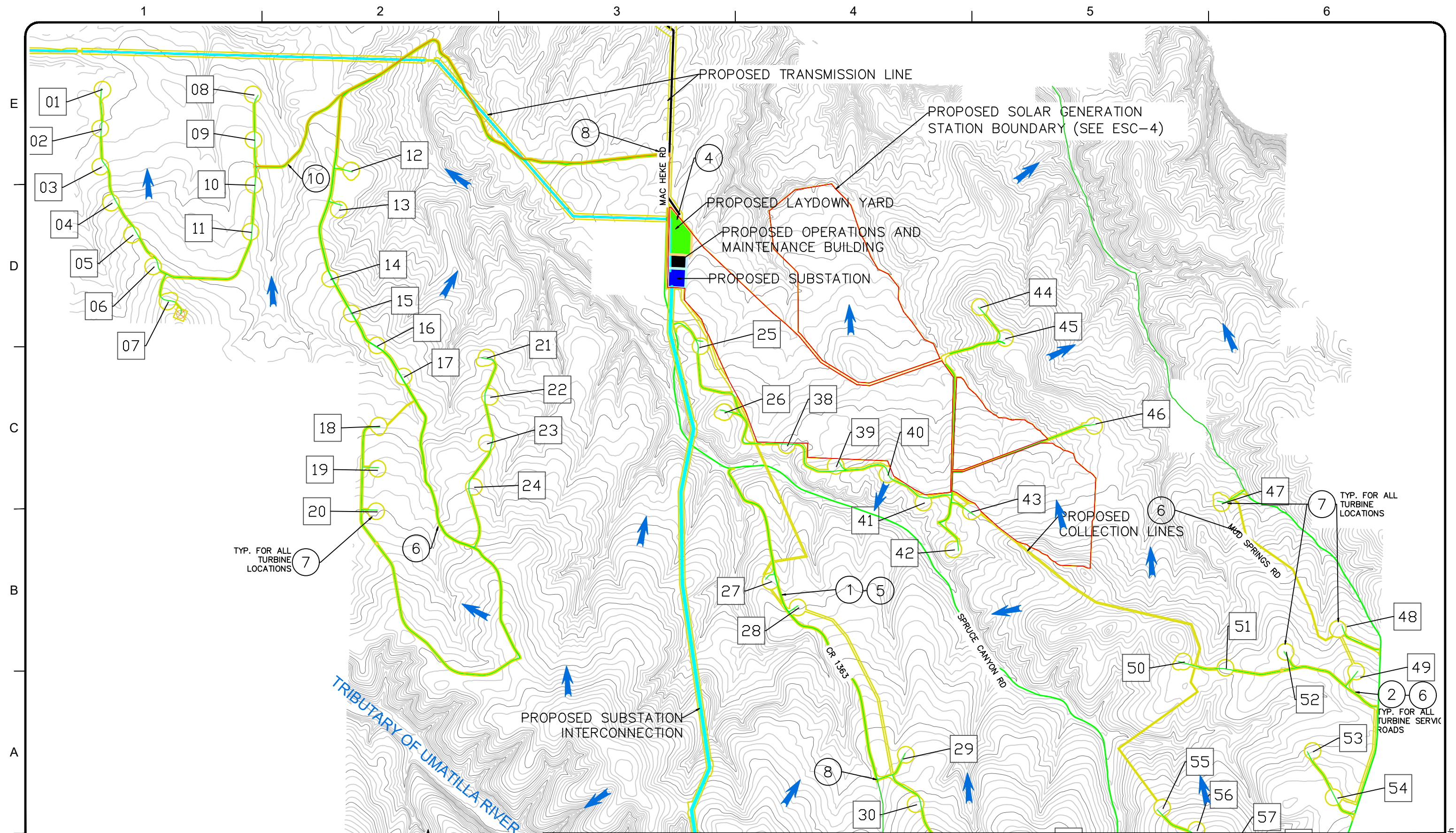
CAPITAL POWER DEVELOPMENTS, LLC
NOLIN HILLS WIND PROJECT
EROSION AND SEDIMENT CONTROL PLAN
SHEET 1

