

Exhibit C

Project Location and Maps

**Bakeoven Solar Project
November 2019**

Prepared for



Avangrid Renewables, LLC

Prepared by



Tetra Tech, Inc.

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Acronyms and Abbreviations

Applicant	Bakeoven Solar, LLC
Facility	Bakeoven Solar Project
kV	kilovolt
Maupin Substation	Bonneville Power Administration Maupin Interconnection Substation
O&M	operations and maintenance
OAR	Oregon Administrative Rule

1.0 Introduction

Bakeoven Solar, LLC (Applicant) proposes to construct and operate a solar energy generation facility and related or supporting facilities in Wasco County, Oregon. This exhibit contains information about the location of the Bakeoven Solar Project (Facility) under Oregon Administrative Rule (OAR) 345-021-0010(1)(c).

2.0 General Location

OAR 345-021-0010(1)(c) Information about the location of the proposed facility, including:

(A) A map or maps showing the proposed locations of the energy facility site, all related or supporting facility sites and all areas that might be temporarily disturbed during construction of the facility in relation to major roads, water bodies, cities and towns, important landmarks and topographic features, using a scale of 1 inch = 2000 feet or smaller when necessary to show detail.

The Facility is located entirely in southern Wasco County, near Maupin, Oregon as shown on the following maps:

- Figure C-1 is an overview map of the Facility, including the proposed site boundary and nearby major roads, communities, and other recognizable features.
- Figure C-2 is a map showing the proposed micrositing corridor and solar array layout, including the locations of related or supporting facilities in relation to nearby cities and towns, county boundaries, existing public roads, and other geographic features. It includes the general layout of the full Facility on C-2, followed by an index map C-2.1 and large-scale detail maps C-2.2 through C-2.8.
- Figure C-3 shows other energy generation facilities that are known to be permitted at the state or local level within 10 miles of the proposed site boundary.

Exhibit C map figures and the calculations in Section 3, below, have been updated to reflect the minor realignment of the transmission line described in Exhibit B, Section 5.3.

3.0 Location and Disturbance Areas

OAR 345-021-0010(1)(c)(B) A description of the location of the proposed energy facility site, the proposed site of each related or supporting facility and areas of temporary disturbance, including the total land area (in acres) within the proposed site boundary, the total area of permanent disturbance, and the total area of temporary disturbance. If a proposed pipeline or transmission line is to follow an existing road, pipeline or transmission line, the applicant shall

state to which side of the existing road, pipeline or transmission line the proposed facility will run, to the extent this is known.

The proposed site boundary includes approximately 10,640 acres of private land, encompassing all major Facility components and related or supporting facilities (see Exhibit B). The Applicant has negotiated long-term energy leases, as required, with the landowners and is working with Bonneville Power Administration (BPA) on an interconnection agreement for facility upgrades to the existing Maupin Interconnection Substation (Maupin Substation). The proposed site boundary encompasses some or all of the townships, ranges, and sections identified in Table C-1.

Table C-1. Township, Range, and Section within the Facility Site Boundary

Township	Range	Sections
4S	14E	25, 26, 27, 36
4S	15E	25, 29, 30, 31, 32, 36
4S	16E	30
5S	15E	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 23, 24, 25
5S	16E	7, 18, 19, 20, 29, 30

A portion of the site boundary is designated as the proposed micrositing corridor, where the solar array and all other related and supporting facilities may be located, and which provides the limits of the area that may be temporarily or permanently disturbed during construction of the Facility. The micrositing corridor is approximately 4,160 acres and is shown on Figure C-2.

The 230-kV transmission line will extend approximately 11 miles from the collector substation to the existing BPA Maupin Substation, as shown in Figures C-2.3 to C-2.8. Starting at the collector substation, the 230-kV transmission line corridor extends northwest across leased private land for approximately 7.5 miles. At milepost 7.5, the transmission line turns west following Bakeoven Road along the northern side for approximately 3.5 miles to the Maupin Substation (see Figure C-2.8). As noted in Exhibit B, in July 2019, the last 2.5 miles of the proposed transmission line were realigned 30 feet to the north onto private land newly under lease by the Applicant, and onto the fee-owned BPA property where Maupin Substation is located. The following impact calculations have been updated to reflect his change (Table C-2).

Table C-2 provides worst-case scenario for temporary and permanent acreage impacts from Facility components. Table C-2 presents the impact by disturbance type. However, some disturbance types overlap by the nature of their development. For example, permanent new access roads will be both within and outside of the fence line of the solar arrays. Therefore, the last row in the table provides the disturbance area for the Facility with any development overlap removed. For purposes of analysis, the Applicant considered a solar array that would occupy approximately 2,717 acres within a fenced area within the proposed micrositing corridor, using the example solar technology described in Exhibit B. This entire area is considered permanently disturbed; all temporary

disturbance areas are outside the fenced solar array. This layout represents the worst-case scenario for purposes of analyzing land use impacts (described in detail in Exhibit K).

Table C-2. Estimated Temporary and Permanent Disturbance

Disturbance Type	Temporary (Acres)	Permanent (Acres)
Solar Array Area ^{1/}	-	2,716.0
Collector Lines (overhead and underground) ^{2/}	39.5	<0.1
Battery Storage System ^{3/}	-	8.4
Transmission Line (230 kV) ^{4/}	93.9	<0.1
Existing Road to Improve ^{5/}	6.5	-
Permanent New Roads ^{6/}	9.5	60.8
Collector Substation ^{7/}	-	3.0
Staging Areas ^{8/}	19.2	-
O&M Building ^{9/}	-	3.0
Perimeter Fence Line ^{10/}	16.3	Included in the solar array area
Total^{11/}	176.6	2,717

Notes:

- 1/ The area within the fence line including all solar components (i.e., modules, inverters, transformers, tracking systems, posts, collector lines, and other associated equipment), as well as the following supporting facilities: collector substation, O&M building, access roads, and battery storage. Permanent impacts for each component are listed separately; however, the total eliminates any overlap of features within the fence line.
- 2/ Temporary impact assumes a 50-foot temporary disturbance corridor and includes pulling/tensioning areas. Permanent disturbance based on 2-foot-diameter disturbance from the poles (multiplied by 2 posts). Assumes a total of 4.2 miles of overhead line both within and outside the fence line; however, temporary disturbance is only the portion outside the fence line.
- 3/ Within the fence line.
- 4/ Overhead transmission line disturbance amounts include the support poles. Assumes a 50-foot temporary disturbance corridor plus pulling/tension areas, and 2-foot-diameter permanent disturbance from the poles (multiplied by 2 posts). Approximately 11 miles long total. Located outside the fence line.
- 5/ Existing country roads will have a right of way of 60 feet based on the centerline and temporary impacts do not include the existing road width. Existing private roads will be widened to a maximum of 20 feet. Assumes a total of approximately 0.4 miles of existing roads to improve located outside the fence line.
- 6/ New access roads are assumed to be 16 and 20 feet in width, inside and outside the fence line, respectively. Assumes 23.9 miles of new permanent roads, the majority of which are inside the fence line.
- 7/ The collector substation is within the fence line and includes the surrounding gravel area and other associated components.
- 8/ Temporary disturbance is calculated from the two staging areas outside the fence line; staging disturbance inside the fence line is part of the permanent solar array area.
- 9/ Assumes one O&M building (5,000 square feet) and includes parking, any adjacent storage, and surrounding graveled area (including an underground septic system) and is within the fence line.
- 10/ This is the solar array perimeter and assumes a 6-foot temporary disturbance corridor on the outer side of the fence multiplied by the linear footage of fence for temporary workspace to install the fence. The narrow footprint of the fence is considered part of the permanently disturbed solar array area. Assumes an approximate total of 22.3 miles of fence.
- 11/ Totals eliminate any overlap of features (e.g., overlapping temporary workspace, disturbance types within the fence line).

