



Madras Solar Energy Facility in Jefferson County, Oregon

Notice of Intent to Apply for a Site Certificate

May 2019

Submitted to
Oregon Energy Facility Siting Council

Prepared for
Madras PV1, LLC



**Madras Solar Energy Facility
in Jefferson County, Oregon**

Project No: 709202CH.E2.01
Document Title: Notice of Intent to Apply for a Site Certificate
Document No.: BI0130191257PDX
Date: May 2019
Client Name: Madras PV1, LLC
Project Manager: Paul Seilo
Author: Jordan Grace

Jacobs Engineering Group Inc.

2020 SW 4th Avenue, Suite 300
Portland, Oregon 97201
United States
T +1.503.235.5000
F +1.503.736.2000
www.jacobs.com

Contents

Exhibit A. Applicant Information	A-1
Exhibit B. Facility Description	B-1
Overview of Proposed Facility	B-1
Major Components, Structures, and Systems	B-2
Related or Supporting Facilities	B-3
Approximate Dimensions of Facility Structures and Visible Features	B-5
Exhibit C. Facility Location	C-1
Exhibit D. Alternative Locations	D-1
Exhibit E. Permits Needed for Construction and Operation.....	E-1
Exhibit F. Property Ownership.....	F-1
Exhibit G. Facility Maps.....	G-1
Exhibit H. Nongenerating Energy Facility	H-1
Exhibit I. Land Use	I-1
Exhibit J. Environmental Impacts	J-1
Air Quality.....	J-1
Surface and Groundwater Quality and Availability	J-2
Wildlife and Wildlife Habitat	J-3
Threatened, Endangered, and Sensitive Plant and Animal Species	J-3
Historic, Cultural, and Archaeological Resources.....	J-4
Scenic, Aesthetic, and Protected Areas.....	J-4
Recreation	J-4
Land Use	J-5
References.....	J-5
Exhibit K. Community Service Impacts	K-1
Sewers and Sewage Treatment.....	K-1
Water	K-1
Stormwater Drainage	K-2
Solid Waste Management.....	K-2
Housing	K-2
Traffic Safety	K-3
Police and Fire Protection	K-3
Health Care	K-3
Schools	K-4
References.....	K-4
Exhibit L. Water Sources and Use.....	L-1
Construction	L-1
Operations.....	L-1
Exhibit M. Carbon Dioxide Emissions	M-1
Exhibit N. Evaluation of Statutes, Rules, and Ordinances	N-1
Exhibit O. Schedule	O-1
Exhibit P. Evidence of Consultation with State Commission on Indian Services.....	P-1

Tables

E-1 Permits Required for Construction and Operation of the Proposed FacilityE-2
N-1 Statutes, Rules, and Ordinances Containing Relevant Standards or Criteria N-1
O-1 Proposed Schedule for Submittal of Notice of Intent and Application for Site Certificate O-1

Attachments

A Articles of Incorporation and Authorization
F Jefferson County Landowners (Lists and Map)
G Figures Referenced in Text
 G-1 Facility Vicinity Map
 G-2 Facility Layout
 G-3 Study Area Boundaries
 G-4 Protected Areas within 20 Miles of the Site Boundary
 G-5 Wetlands and Waters
 G-6 Energy Generation Facilities
P Evidence of Consultation with Legislative Commission on Indian Services

Acronyms and Abbreviations

ACDP	Air Contaminant Discharge Permit
Applicant	Madras PV1, LLC
ASC	Application for Site Certificate
CFR	<i>Code of Federal Regulations</i>
c/o	care of
CTWSRO	Confederated Tribes of the Warm Springs Reservation of Oregon
DEQ	Oregon Department of Environmental Quality
DSL	Oregon Department of State Lands
EFSC	Energy Facility Siting Council
ESCP	erosion and sediment control plan
Facility	Madras Solar Energy Facility
FAA	Federal Aviation Administration
GCR	ground coverage ratio
IPaC	<i>Information, Planning, and Conservation System</i>
Jacobs	Jacobs Engineering Group Inc.
kV	kilovolt
LLC	limited liability company
MW	megawatt
NHD	<i>National Hydrography Dataset</i>
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NWI	<i>National Wetlands Inventory</i>
O&M	operations and maintenance
OAR	Oregon Administrative Rule
ODA	Oregon Department of Agriculture
ODFW	Oregon Department of Fish and Wildlife
ODOE	Oregon Department of Energy
ORBIC	Oregon Biodiversity Information Center
ORS	Oregon Revised Statute
OSP	Oregon State Police
PCS	power conversion station
PGE	Portland General Electric
POI	point of interconnection
PV	photovoltaic
RV	recreational vehicle

SHPO	State Historic Preservation Office
USACE	U.S. Army Corps of Engineers
U.S.C.	<i>United States Code</i>
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WPCF	Water Pollution Control Facilities

Exhibit A. Applicant Information

OAR 345-020-0011(1)(a)

(a) **Exhibit A.** Information about the applicant and participating persons, including:

- (A) *The name and address of the applicant including all co-owners of the proposed facility, the name, mailing address, email address and telephone number of the contact person for the NOI, and if there is a contact person other than the applicant, the name, title, mailing address, email address and telephone number of that person.*

Response

Name and mailing address of Applicant:

Madras PV1, LLC
c/o Ecoplexus Inc.
Attention: General Counsel
101 Second Street, Suite 1250
San Francisco, CA 94105

Applicant Contact Person with Mailing Address, Email Address, and Telephone Number:

Nathan Rogers
Madras PV1, LLC
101 Second Street, Suite 1250
San Francisco, CA 94105
nrogers@ecoplexus.com
415-745-0541

Contact persons other than the Applicant:

Paul Seilo
Jacobs Engineering Group Inc. (Jacobs)
2020 SW 4th Avenue, Suite 300
Portland, OR 97207
paul.seilo@jacobs.com
503-736-4012

Tim McMahan
Stoel Rives LLP
760 SW 9th Avenue, Suite 3000
Portland, OR 97205
tim.mcmahan@stoel.com
503-294-9517

- (B) *The contact name, mailing address, email address and telephone number of all participating persons, other than individuals, including but not limited to any parent corporation of the applicant, persons upon whom the applicant will rely for third-party permits or approvals related to the facility, and persons upon whom the applicant will rely in meeting any facility standard adopted by the Council.*

Response

Parent Corporation:

Ecoplexus Inc.
101 Second Street, Suite 1250
San Francisco, CA 94105

Contact Name, Mailing Address, Email Address, and Telephone Number:

Nathan Rogers
Madras PV1, LLC
101 Second Street, Suite 1250
San Francisco, CA 94105
nrogers@ecoplexus.com
415-745-0541

- (C) *If the applicant is a corporation, it shall give:*
- (i) *The full name, official designation, mailing address, email address and telephone number of the officer responsible for submitting the NOI;*
 - (ii) *The date and place of its incorporation;*
 - (iii) *A copy of its articles of incorporation and its authorization for submitting the NOI; and*
 - (iv) *In the case of a corporation not incorporated in Oregon, the name and address of the resident attorney-in-fact in this state and proof of registration to do business in Oregon.*

Response

The Applicant is not a corporation.

- (D) *If the applicant is a wholly owned subsidiary of a company, corporation or other business entity, in addition to the information required by paragraph (C), it shall give the full name and business address of each of the applicant's full or partial owners;*

Response

Ecoplexus Inc. is the parent company of Madras PV1, LLC.

Address:
101 Second Street, Suite 1250
San Francisco, CA 94105

- (E) *If the person submitting the NOI is an association of citizens, a joint venture or a partnership, it shall give:*
- (i) *The full name, official designation, mailing address, email address and telephone number of the person responsible for submitting the NOI;*
 - (ii) *The name, business address and telephone number of each person participating in the association, joint venture or partnership and the percentage interest held by each;*
 - (iii) *Proof of registration to do business in Oregon;*
 - (iv) *A copy of its articles of association, joint venture agreement or partnership agreement and a list of its members and their cities of residence; and*
 - (v) *If there are no articles of association, joint venture agreement or partnership agreement, the applicant shall state that fact over the signature of each member;*

Response

The person submitting the Notice of Intent (NOI) is not an association of citizens, a joint venture, or a partnership.

- (F) *If the applicant is a public or governmental entity, it shall give:*
- (i) *The full name, official designation, mailing address, email address and telephone number of the person responsible for submitting the NOI; and*
 - (ii) *Written authorization from the entity's governing body to submit an NOI;*

Response

The Applicant is not a public or governmental entity.

- (G) *If the applicant is an individual, the individual shall give his or her mailing address, email address and telephone number.*

Response

The Applicant is not an individual.

- (H) *If the applicant is a limited liability company, it shall give:*
- (i) *The full name, official designation, mailing address, email address and telephone number of the officer responsible for submitting the NOI;*
 - (ii) *The date and place of its formation;*
 - (iii) *A copy of its articles of organization and its authorization for submitting the NOI; and*
 - (iv) *In the case of a limited liability company not registered in Oregon, the name and address of the resident attorney-in-fact in this state and proof of registration to do business in Oregon.*

Response

Madras PV1, LLC
c/o Ecoplexus Inc.
Attention: General Counsel
101 Second Street, Suite 1250
San Francisco, CA 94105
nrorgers@ecoplexus.com
415-745-0541

The Applicant is a limited liability company (LLC) originally organized as Madras PV1, LLC under the laws of Oregon on February 5, 2019. The articles of incorporation for Madras PV1, LLC and authorization for submitting this NOI are contained in Attachment A.

Exhibit B. Facility Description

OAR 345-020-0011(1)(b)

(b) **Exhibit B.** Information about the proposed facility, including:

(A) A description of the proposed energy facility, including as applicable:

Overview of Proposed Facility

Madras PV1, LLC (Applicant) proposes to construct and operate the Madras Solar Energy Facility (Facility) in Jefferson County, Oregon (Figure G-1). The Facility will generate electricity using solar photovoltaic (PV) modules connected to inverters, transformers, and a substation. PV modules (also known as “panels” but referenced herein as modules for consistency) contain solar cells that generate electricity by means of the PV effect, in which the semiconductor materials found inside the solar cells interact with photons from the sun to generate an electrical current that can be collected and supplied to the power grid. The solar modules will be mounted onto a metal racking structure and grouped into arrays (i.e., modules wired in series and in parallel), as shown on the Facility layout map (Figure G-2). The electric output of each array feeds into an inverter, which takes the direct current output of the solar modules and turns it into the alternating current used by the electric grid. This output of the inverters is then “stepped up” in voltage to 34.5 kilovolts (kV), before being conveyed to the proposed onsite Facility substation via direct buried cables. At the Facility substation, the voltage will again be stepped up to 230 kV for delivery via direct buried cables to the utility-owned three-breaker ring-bus point of interconnection (POI) switching station. The POI switching station will serve as the location of common coupling with the existing Portland General Electric (PGE) Pelton Dam to Round Butte 230-kV transmission line (Figure G-2). The switching station will be owned and operated by PGE.