Project No.: 194-8029
Designed By: ENM
Drawn By: ENM
Checked By: JPP
ESC-1

Bar Measures 1 inch

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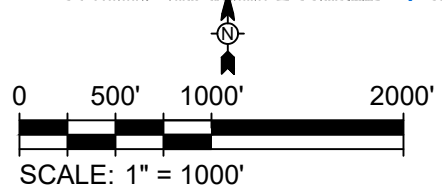
TYP. FOR ALL TURBINE LOCATIONS 7

TYP. FOR ALL TURBINE LOCATIONS 7

TYP. FOR ALL TURBINE SERV. ROADS 2 6

LEGEND

- ① KEYED NOTES (SEE ESC-1)
- PROJECT BOUNDARY
- ACCESS ROAD CENTERLINE
- LIMITS OF DISTURBANCE
- EXISTING 20' CONTOUR
- EXISTING 100' CONTOUR
- WIND TURBINE LOCATION
- SURFACE FLOW DIRECTION
- TRANSMISSION LINE



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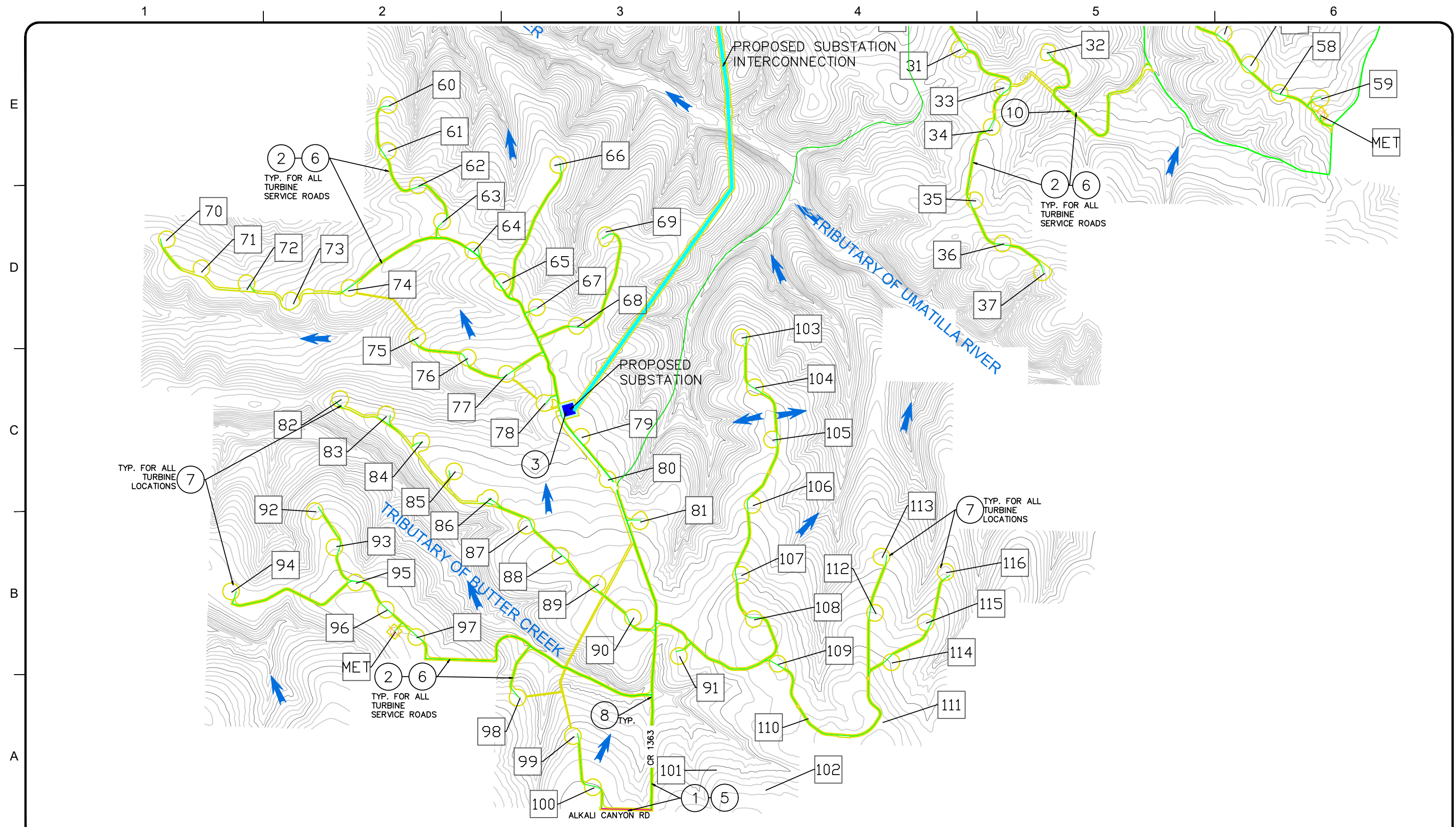
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 NOLIN HILLS WIND PROJECT
 EROSION AND SEDIMENT CONTROL PLAN
 SHEET 2