As noted above, the Applicant requests flexibility in siting the Facility within the micrositing corridor in order to use the most efficient and effective equipment and layout possible at the time of final design. Because this analysis uses the largest anticipated footprint for the Facility, equipment and layout selected will not exceed the impacts analyzed. Resource surveys have been conducted for the proposed micrositing corridor where components of the solar arrays will be sited. See Exhibits J, P, Q, and S for details regarding wetland, biological, and cultural surveys. The solar arrays and supporting facilities will be microsited during the final design to avoid or minimize adverse impacts to resources to the extent practicable. Native habitat cover within the site boundary will be retained to the extent practicable.

4.0 Relation to Other Energy Generation Facilities

OAR 345-021-0010(1)(c)(C) For energy generation facilities, a map showing the approximate locations of any other energy generation facilities that are known to the applicant to be permitted at the state or local level within the study area as defined in OAR 345-001-0010 for impacts to public services.

Figure C-3 shows the location of the Facility in relation to other energy generation facilities that are known to the Applicant to be permitted at the state or local level within 10 miles of the site boundary. These include one wind project, the county-permitted Imperial Wind Project, and five solar projects: Tygh Valley Solar I, Oak Springs Solar, Grass Valley PV1, PV2, and PV3. Four existing substations are located within the analysis area including Bakeoven, Maupin, Tygh Valley, and Buckley. A total of four in-service transmission lines and one proposed transmission line are within the analysis area, with one in-service transmission line traversing the proposed site boundary from north to south. Lastly, one in-service gas pipeline borders the southeast corner of the analysis area.

5.0 Submittal Requirements and Approval Standards

5.1 Submittal Requirements

Table C-3. Submittal Requirements Matrix

Requirement	Location
OAR 345-021-0010(1)(c) Information about the location of the proposed facility, including:	Section 2.0
(A) A map or maps showing the proposed locations of the energy facility site, all related or supporting facility sites and all areas that might be temporarily disturbed during construction of the facility in relation to major roads, water bodies, cities and towns, important landmarks and topographic features, using a scale of 1 inch = 2000 feet or smaller when necessary to show detail.	Figures C-1, C-2

Requirement	Location
<p>(B) A description of the location of the proposed energy facility site, the proposed site of each related or supporting facility and areas of temporary disturbance, including the total land area (in acres) within the proposed site boundary, the total area of permanent disturbance, and the total area of temporary disturbance. If a proposed pipeline or transmission line is to follow an existing road, pipeline or transmission line, the applicant shall state to which side of the existing road, pipeline or transmission line the proposed facility will run, to the extent this is known.</p>	<p>Sections 2.0, 3.0, 4.0</p>
<p>(C) For energy generation facilities, a map showing the approximate locations of any other energy generation facilities that are known to the applicant to be permitted at the state or local level within the study area as defined in OAR 345-001-0010 for impacts to public services.</p>	<p>Figure C-3</p>

5.2 Approval Standards

OAR 345 Division 22 does not provide an approval standard specific to Exhibit C.

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Figures

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Bakeoven Solar Project

Figure C-1
Facility Overview

WASCO COUNTY, OREGON

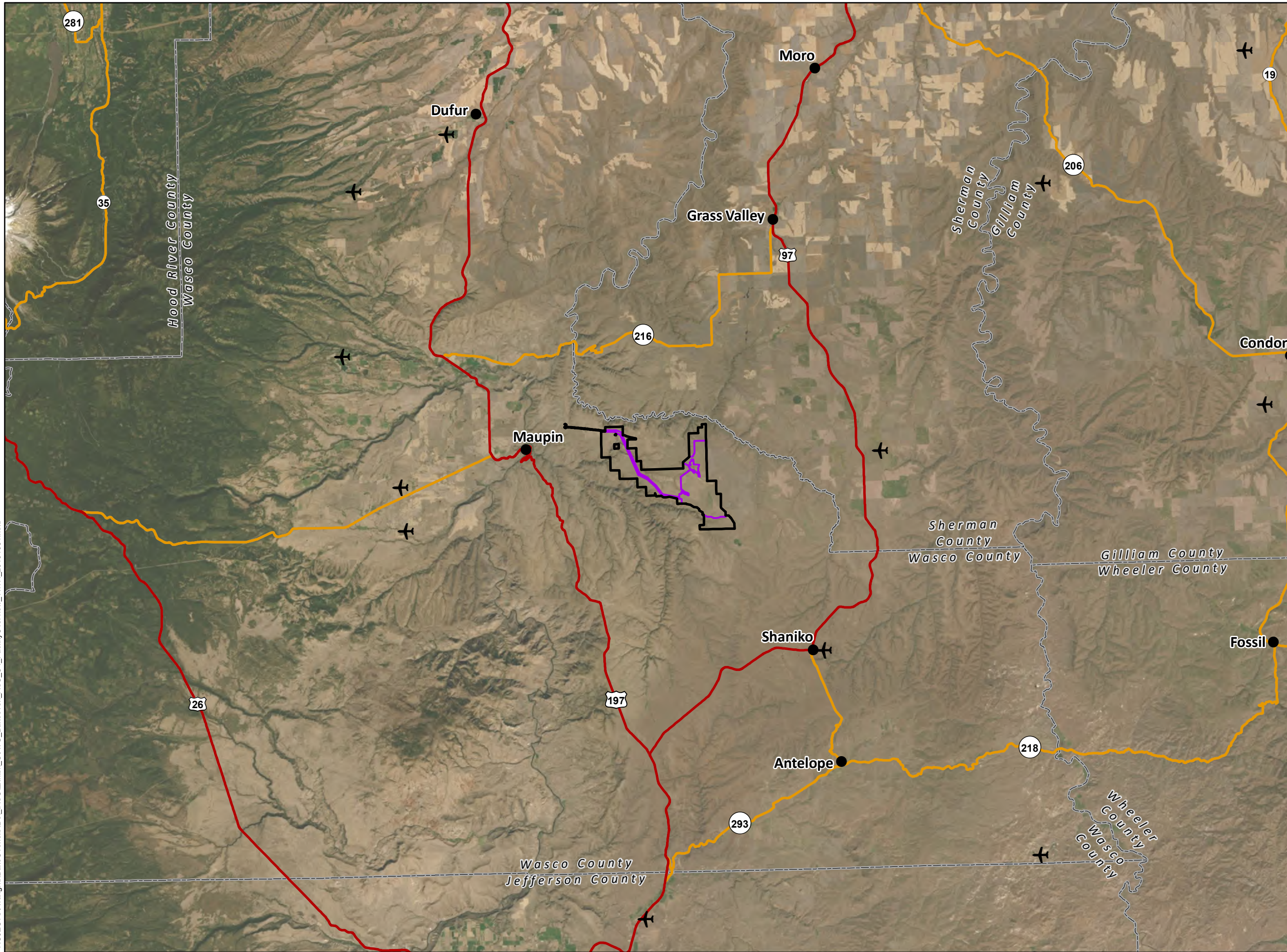
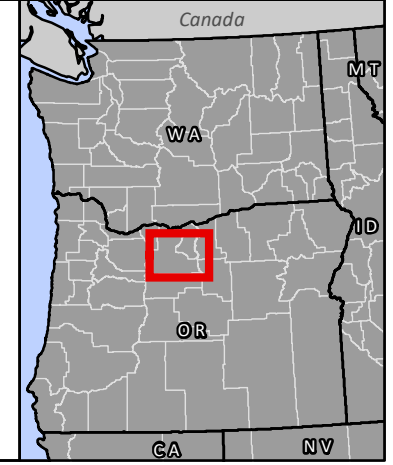
-  Proposed Site Boundary
-  Proposed Micrositing Corridor
- Basemap Features**
-  City/Town
-  US Highway
-  State Highway
-  County Boundary
-  Airport, Private