The Applicant intends to begin Facility construction in late 2020, pending issuance of a site certificate from the Energy Facility Siting Council (EFSC).

Design Options

While solar modules, racking, inverters, and other components are mostly interchangeable and substantially similar to other products of the same kind, manufacturers are continually making updates and refinements to existing models. This, combined with the fact that prices for specific components tend to decline over time, means that final specifications of selected models and manufacturers typically are not known until shortly prior to construction. As such, the descriptions provided herein are representative of typical products, but the precise description and number of individual components may change.

Facility Site Boundary

The Facility site boundary encompasses all of the various Facility components, structures, and systems, as well as related and supporting facilities.

- (i) *The nominal electric generating capacity and the average electrical generating capacity, as defined in ORS 469.300.*

Response

The Facility will consist of up to 63 megawatts (MW) of alternating current nominal and average generating capacity as defined in Oregon Revised Statute (ORS) 469.300(4)(c).

- (ii) *Major components, structures and systems, including a description of the size, type and configuration of equipment used to generate electricity and useful thermal energy.*

Response

Major Components, Structures, and Systems

Solar Modules. The solar PV modules will be installed to form approximately 60 array blocks of approximately 1.05 MW of alternating current each, as outlined in Figure G-2 (Facility Layout). A full-sized row within a given array is 400 feet long and 1,960 millimeters (6.4 feet) wide, with approximately 8 feet of clear space between each row. The crystalline silicon modules themselves will be approximately 2,000 millimeters (6.6 feet) long by 1,000 millimeters (3.3 feet) wide and approximately 40 millimeters (0.13 foot) thick. The final number of modules will be determined by power ratings (in Watts) of the specific modules chosen prior to construction. Additional components of each array block include the tracking system/racks, posts, cabling, inverters, and transformers. Additional detail on each component is provided in the paragraphs below.

Tables and Trackers. The solar PV modules will sit atop a steel single-axis tracking system, which will consist of metal table frames or “racks” with a rotating drive gear that can rotate up to 60 degrees in an east to west direction such that the modules track the sun throughout the day in order to increase solar production. The modules will be approximately 4 to 5 feet off the ground when fully stowed. When fully rotated, the highest point of the module will be approximately 8 feet off the ground, while the minimum distance to the ground when fully rotated will range from 1 to 2 feet.

Posts. Each tracker table will be bolted to steel posts driven into the ground to serve as the foundation. The post depths will vary depending on soil conditions, which will be confirmed via a detailed geotechnical investigation, but are typically driven to a depth of at least 8 feet below the surface. Approximately 1,000 posts will be installed per module block or approximately 30,000 posts for the up-to-63-MW Facility. Post locations will be determined by the ground coverage ratio (GCR), which is the ratio of the area of the modules to the total area. The GCR for the Facility is currently planned to be approximately 39 percent, meaning that the area occupied by the modules (when fully rotated) will be approximately 39 percent of the area within the array. A ballasted design may be used in portions of the site featuring significant subsurface rock formations, which involves mounting the tracker tables on foundations embedded in concrete blocks (ballasts) that would rest on the surface of the ground rather than on posts driven into the ground.

Cabling. Electrical cables connecting the modules to each other are typically mounted to the back of the modules using cable trays or wire harnesses. Several rows of modules are then collected in a combiner box located at the end of one of the rows. Other electrical cables within arrays will be buried to a depth of at least 3 feet.

Inverters, Transformers, and Switchgear. The direct current output from the PV modules will be combined in parallel in combiner boxes and, from the combiner boxes, it will be converted into alternating current via the inverters, the output of which will be fed into transformers that step up in voltage to 34.5 kV. The inverters and transformers will be mounted on a concrete pad measuring approximately 20 feet by 40 feet, with a total height of approximately 10 feet (including the inverters and transformers). The combination of the inverters and transformers is sometimes referred to as a power conversion station (PCS). Each tracker column will be equipped with on-board batteries that will act as a backup power source to rotate the tracker units into the stowed position during high wind events and a loss of the primary 230-kV connection to the electrical grid. The transformers will then convey the power via 34.5-kV underground collector lines to the switchgear, which consists of an industry-standard electrical protection device that controls, protects, and isolates electrical equipment. The metal-clad switchgear enclosures typically measure approximately 33 feet long by 12 feet wide and 11 feet high.

- (iii) *Methods for waste management and waste disposal, including, to the extent known, the amount of wastewater the applicant anticipates, the applicant's plans for disposal of wastewater and stormwater, and the location of disposal;*

Response

The Facility will not use water resources in the generation of electricity and will not produce wastewater for disposal, nor will it produce significant quantities of solid waste. Further details of stormwater

drainage, water, solid waste management, and sewage treatment during both construction and operations are discussed in Exhibit K of this NOI.