Project No.: 194-6029
 Designed By: ENM
 Drawn By: ENM
 Checked By: JPP
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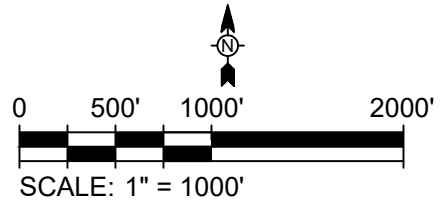
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LEGEND

- 2 KEYED NOTES (SEE ESC-1)
- PROJECT BOUNDARY
- ACCESS ROAD CENTERLINE
- LIMITS OF DISTURBANCE
- EXISTING 20' CONTOUR
- EXISTING 100' CONTOUR
- WIND TURBINE LOCATION
- SURFACE FLOW DIRECTION
- TRANSMISSION LINE



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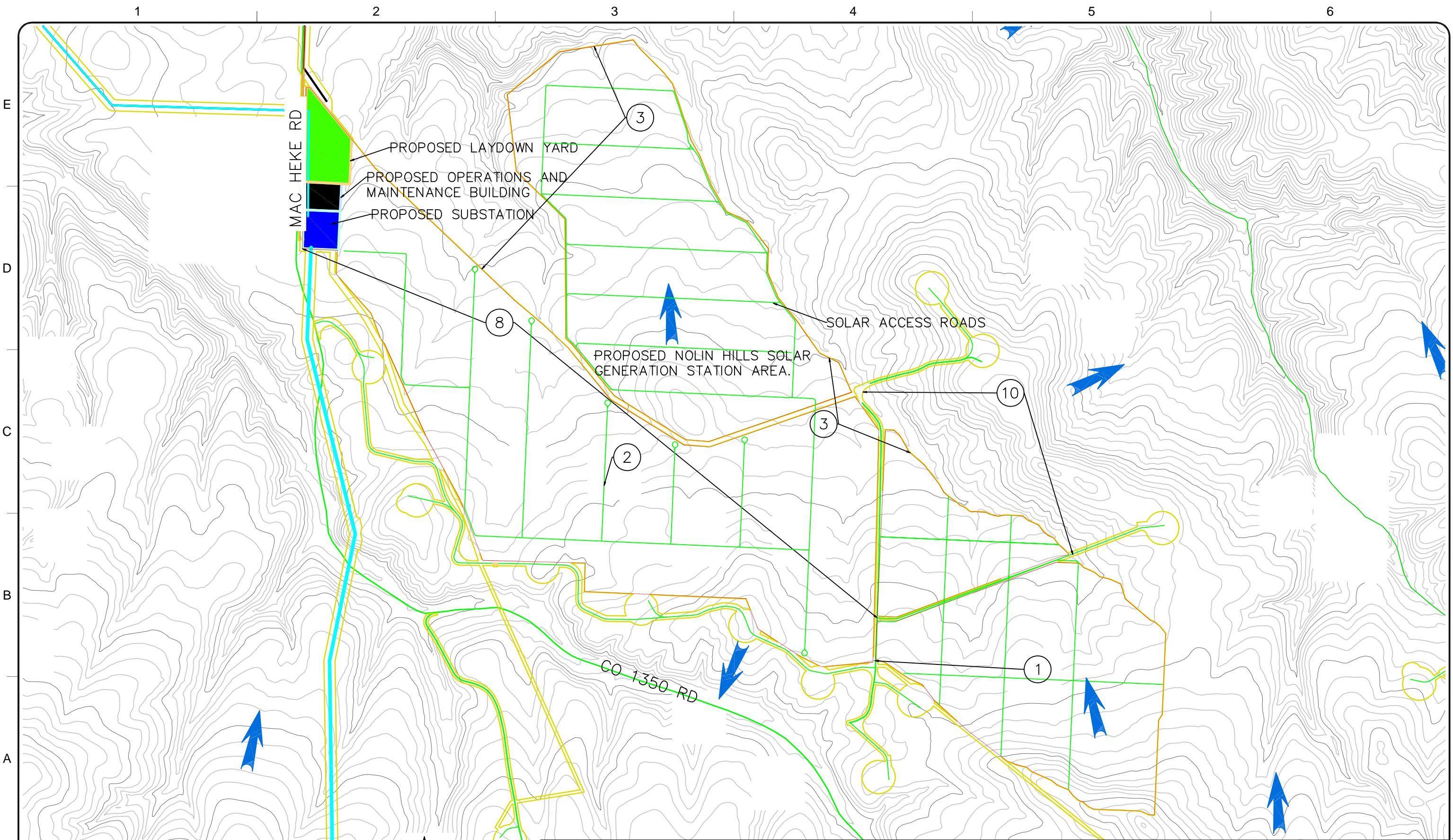
CAPITAL POWER DEVELOPMENTS, LLC
NOLIN HILLS WIND PROJECT
EROSION AND SEDIMENT CONTROL PLAN
SHEET 3