Data Sources

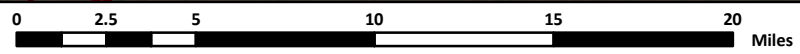
Avangrid-Project Infrastructure;
USDA-Aerial Imagery; Census Bureau-Tiger Roads

Reference Map



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Bakeoven Solar Project

Figure C-2 Facility Layout

WASCO COUNTY, OREGON

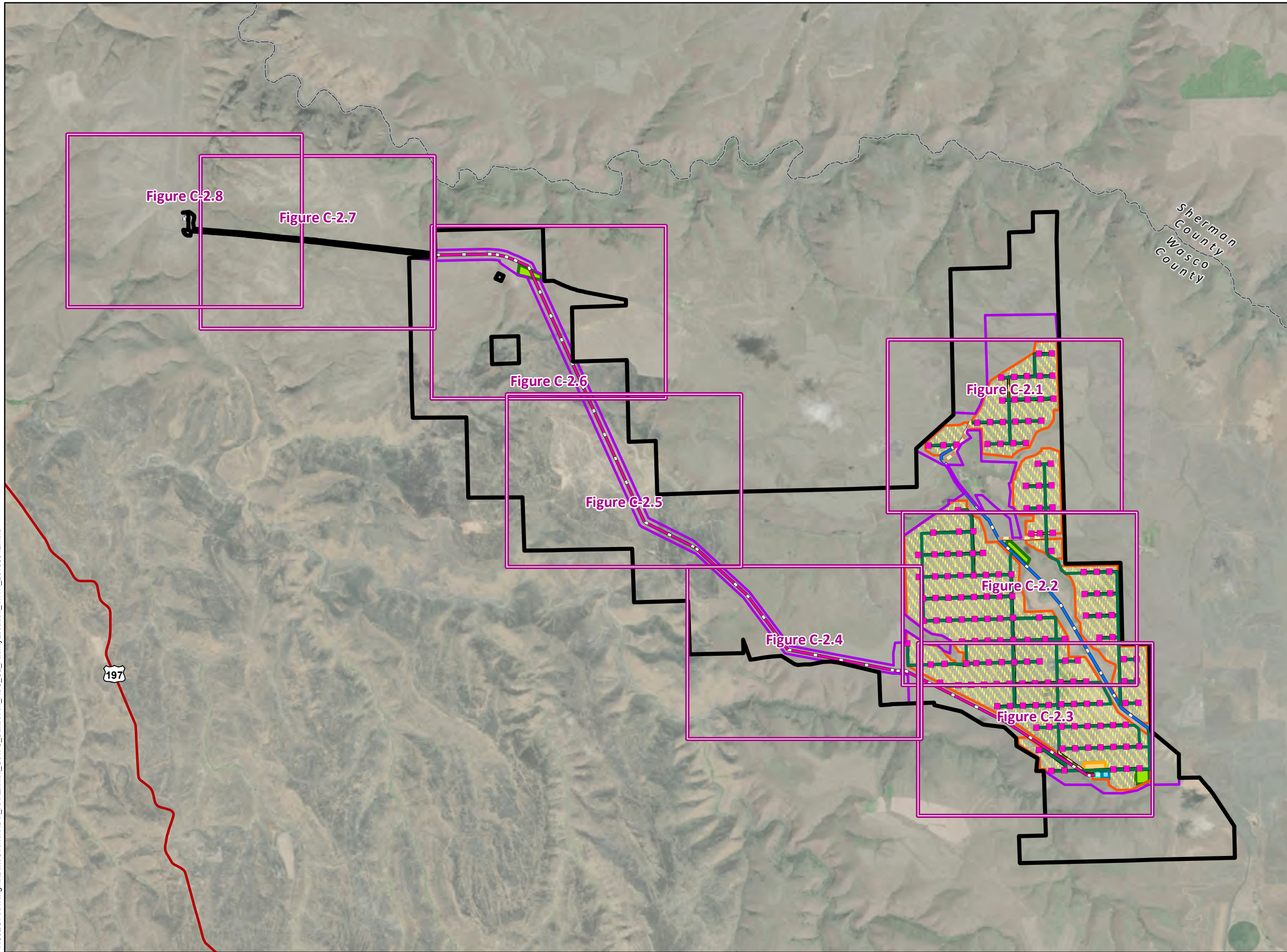
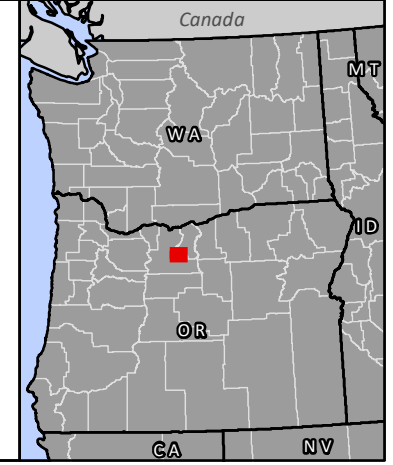
-  Proposed Site Boundary
-  Proposed Micrositing Corridor
-  Map Grid
- Basemap Features**
-  US Highway
-  County Boundary
- Proposed Facility Layout**
-  Inverter
-  Permanent New Road
-  Existing Road to Improve
-  Transmission Line (230 kV)
-  Overhead Collector Line
-  Underground Collector Line
-  Fence Line
-  Solar Array Area
-  Battery Storage System
-  O&M Building
-  Staging Area
-  Collector Substation



Data Sources

Avangrid-Project Infrastructure;
USDA-Aerial Imagery; Census Bureau-Tiger Roads

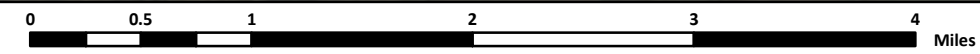
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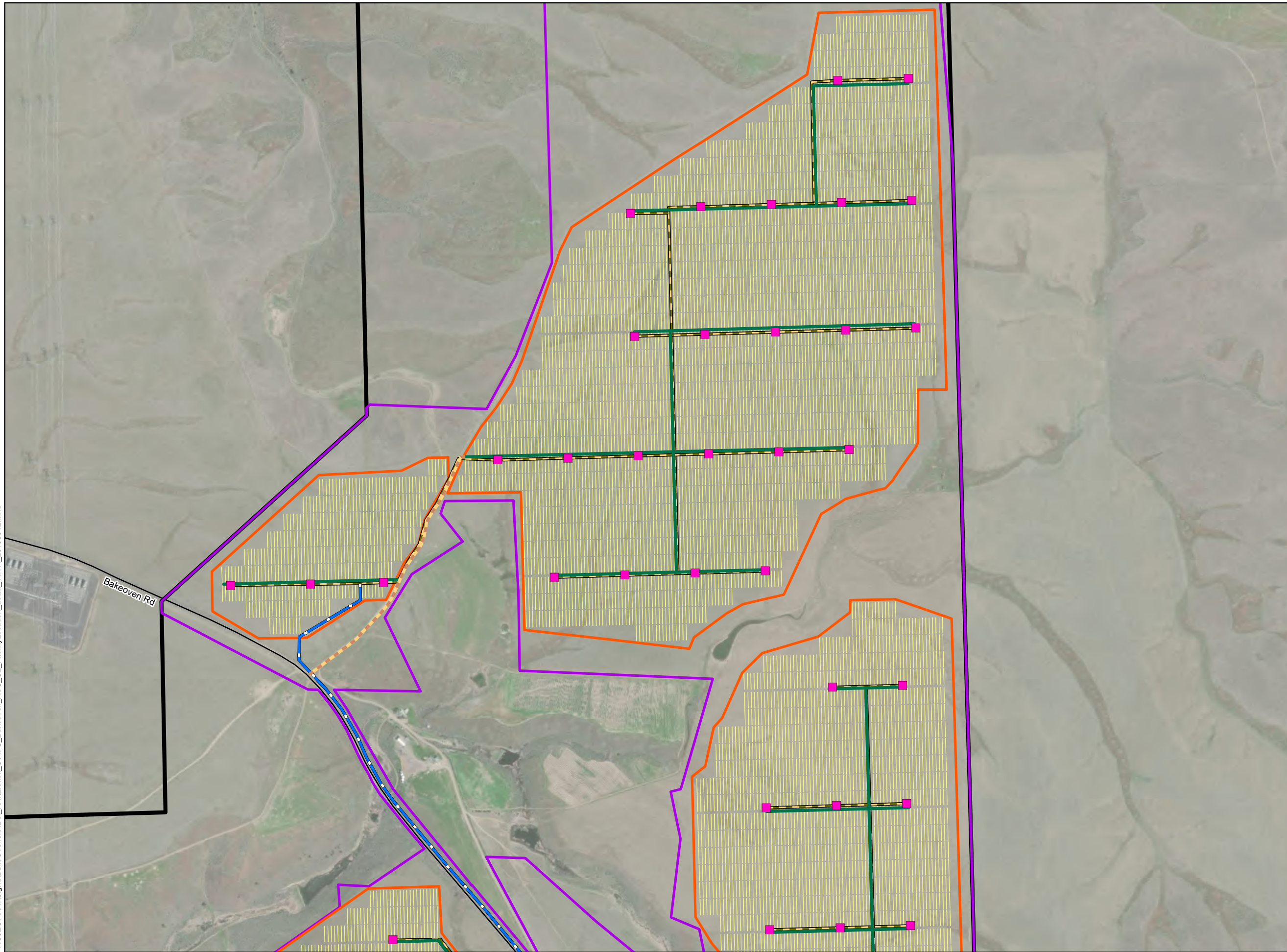