- (iv) *For thermal power plants:*
- I. *A discussion of the source, quantity and availability of all fuels proposed to be used in the facility to generate electricity or useful thermal energy.*
 - II. *Methods for disposal of waste heat.*

Response

The above rule is not applicable to solar energy generation.

- (v) *For transmission lines, approximate transmission line voltage, load carrying capacity and type of current.*

Response

The proposed Facility does not involve construction of a new transmission line, as it will interconnect with an existing transmission line that runs through the site (Figure G-2). Therefore, this criterion does not apply.

- (vi) *For pipelines, approximate operating pressure and delivery capacity in thousand cubic feet per day.*

Response

The above rule is not applicable to solar energy generation.

- (vii) *For surface facilities related to underground gas storage, estimated daily injection and withdrawal rates, horsepower compression required to operate at design injection or withdrawal rates, operating pressure range and fuel type of compressors.*

Response

The above rule is not applicable to solar energy generation.

- (viii) *For facilities to store liquefied natural gas, the approximate volume, maximum pressure, liquefaction and gasification capacity in thousand cubic feet per hour.*

Response

The above rule is not applicable to solar energy generation.

Related or Supporting Facilities

- (B) *A description of major components, structures and systems of each related or supporting facility.*

Response

The related or supporting facilities detailed in this response include the 34.5-kV collector lines, energy storage, onsite Facility substation, POI, operations and maintenance (O&M) enclosure, service roads and gates, and construction areas.

34.5-kV Collector Lines. High-capacity 34.5-kV collector lines will carry power from the switchgear to the proposed onsite Facility substation. The 34.5-kV medium-voltage conductors will run underground for improved reliability. The collector lines will be directly buried at a depth of approximately 3 feet; however, some portion of the conductors may also be above ground. Exact collector line routing within the Facility site boundary is still being decided.

Energy Storage. An integrated energy storage system is currently being evaluated for inclusion in the Facility. The inclusion of an energy storage system would take one of two forms, either AC-coupled storage or DC-coupled storage, and both are described below.

DC-coupled energy storage includes DC-DC converters that sit between the batteries, the PV array, and the inverters. The DC-DC converters capture solar PV energy that would otherwise be “clipped” or lost by the inverters and regulate the voltage in order to control the amount of energy going into or coming from the batteries. The battery banks are charged from the DC-DC converter with energy from the PV array. Energy that is discharged from the batteries is delivered back into the DC-DC converter and then fed into the inverters. DC-coupled storage can only be used to deliver energy to the grid, and cannot accept energy from the grid for storage.

AC-coupled energy storage requires two sets of inverters: a standard grid-tied solar PV inverter and a battery-based inverter. The battery-based inverters can charge and discharge the batteries independently of the PV array, which allows the batteries to be charged from the grid. However, the batteries can also charge from the PV array, if the AC output of the PV array matches or exceeds that of the AC power input of the batteries. As AC-coupled storage is functionally independent of the PV array, the storage components can technically be located off-site; however, in the case of Madras Solar, if AC-coupled storage is deployed, the storage system would be co-located on site in order to share the Facility Substation and POI Switching Station.

Onsite Facility Substation. The proposed onsite Facility substation will be situated on approximately 2 acres of land and will include the following typical equipment:

- Incoming 34.5-kV feeder breakers
- Main step-up transformer (from 34.5 kV to 230 kV)
- Control enclosure
- Dead-end and shield pole
- Support steel
- Auxiliary station service transformer
- Circuit breaker
- Transformer
- Motor-operated disconnect switch

Point of Interconnection Switching Station. The Facility will be connected via a new three-breaker ring-bus switching station at the selected POI on PGE’s system. The POI switching station will include the following equipment to enable the interconnection:

- Control house
- Circuit breaker
- Metering, communications, protection, and control
- Circuit switcher
- Protection and control panel
- Supervisory control and data acquisition and metering equipment

Operations and Maintenance Enclosure. The O&M enclosure will consist of a single, 8.5-foot-tall, 320-square-foot dry-storage shed located within the Facility site boundary. Restroom facilities will be provided in the form of temporary portalets, while any required water will be trucked in from offsite sources. Electric power and telephone will be provided via local service providers.

Service Roads and Gates. The Facility will be fenced with a security fence, typically consisting of chain-link or notch-style fencing. The security fence will either be 6 feet tall with two strands of barbed wire, or 8 feet tall with no barbed wire. The security fence will feature gated access at several points, including to the transmission corridor hosting the onsite 230-kV line owned by PGE. Service roads are not anticipated to be required, given that site conditions should allow the site to be accessible by maintenance vehicles year-round; however, the final configuration of any potential services roads will be determined in conjunction with the Jefferson County Fire District #1, which may require gravel perimeter or access roads for fire-fighting purposes.

Construction Areas. During construction, temporary laydown areas within the Facility site boundary will be used to stage construction activities and organize equipment and supplies. A temporary construction trailer will be installed onsite, consisting of an office space, storage, and breakroom facilities. A gravel parking and storage area will be located adjacent to the construction trailer.

(C) *The approximate dimensions of major facility structures and visible features.*

Response

The approximate dimensions of major and related or supporting Facility structures and visible features are provided below.