Project No.:	194-6029
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MAC HEKE RD

PROPOSED LAYDOWN YARD
 PROPOSED OPERATIONS AND MAINTENANCE BUILDING
 PROPOSED SUBSTATION

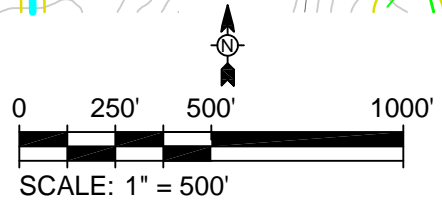
PROPOSED NOLIN HILLS SOLAR GENERATION STATION AREA.

SOLAR ACCESS ROADS

CO 1350 RD

LEGEND

- KEYED NOTES (SEE ESC-1)
- PROJECT BOUNDARY
- ACCESS ROAD CENTERLINE
- LIMITS OF DISTURBANCE
- EXISTING 20' CONTOUR
- EXISTING 100' CONTOUR
- WIND TURBINE LOCATION
- SURFACE FLOW DIRECTION
- TRANSMISSION LINE



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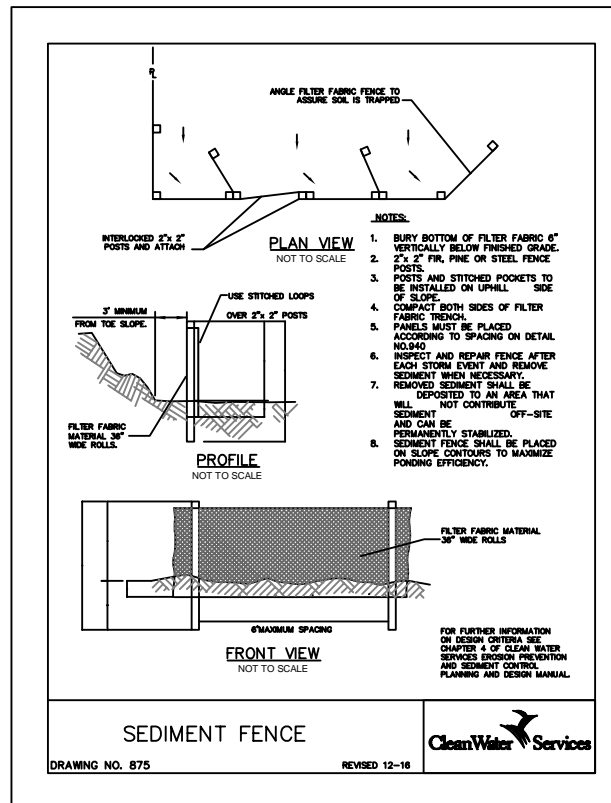
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CAPITAL POWER DEVELOPMENTS, LLC
 NOLIN HILLS SOLAR PROJECT
 EROSION AND SEDIMENT CONTROL PLAN
 SHEET 4