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Bakeoven Solar Project

Figure C-2.1
Facility Layout

WASCO COUNTY, OREGON



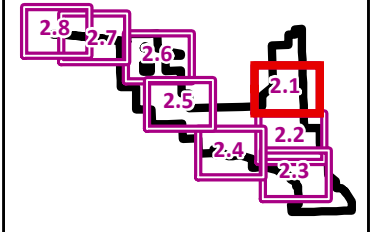
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- Proposed Micrositing Corridor
- Basemap Features**
- Local Road
- Proposed Facility Layout**
- Inverter
- Permanent New Road
- Existing Road to Improve
- Transmission Line (230 kV)
- Overhead Collector Line
- Underground Collector Line
- Fence Line
- Solar Array Area
- Battery Storage System
- O&M Building
- Staging Area
- Collector Substation



Data Sources

Avangrid-Project Infrastructure;
USDA-Aerial Imagery; Census Bureau-Tiger Roads

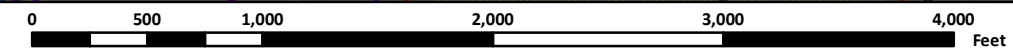
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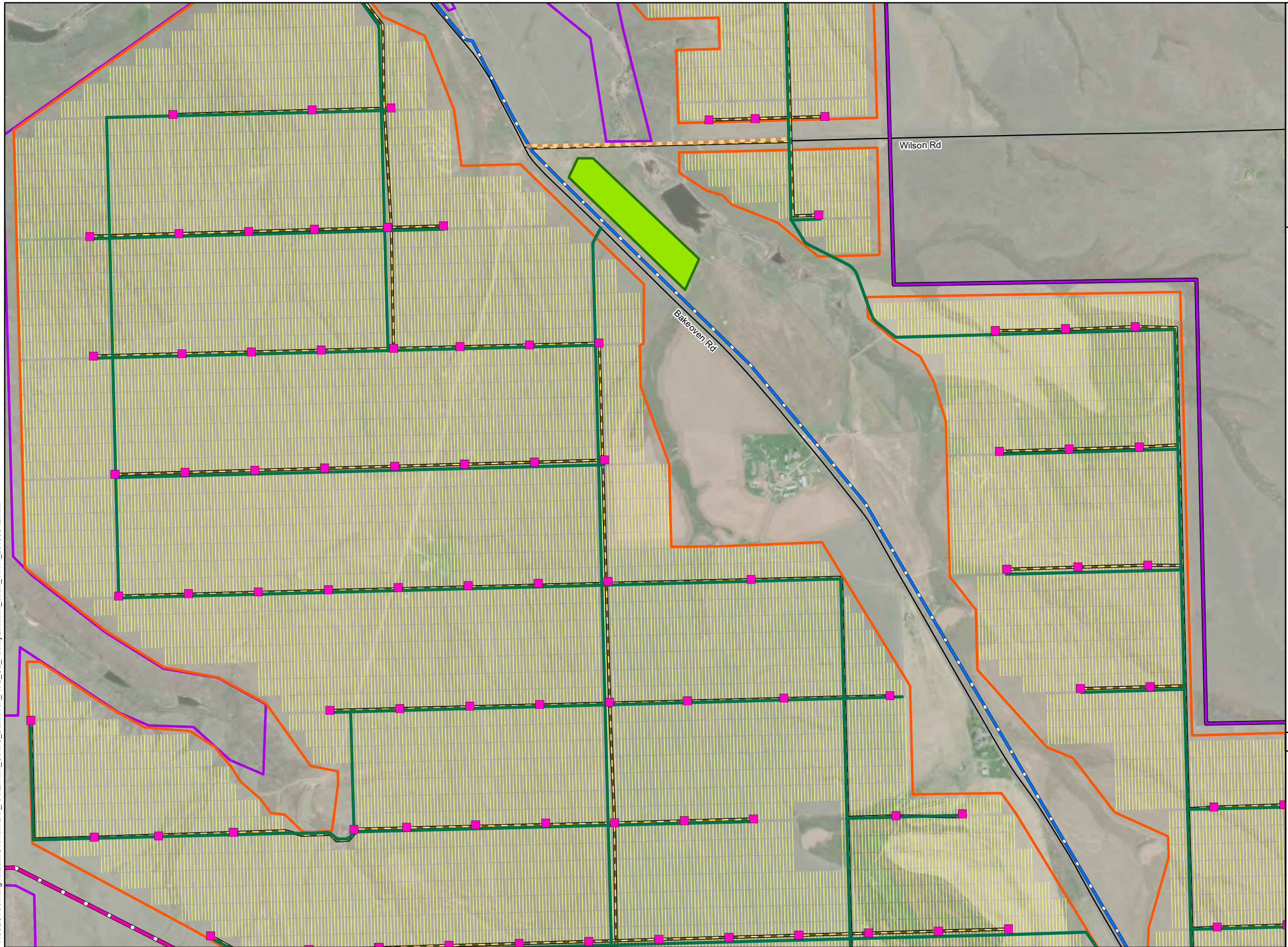


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Bakeoven Solar Project

Figure C-2.2 Facility Layout

WASCO COUNTY, OREGON



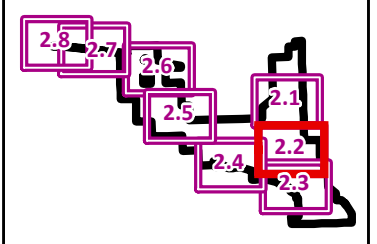
- Proposed Site Boundary
- Proposed Micrositing Corridor
- Basemap Features**
- Local Road
- Proposed Facility Layout**
- Inverter
- Permanent New Road
- Existing Road to Improve
- Transmission Line (230 kV)
- Overhead Collector Line
- Underground Collector Line
- Fence Line
- Solar Array Area
- Battery Storage System
- O&M Building
- Staging Area
- Collector Substation