Approximate Dimensions of Facility Structures and Visible Features

The most notable features of the Facility are: (1) the solar modules; (2) the PCS; (3) the proposed Facility substation; (4) the POI switching station; and (5) the O&M enclosure. The estimated dimensions of the structures, as currently available, including related or supporting facilities, are summarized below.

Solar Modules. Each standard array block of solar modules will be approximately 375 feet wide by 400 feet long; however, microspacing considerations along the perimeter of the Facility will necessitate reductions in standard block size. As stated under Major Components, Structures, and Systems above, when mounted on the tables and tracking system, the PV solar module will be approximately 4 to 5 feet off the ground when level and, when fully rotated, the highest point will be approximately 8 feet off the ground.

Power Conversion Station. As stated under Major Components, Structures, and Systems above, each PCS will be approximately 20 feet wide, 40 feet long, and up to 10 feet tall, which includes 8 to 9 feet of height for the inverter and transformer, as well as up to 1 foot for the concrete mounting pad. If energy storage is included in the final design, the batteries will be housed in shipping containers that are 40 feet in length, which will also be located within the PCS.

Proposed Facility Substation. The proposed Facility substation will occupy approximately 2 acres onsite.

Point of Interconnection Switching Station. The three-breaker ring-bus POI switching station will occupy approximately half an acre onsite. The equipment contained in the POI is listed above.

Operations and Maintenance Enclosure. The O&M enclosure will consist of an approximately 320-square-foot, 8.5-foot-tall dry storage shed.

Exhibit C. Facility Location

OAR 345-020-0011(1)(c)

- (c) **Exhibit C.** *A description of the location of the proposed energy facility site and the proposed site of each related or supporting facility and all areas that might be temporarily disturbed during construction of the facility, including the approximate land area of each.*

Response

Figure G-1 in Attachment G shows the proposed Facility site boundary in Jefferson County, Oregon. The Facility site boundary encompasses portions of Sections 030 and 031, in Township 10 South and Range 13 East. The site is located just east of Lake Simtustus, south and west of Willow Creek, and approximately 0.5 mile from the eastern boundary of the Warm Springs Reservation. The Facility components will be located on private land for which the Applicant has already negotiated an exclusive, long-term option to lease.

The Facility site boundary encompasses the solar modules, 34.5-kV collector lines, PCS, Facility substation, POI switching station, O&M enclosure, service roads, along with security fencing and gates. Construction and laydown areas will be located within the Facility site boundary. As presented in this NOI, the Facility site boundary encompasses approximately 267 acres.

The Facility will interconnect with PGE's existing 230-kV Pelton Dam to Round Butte transmission line, which runs through the center of the Facility site boundary (Figure G-2).

Exhibit D. Alternative Locations

OAR 345-020-0011(1)(d)

- (d) **Exhibit D.** *If the proposed energy facility is a pipeline or a transmission line or has, as a related or supporting facility, a transmission line or pipeline that, by itself, is an energy facility under the definition in ORS 469.300, identification of at least two proposed corridors, as defined in OAR 345-001-0010, or identification of a single proposed corridor with an explanation of why alternate corridors are unlikely to better meet the applicant's needs and satisfy the Council's standards. The applicant shall include an explanation of the basis for selecting the proposed corridor(s) and, for each proposed corridor, the information described in subsections (e), (g), (i), (j), (k), (n) and (p) that is available from existing maps, aerial photographs, and a search of readily available literature.*

Response

The proposed Facility is not a pipeline or a transmission line as defined in ORS 469.300, and does not include a pipeline or transmission line that by itself is an energy facility under ORS 469.300(11).

Exhibit E. Permits Needed for Construction and Operation

OAR 345-020-0011(1)(e)

- (e) **Exhibit E.** *Identification of all federal, state and local government permits related to the siting of the proposed facility, a legal citation of the statute, rule or ordinance governing each permit, and the name, address, email address and telephone number of the agency or office responsible for each permit. For each permit, the applicant shall provide a preliminary analysis of whether the permit should or should not be included in and governed by the site certificate.*

Response

Table E-1 identifies the federal, state, and local government permits needed to construct and operate the Facility and provides an assessment of whether the permit should or should not be included in and governed by the site certificate.

Table E-1. Permits Required for Construction and Operation of the Proposed Facility