Project No.: 194-6029
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ESC-4

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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

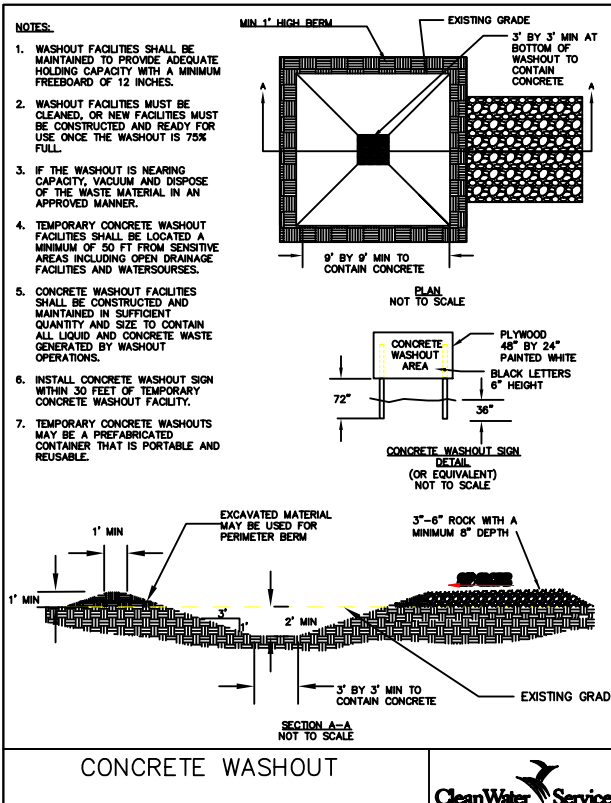
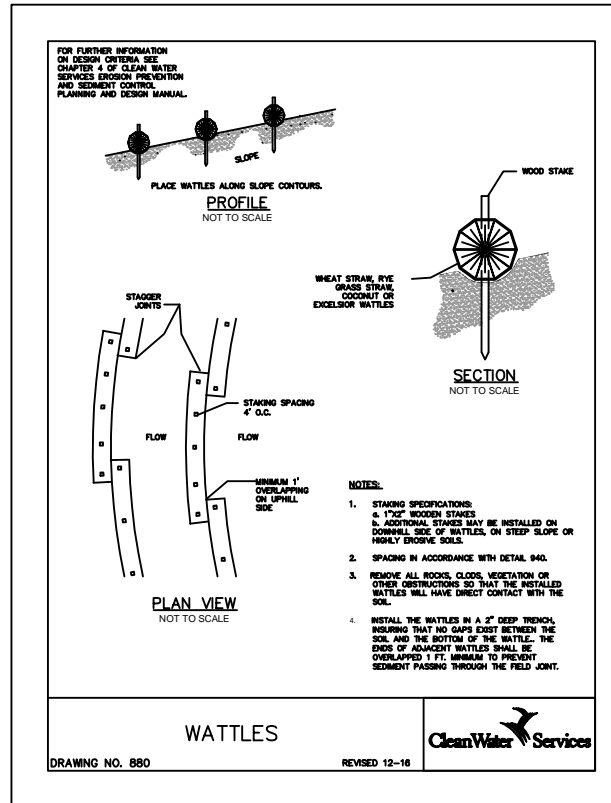
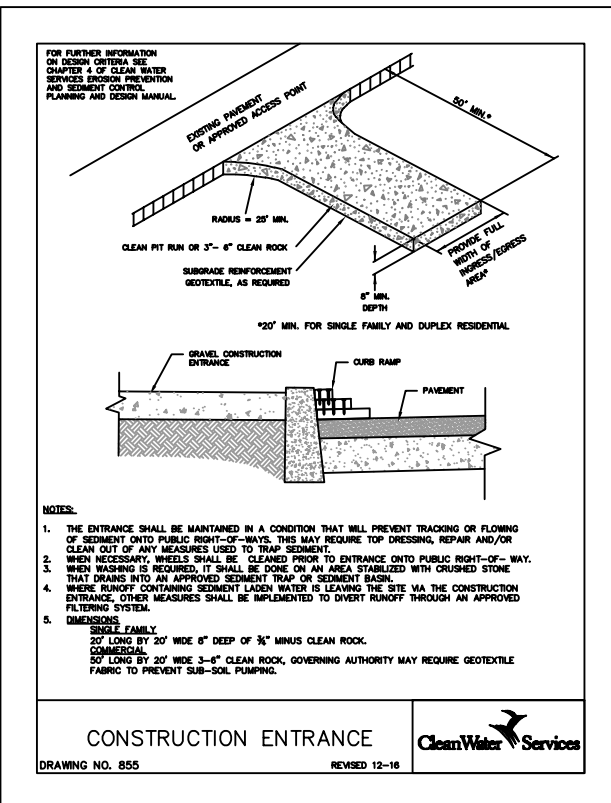
INSTALL PARALLEL ALONG CONTOURS AS FOLLOWS