Data Sources

Avangrid-Project Infrastructure;
USDA-Aerial Imagery; Census Bureau-Tiger Roads

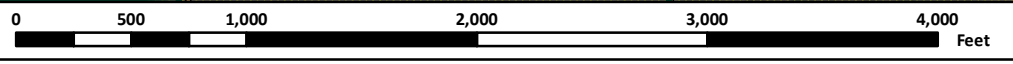
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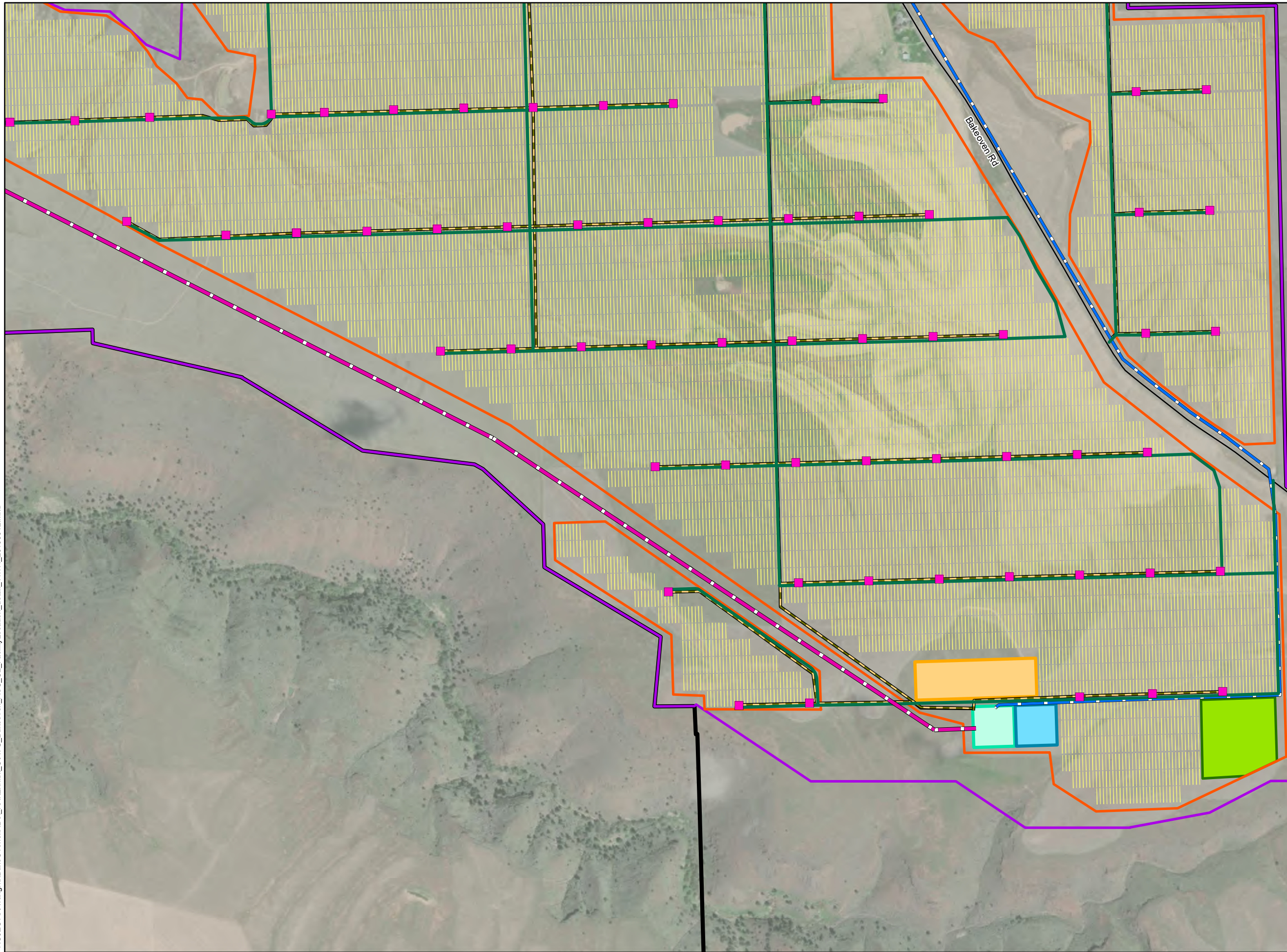


NOT FOR CONSTRUCTION

Bakeoven Solar Project

Figure C-2.3 Facility Layout

WASCO COUNTY, OREGON



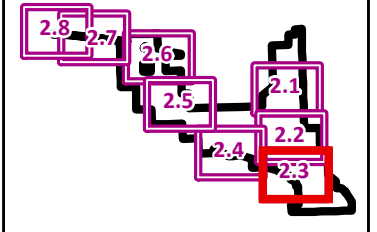
- Proposed Site Boundary
- Proposed Micrositing Corridor
- Basemap Features**
- Local Road
- Proposed Facility Layout**
- Inverter
- Permanent New Road
- Existing Road to Improve
- Transmission Line (230 kV)
- Overhead Collector Line
- Underground Collector Line
- Fence Line
- Solar Array Area
- Battery Storage System
- O&M Building
- Staging Area
- Collector Substation



Data Sources

Avangrid-Project Infrastructure;
USDA-Aerial Imagery; Census Bureau-Tiger Roads

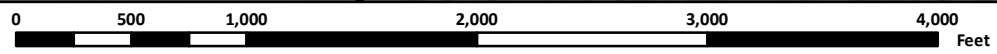
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Bakeoven Solar Project