Permit	Agency	Authority	Description
Federal			
Notice of Proposed Construction or Alteration (Form 7460.1)	Federal Aviation Administration Attention: Dan Shoemaker Airspace Specialist Seattle Obstruction Evaluation Group Dan.Shoemaker@faa.gov	Federal Aviation Act of 1958 (14 U.S.C. § 44718); 14 CFR § 77	Applicant proposing construction or alterations that may affect navigable airspace pertaining to potential glare from the Facility's solar modules may be required to file a Notice of Proposed Construction or Alteration with the FAA. This notice may be required for construction of structures within specified distances of runways or helipads. No permit will be issued by the FAA. Moreover, given that this federal process is not within the jurisdiction of EFSC, it therefore should not be included in the site certificate.
Supplemental Notice of Actual Construction or Alteration (Form 7460-2)	Federal Aviation Administration Attention: Dan Shoemaker Airspace Specialist Seattle Obstruction Evaluation Group Dan.Shoemaker@faa.gov 425-227-2791	Federal Aviation Act of 1958 (14 U.S.C. Section 44718); 14 CFR Section 77	If a Notice of Proposed Construction or Alteration with the FAA is required, then submission of the Supplemental Notice of Actual Construction or Alteration form must be filed within 5 days after construction reaches its greatest height as specified in the No Hazard Determination. No permit will be issued by the FAA. Moreover, given that this federal process is not within the jurisdiction of EFSC, it and therefore should not be included in the site certificate.
State			
Energy Facility Site Certificate	Oregon Department of Energy and Energy Facility Siting Council Attention: Katie Clifford 550 Capitol Street N.E. Salem, OR 97301 katie.clifford@oregon.gov 503-373-0076	ORS 469.300 et seq.; OAR Chapter 345, Divisions 1, 15, 21-24, 26-27	The Facility is an "energy facility" as defined in ORS Chapter 469.300(11) and must be authorized through a site certificate issued by EFSC.
National Pollutant Discharge Elimination System 1200-C Construction Stormwater Discharge Permit	Oregon Department of Environmental Quality - Water Quality Division Attention: Jackie Ray Eastern Region 800 SE Emigrant #330 Pendleton, OR 97801 541-278-4605	Clean Water Act, Section 402 (33 U.S.C. § 1342); 40 CFR § 122; ORS 468 and 468B; OAR Chapter 340, Division 45	A NPDES 1200-C permit is required for construction activities that will disturb 1 or more acres of land. The Applicant will obtain this permit directly from DEQ. Given that this permit is outside the jurisdiction of EFSC, it should not be included in and governed by the site certificate.
Water Right Permit or Water Use Authorization	Oregon Water Resources Department Water Rights Section District 11 Attention: Jeremy Giffin 231 SW Scalehouse Loop, Suite 103	ORS 537; OAR Chapter 690, Divisions 310, 340, 410 and 507	The Applicant does not anticipate the need for a water right or use authorization, and intends to obtain water for Facility construction and operation from an offsite municipal or commercial source via bilateral agreements. If water for construction and operation is

Table E-1. Permits Required for Construction and Operation of the Proposed Facility

Permit	Agency	Authority	Description
	Bend, OR 97702 541-306-6885		not available from permitted sources, the Applicant will obtain the necessary water right permit or use authorization directly from the Oregon Water Resources Department. Given that this permit, if needed, is outside the jurisdiction of EFSC, it should not be included in and governed by the site certificate.
General Water Pollution Control Facilities Permit, WPCF-1700-B, Washwater Discharge from Equipment Cleaning	Oregon Department of Environmental Quality Eastern Region 700 SE Emigrant, Suite 330 Pendleton, OR 97801 541-276-4063	ORS 468B; OAR Chapter 340, Division 45	The solar modules may be washed twice annually and the washwater will be released to the ground and allowed to evaporate and infiltrate. The Applicant or a third-party contractor who will conduct solar module washing activities will seek coverage under the WPCF-1700-B permit from DEQ following completion of construction and before initiating any washing activities. Therefore, this permit should not be included in and governed by the site certificate.
Basic Air Contaminant Discharge Permit	Oregon Department of Environmental Quality – Air Quality Division Eastern Region 475 NE Bellevue, Suite 110 Bend, OR 97701 541-633-2026	Clean Air Act (42 U.S.C. Section 7401 et seq.). 40 CFR Parts 50, 51, and 52 ORS Chapters 468 and 468A OAR Chapter 340, Division 216	A Basic ACDP authorizes the permittee to operate a stationary or portable concrete manufacturing plant that produces more than 5,000 but less than 25,000 cubic yards per year output. If a portable concrete manufacturing plant is required for Facility construction, a Basic ACDP will be obtained from DEQ. The Applicant's third-party contractor will obtain this permit directly from DEQ, in the unlikely event it is needed. Given that this permit, if needed, is outside the jurisdiction of EFSC, it should not be included in and governed by the site certificate.
Oversize Load Movement Permit/Load Registration	Oregon Department of Transportation Motor Carriers Transportation Division 550 Capitol Street NE Salem, OR 97301 Christy Jordan Christy.A.Jordan@odot.state.or.us 503-378-6192	ORS Chapter 818.030; OAR Chapter 734, Divisions 51, 82	This permit authorizes oversized loads. Movement of construction cranes and other equipment and materials may require this permit. If needed, the Applicant's third-party contractor will obtain this permit and load registration from the Oregon Department of Transportation before transporting large or overweight equipment. Therefore, this permit should not be included in and governed by the site certificate.
Archaeological Excavation Permit	Oregon Parks and Recreation Department, State Historic Preservation Office 725 Summer Street NE, Suite C Salem, OR 97301 Matt Diederich, MAIS mattew.diederich@oregon.gov 503-986-0577	ORS Chapters 97, 358, and 390; OAR Chapter 736, Division 51 (Permit and Conditions for Excavation or Removal of Archaeological or Historical Materials on Private Land	This permit is required if excavation is needed within the boundaries of a known cultural site regardless of land ownership. If disturbance to cultural sites cannot be avoided, a SHPO Archaeological Permit will be required to determine if cultural sites are eligible for listing under the NRHP. An excavation permit will also be required for any data recovery mitigation efforts within an NRHP-eligible site. During Facility construction, if a previously unidentified