% 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:

- 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



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CAPITAL POWER DEVELOPMENTS, LLC
NOLIN HILLS WIND ENERGY PROJECT
EROSION AND SEDIMENT CONTROL DETAILS

Project No.:	194-6029
Designed By:	ENM
Drawn By:	ENM
Checked By:	JPP
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**Attachment I-2: ODEQ Response on Draft
NPDES 1200-C Permit Application with
ESCP**

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From: [ISAAK Patty](#)
To: [Paul Wendelgass](#)
Cc: [Fossum, Linnea](#)
Subject: File 127193 Nolin Hills Wind Power Project- need info please
Date: Monday, January 25, 2021 11:29:51 AM
Importance: High

CAUTION: This email originated from an external sender. Verify the source before opening links or attachments.

Good morning,

The DEQ has received the application for the Nolin Hills Wind Power project. An administrative review has been conducted and the following are the results of that review:

Erosion and Sediment Control Inspector. No inspector was named on your application; please provide the DEQ with the name of the inspector, their certification number, and expiration date of that certification. Your permit cannot be issued without an assigned inspector.

No Inspector listed on the application:

Inspector's Certification: 6.1 Person(s) Responsible for Visually Monitoring the Project Site

Visual monitoring must be conducted by a Certified Erosion and Sediment Control or Storm Water Quality Inspector (Inspector). The Inspector must be certified in one of the following sediment and erosion control programs, or any other course approved at a future date by DEQ. DEQ has approved the following programs:

1. Certified Professional in Erosion and Sediment Control,
2. Certified Professional in Storm Water Quality,
3. Certified Inspector of Sediment and Erosion Control,
4. Washington State Certified Erosion and Sediment Control Lead,
5. Rogue Valley Sewer Services Erosion and Sediment Control Certification.

By May 15, 2021, permit registrants that received permit coverage prior to December 14, 2020 must have visual monitoring of sites under 5 acres conducted by a person certified in a DEQ approved erosion and sediment control program.

No LUCS form was submitted but a Oregon Department of Energy Site Certificate will need to be acquired. If you are already in process of this, please provide an update as to where you are in this process.

Thank you and if you have any questions, please contact me the numbers below.

Patty Isaak

Water Quality Permit Coordinator

Eastern Region

D: 541-278-4600

C: 541-613-1125

Oregon Department of Environmental Quality
800 SE Emigrant Ave, Suite 330 Pendleton OR 97801