Figure C-2.4 Facility Layout

WASCO COUNTY, OREGON

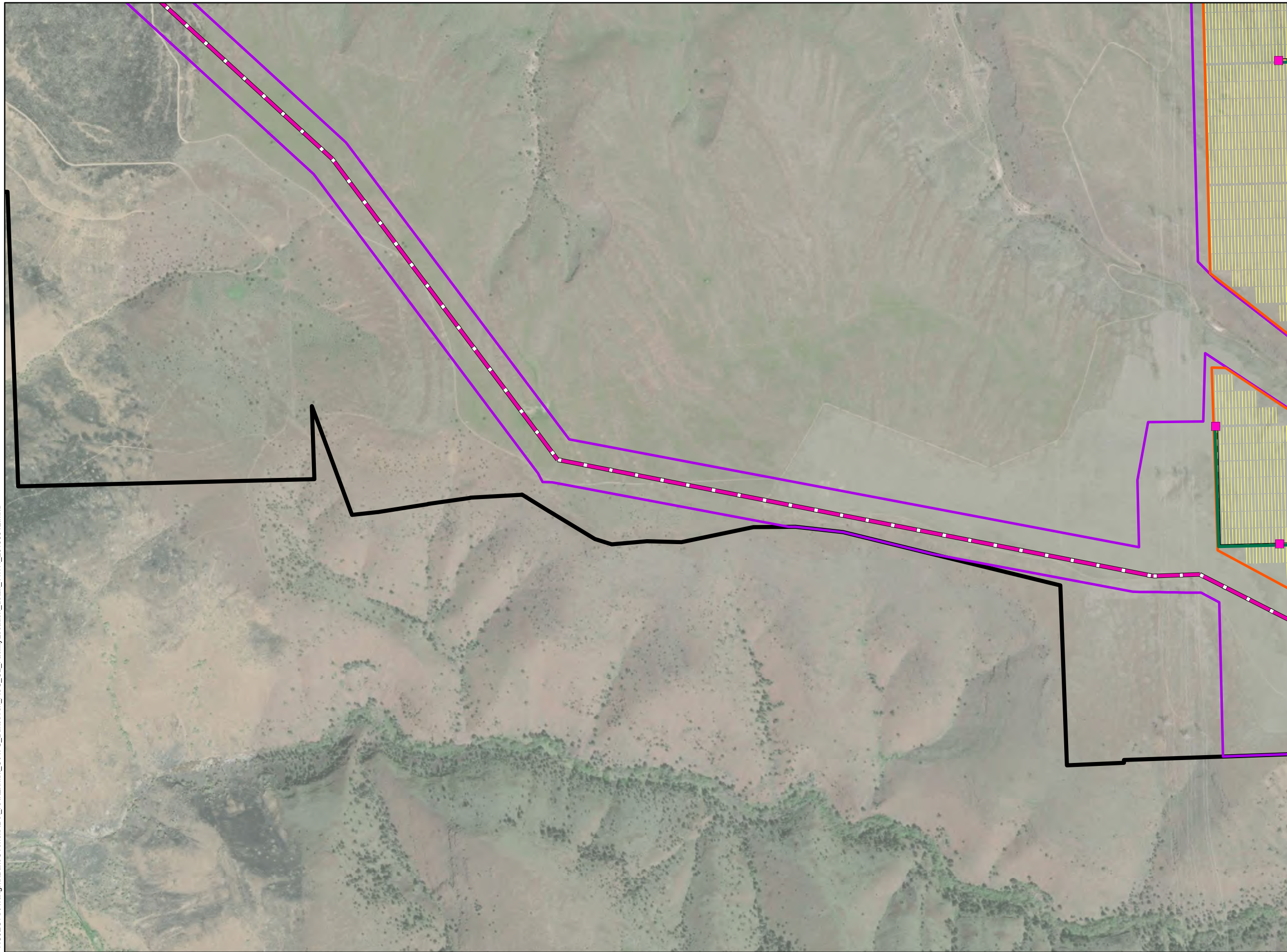
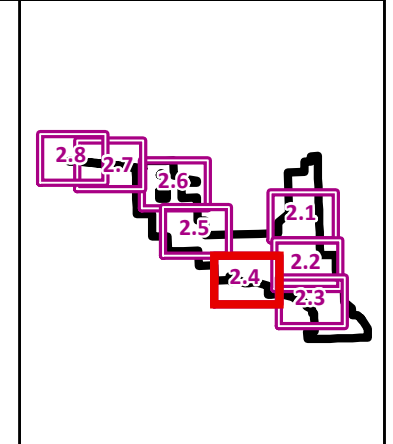
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-  Proposed Micrositing Corridor
- Proposed Facility Layout**
-  Inverter
-  Permanent New Road
-  Existing Road to Improve
-  Transmission Line (230 kV)
-  Overhead Collector Line
-  Underground Collector Line
-  Fence Line
-  Solar Array Area
-  Battery Storage System
-  O&M Building
-  Staging Area
-  Collector Substation



Data Sources

Reference Map

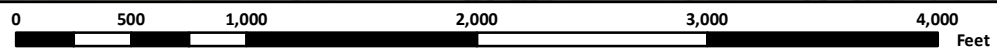
Avangrid-Project Infrastructure;
USDA-Aerial Imagery; Census Bureau-Tiger Roads



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Bakeoven Solar Project

**Figure C-2.5
Facility Layout**

WASCO COUNTY, OREGON

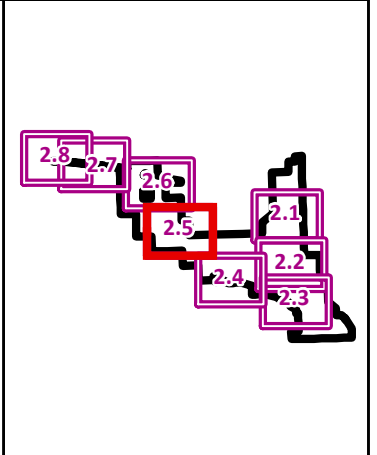
-  Proposed Site Boundary
-  Proposed Micrositing Corridor
- Proposed Facility Layout**
-  Inverter
-  Permanent New Road
-  Existing Road to Improve
-  Transmission Line (230 kV)
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-  Fence Line
-  Solar Array Area
-  Battery Storage System
-  O&M Building
-  Staging Area
-  Collector Substation