Table E-1. Permits Required for Construction and Operation of the Proposed Facility

Permit	Agency	Authority	Description
			archaeological site is discovered, all construction will cease, and the Applicant will report the finding to SHPO immediately. In that instance, SHPO will require this permit. Should this permit be required, the Applicant will obtain it from SHPO. Therefore, this permit should not be included in and governed by the site certificate.
Local			
Conditional Use Permit	Jefferson County Planning Department Jefferson Spencer, Planning Director 85 SE "D" Street Madras, Oregon 97741 djohnson@co.lake.or.us 541-475-4462	Jefferson County Zoning Ordinance Sections 301.5, 433, and 602	Construction and operation of a "Commercial utility facilities for the purpose of generating power for public use by sale" is a conditional use in the A-1 zone. The Applicant elects to obtain an EFSC determination under ORS Chapter 469.504(1)(b). Under ORS 469.401(3), following issuance of the site certificate, the County, upon the Applicant's submission or the proper application and fee, shall issue the permits addressed in the site certificate, subject only to the conditions set forth in the site certificate and without hearings or other proceedings.
Jefferson County Right-of-Way Permit	Jefferson County Planning Department Jefferson Spencer, Planning Director 85 SE "D" Street Madras, Oregon 97741 djohnson@co.lake.or.us 541-475-4462	ORS Chapter 374.305 and Jefferson County Road Department	Jefferson County right-of-way use permits are required whenever an individual, contractor, or utility company needs to perform work in the public road right-of-way. The Applicant's third-party contractor will obtain right-of-way use permits (as needed) directly from Jefferson County. Therefore, this permit should not be included in and governed by the site certificate.

Notes:

- ACDP = Air Contaminant Discharge Permit
- CFR = Code of Federal Regulations
- DEQ = Oregon Department of Environmental Quality
- FAA = Federal Aviation Administration
- NPDES = National Pollutant Discharge Elimination System
- NRHP = National Register of Historic Places
- OAR = Oregon Administrative Rule
- SHPO = State Historic Preservation Office
- U.S.C. = United States Code
- WPCF = Water Pollution Control Facilities

Exhibit F. Property Ownership

OAR 345-020-0011(1)(f)

- (f) **Exhibit F.** *A list of the names and mailing addresses of all owners of record, as shown on the most recent property tax assessment roll, of property located within or adjacent to the site boundary as defined in OAR 345-001-0010. In addition to incorporating the list in the NOI, the applicant shall submit the list to the Department of Energy in electronic format acceptable to the Department for the production of mailing labels. Property adjacent to the site boundary means property that is:*
- (A) *Within 100 feet of the site boundary where the site, corridor or micrositing corridor is within an urban growth boundary;*
 - (B) *Within 250 feet of the site boundary where the site, corridor or micrositing corridor is outside an urban growth boundary and not within a farm or forest zone; and*
 - (C) *Within 500 feet of the site boundary where the site, corridor or micrositing corridor is within a farm or forest zone.*

Response

As required by OAR 345-020-0011(1)(f)(C), a list of the names and mailing addresses of Jefferson County owners of record of property located inside the proposed Facility site boundary and within 500 feet of the site boundary is provided in Table F-1 of Attachment F. Owing to the large size of surrounding parcels in the farm zone, the Applicant has also elected to notify property owners out to 1,000 feet from the Facility site boundary. A separate list of property owners between 500 and 1,000 feet from the Facility site boundary is included in Table F-2 of Attachment F. The Applicant compiled these lists based on the most recent property tax assessment data provided by the Jefferson County Assessor's Office on April 9, 2019. The Applicant has provided the same lists to the Oregon Department of Energy (ODOE) in an electronic Excel format suitable for the production of mailing labels.

Figure F-1 in Attachment F-1 shows the Jefferson County property tax lots within 1,000 feet of the Facility site boundary. The tax lot lines and labels are at a scale large enough to be legible so that ODOE can identify a property on the map and cross-reference the name and address of the property owner on the Excel spreadsheet.

Exhibit G. Facility Maps

OAR 345-020-0011(1)(g)

(g) **Exhibit G.** A map or maps showing:

Response

Attachment G contains a series of maps (Figures G-1 through G-6) showing the information required under OAR 345-020-0011(1)(g). These figures are further described in the responses below.

- (A) *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.*
- (B) *The proposed locations of the corridors the applicant has identified under subsection (d) in relation to major roads, water bodies, cities and towns, important landmarks and topographic features.*

Response

Figures G-1 and G-2 show the location of the Facility site boundary in relation to major roads, waterbodies, cities and towns, important landmarks, and topographic features. No corridors are proposed or identified under subsection (d) above; thus, none are depicted on Figures G-1 and G-2.

- (C) *The study area(s) for the proposed facility as defined in OAR 345-001-0010.*
- (D) *The topography of the study area(s) including streams, rivers, lakes, major roads and contour lines.*

Response

Figure G-3 shows the boundaries and topography (including streams, rivers, lakes, major roads, and contours) of the study areas for protected areas (20 miles), scenic and aesthetic resources and public services (10 miles), recreational opportunities (5 miles), threatened and endangered plant and animal species areas (5 miles), land use (0.5 mile), and fish and wildlife habitat (0.5 mile). The Applicant developed this map to correspond with the study areas defined under OAR 345-001-0010(59). The Applicant understands that ODOE will formally establish these study areas in the Project Order.