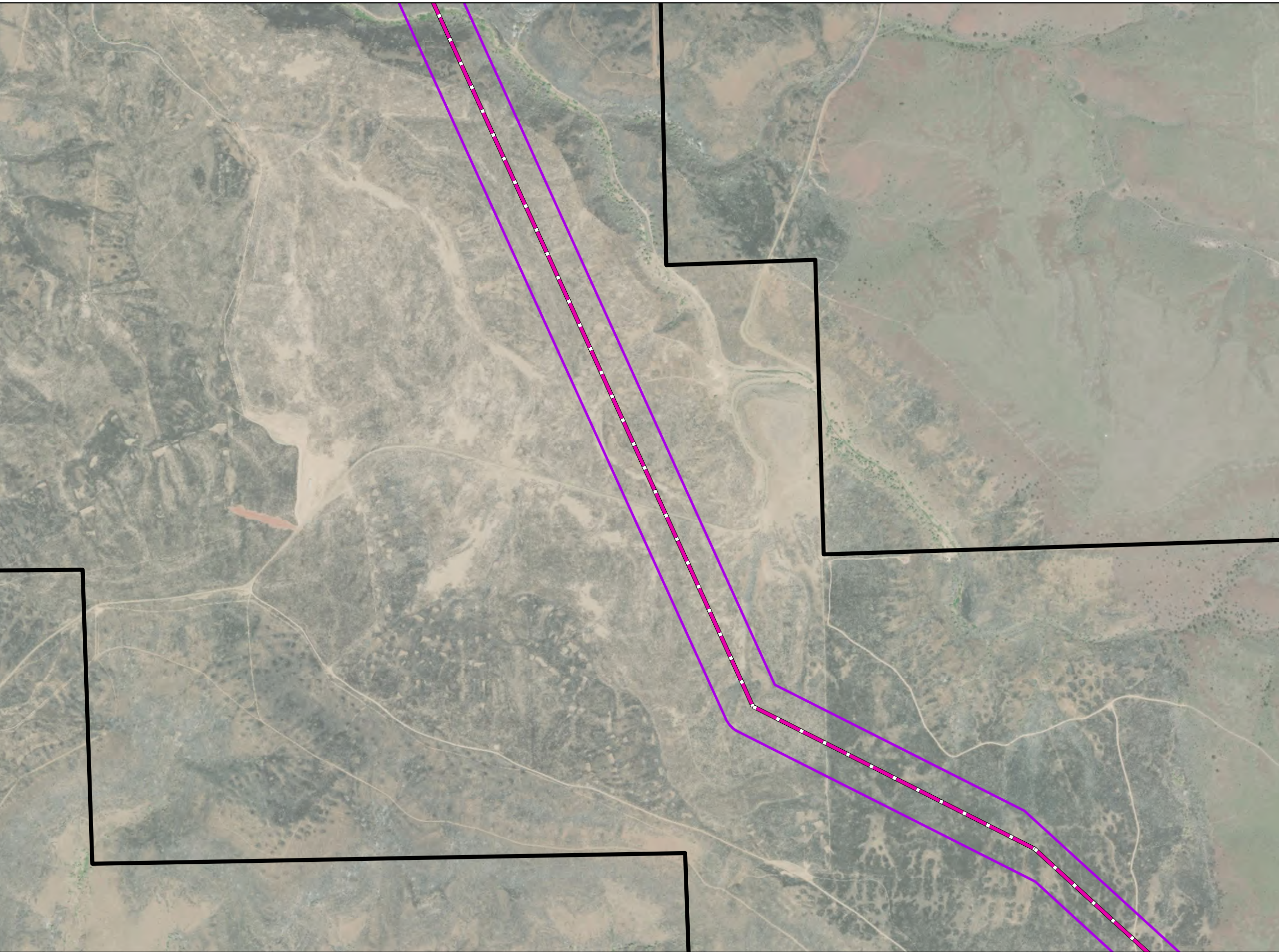
Data Sources

Reference Map

Avangrid-Project Infrastructure;
USDA-Aerial Imagery; Census Bureau-Tiger Roads



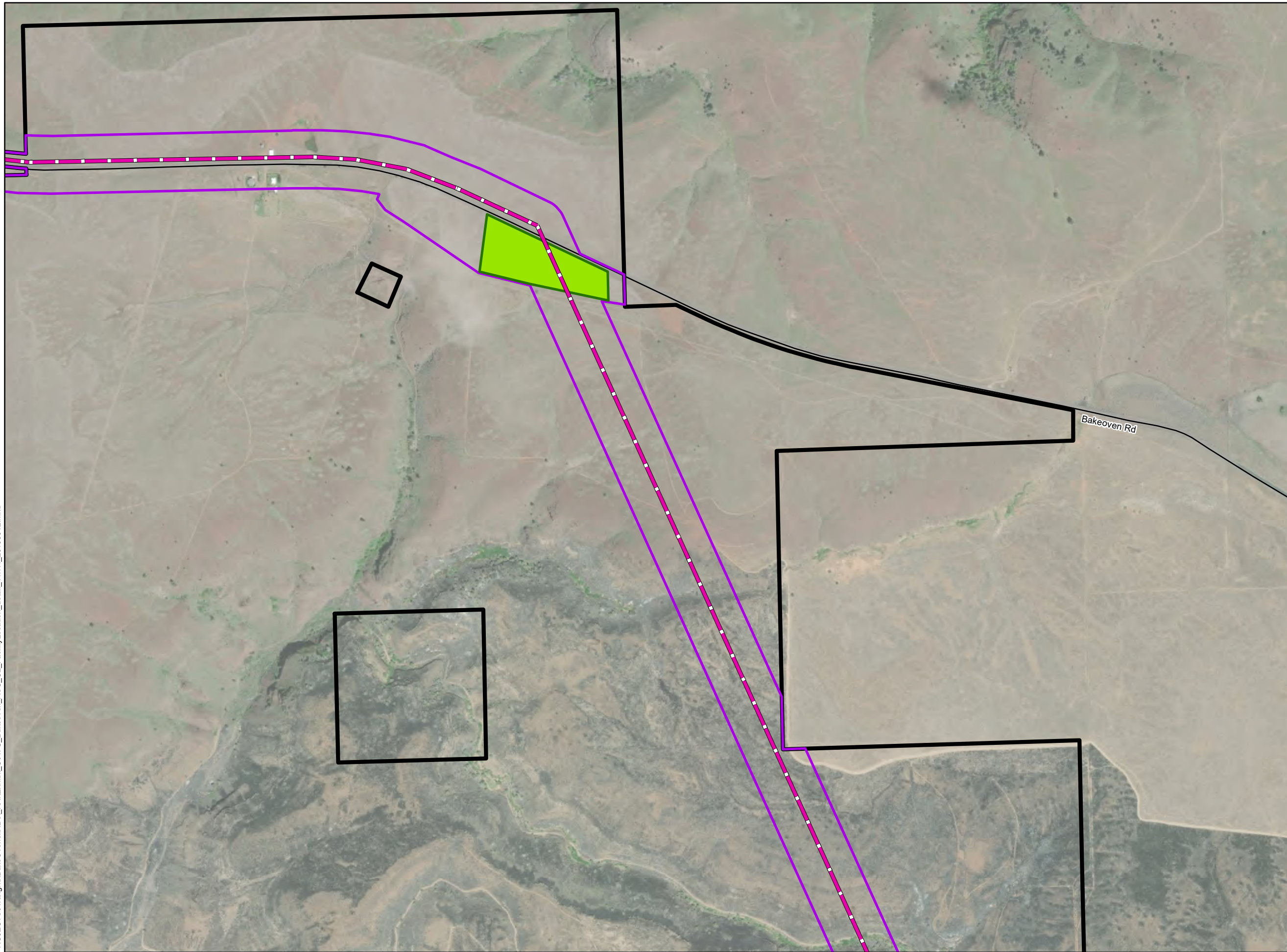
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Bakeoven Solar Project

Figure C-2.6
Facility Layout

WASCO COUNTY, OREGON



- Proposed Site Boundary
- Proposed Micrositing Corridor
- Basemap Features**
- Local Road
- Proposed Facility Layout**
- Inverter
- Permanent New Road
- Existing Road to Improve
- Transmission Line (230 kV)
- Overhead Collector Line
- Underground Collector Line
- Fence Line
- Solar Array Area
- Battery Storage System
- O&M Building
- Staging Area
- Collector Substation



Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; Census Bureau-Tiger Roads	

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Bakeoven Solar Project

**Figure C-2.7
Facility Layout**

WASCO COUNTY, OREGON



- Proposed Site Boundary
- Proposed Micrositing Corridor
- Basemap Features**
- Local Road
- Proposed Facility Layout**
- Inverter
- Permanent New Road
- Existing Road to Improve
- Transmission Line (230 kV)
- Overhead Collector Line
- Underground Collector Line
- Fence Line
- Solar Array Area
- Battery Storage System
- O&M Building
- Staging Area
- Collector Substation



















Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; Census Bureau-Tiger Roads	

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Bakeoven Solar Project

Figure C-2.8 Facility Layout

WASCO COUNTY, OREGON

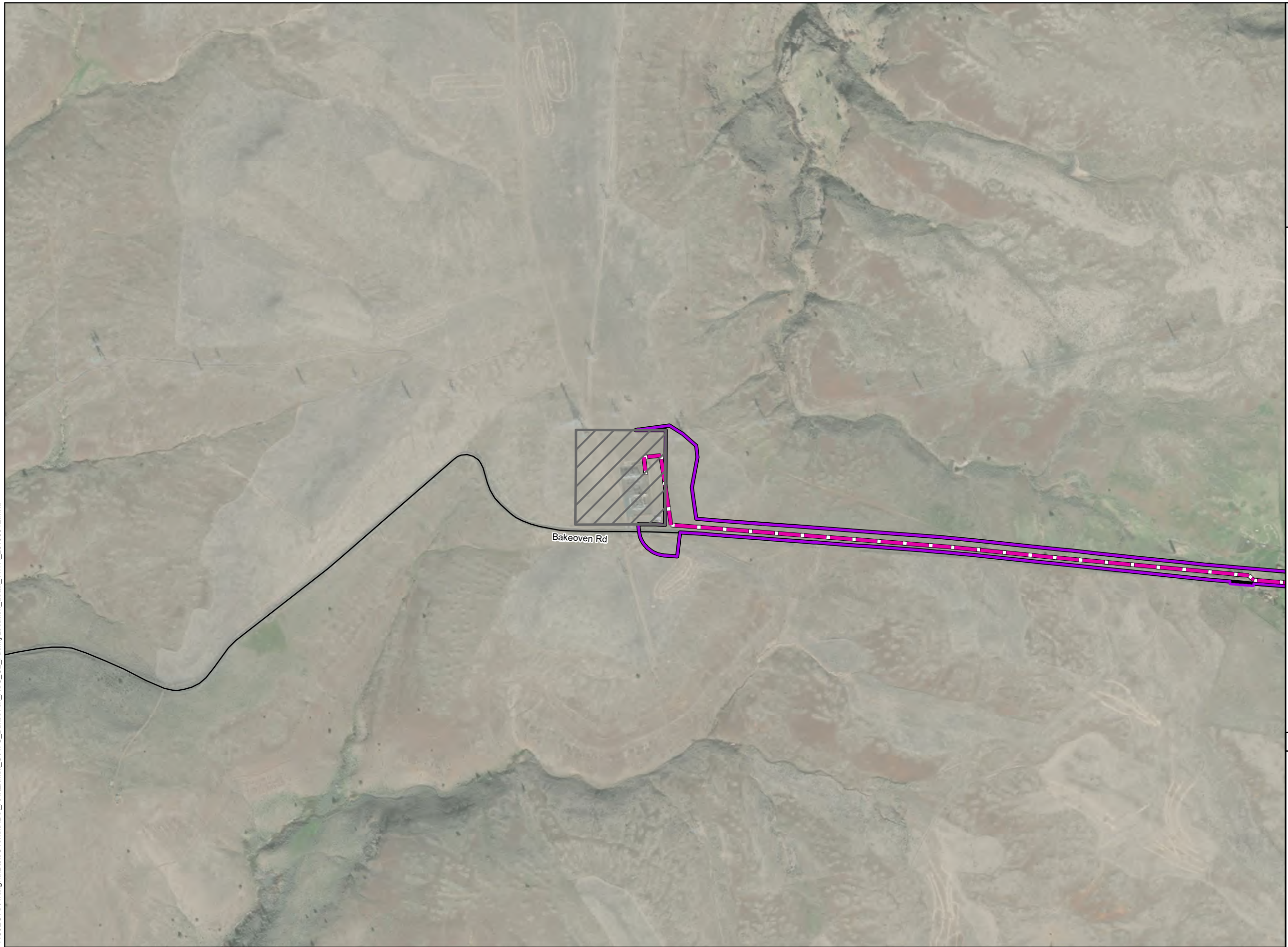
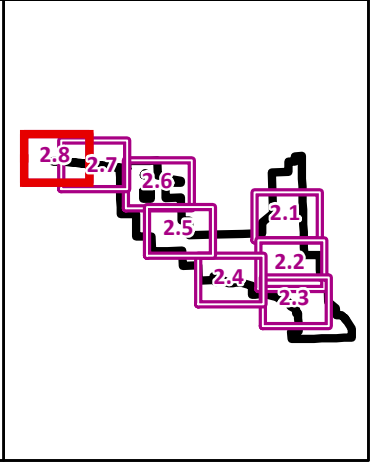
-  Proposed Site Boundary
-  Proposed Micrositing Corridor
-  Maupin Substation
(BPA land ownership)
- Basemap Features**
-  Local Road
- Proposed Facility Layout**
-  Inverter
-  Permanent New Road
-  Existing Road to Improve
-  Transmission Line (230 kV)
-  Overhead Collector Line
-  Underground Collector Line
-  Fence Line
-  Solar Array Area
-  Battery Storage System
-  O&M Building
-  Staging Area
-  Collector Substation



Data Sources

Avangrid-Project Infrastructure;
USDA-Aerial Imagery; Census Bureau-Tiger Roads

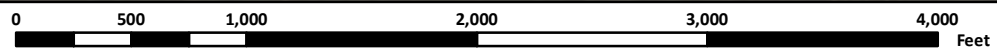
Reference Map



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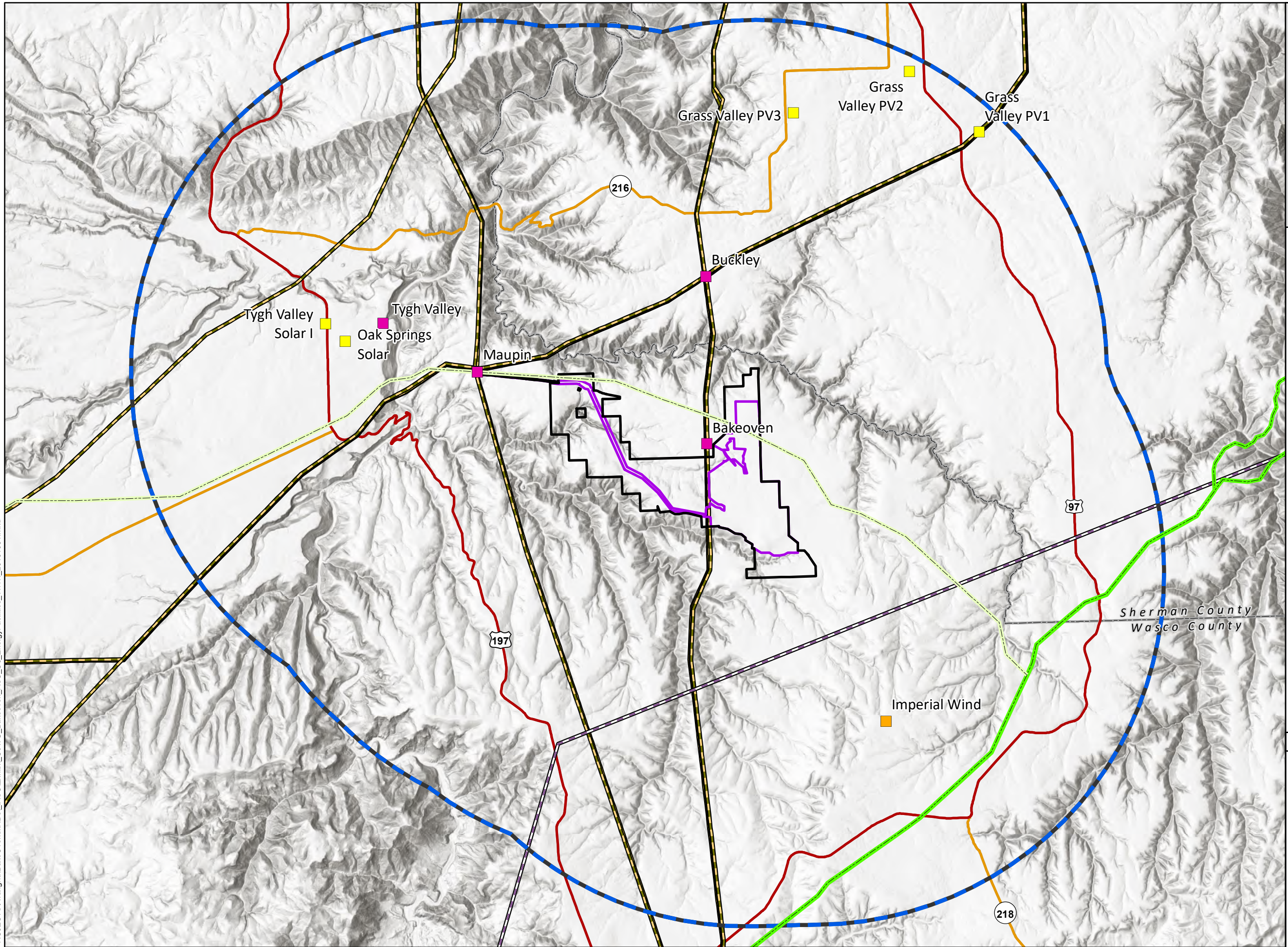


NOT FOR CONSTRUCTION

Bakeoven Solar Project

**Figure C-3
Energy Facilities**

WASCO COUNTY, OREGON



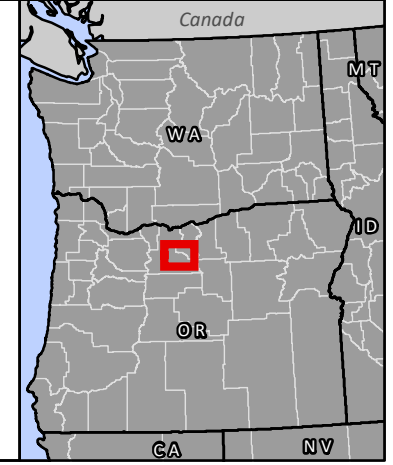
- Proposed Site Boundary
- Proposed Micrositing Corridor
- Analysis Area (10-mile Buffer)
- Basemap Features**
- US Highway
- State Highway
- County Boundary
- Electrical Generating Plant**
- Solar
- Wind
- Substation
- Transmission Line**
- In Service
- Proposed
- Gas Pipeline**
- In Service
- Proposed



Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; Census Bureau-Tiger Roads; Ventyx-Electrical Generating Plants

Reference Map



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