- (E) *All protected areas in the study area as defined in OAR 345-001-0010 for impacts to protected areas.*

Response

Figure G-4 shows protected areas in the 20-mile study area as defined in OAR 345-001-0010(59) and as designated in OAR 345-022-0040.

- (F) *The location of any potential waters of the state or waters of the United States that are on or adjacent to the site.*

Response

Figure G-5 shows the locations of any potential waters of the state or waters of the United States that are on or adjacent to the Facility site.

- (G) *For energy generation facilities, 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.*

Response

Figure G-6 shows the locations of the energy generation facilities that are known to the Applicant to be permitted within the study areas for scenic and aesthetic resources and public services (10 miles).

Exhibit H. Nongenerating Energy Facility

OAR 345-020-0011(1)(h)

- (h) **Exhibit H.** *If the proposed facility is a non-generating energy facility for which the applicant must demonstrate need under OAR 345-023-0005, identification of the rule in Division 23 of this chapter under which the applicant intends to demonstrate need and a summary statement of the need and justification for the proposed facility.*

Response

The proposed Facility is not a nongenerating energy facility. Therefore, this exhibit is not applicable.

Exhibit I. Land Use

OAR 345-020-0011(1)(i)

- (i) **Exhibit I.** *A statement indicating whether the applicant intends to satisfy the Council's land use standard, OAR 345-022-0030, by obtaining local land use approval under ORS 469.504(1)(a) or by seeking a Council determination under ORS 469.504(1)(b).*

Response

The proposed Facility and related or supporting facilities are in Jefferson County. The Applicant will satisfy the Council's land use standard, OAR 345-022-0030, by seeking a Council determination of compliance with Jefferson County land use standards under ORS 469.504(1)(b).

Exhibit J. Environmental Impacts

OAR 345-020-0011(1)(j)

- (j) **Exhibit J.** *Identification of significant potential environmental impacts of construction and operation of the proposed facility on the study areas, including those impacts affecting air quality, surface and ground water quality and availability, wildlife and wildlife habitat, threatened and endangered plant and animal species, historic, cultural and archaeological resources, scenic and aesthetic areas, recreation, and land use.*

Response

This exhibit identifies potential environmental impacts of construction and operation of the proposed Facility on the study areas. Responses are organized into the following sections:

- Air Quality
- Surface and Groundwater Quality and Availability (includes wetlands and waters of the state and United States)
- Wildlife and Wildlife Habitat [study area, as defined in OAR 345-001-0010(59)(c), is 0.5 mile]
- Threatened, Endangered, and Sensitive Plant and Animal Species [study area, as defined in OAR 345-001-0010(59)(a), is 5 miles]
- Historic, Cultural, and Archaeological Resources (study area is within the site boundary)
- Scenic, Aesthetic, and Protected Areas [study area for scenic and aesthetic resources is 10 miles, as defined in OAR 345-001-0010(59)(b), and study area for protected areas is 20 miles, as defined in OAR 345-001-0010(59)(e)]
- Recreation [study area, as defined in OAR 345-001-0010(59)(d) is 5 miles]
- Land Use [study area, as defined in OAR 345-001-0010(59)(c), is 0.5 mile]

Air Quality

During construction, air pollutant combustion emissions will be generated from diesel and gasoline engines in the various vehicles and construction equipment and facilities used in the construction of the Facility.

Fugitive dust may be generated from vehicle traffic on paved and unpaved roads and from equipment during construction activities. The Applicant will apply dust control measures, and will describe these further in the Application for Site Certificate (ASC).

The operation of the Facility will have no effect on air quality. During Facility operations, air pollutant sources will be limited to a small amount of fleet vehicles and equipment used by maintenance staff. The emissions and fugitive dust from these vehicles and equipment will be minor and will not exceed state emissions thresholds. Therefore, these emissions are not quantified and do not require a permit from DEQ.

A Basic ACDP permit may be required from DEQ if a portable concrete batch plant is needed to provide concrete during construction. Obtaining the ACDP will be the responsibility of the batch plant owner or third-party contractor selected for Facility construction.

Surface and Groundwater Quality and Availability

Surface and Groundwater Quality

During construction, the proposed Facility will not discharge pollutants to surface water or groundwater. Any temporary impacts from construction-related stormwater will be regulated under the conditions of the NPDES 1200-C permit and the associated erosion and sediment control plan (ESCP). Both the NPDES permit and the ESCP will be issued by DEQ.

During operations, there will be no discharge of domestic wastewater.

Surface and Groundwater Availability

During construction, it is estimated that approximately 2,800,000 gallons of water will be required primarily for dust control and road compaction. Approximately 40,000 gallons of water per day will be needed for initial civil and site preparation for approximately 1 month, then approximately 93,333 gallons of water per week will be needed for construction over 5 months. Daily water use will vary depending on the timing of construction and the weather (e.g., water use for dust control will increase in dry, windy summer conditions). This water will be transported to the site via water trucks from an offsite municipal or commercial source via bilateral agreements.

The Applicant will confirm the anticipated amount of water required for construction in the ASC. Additionally, the Applicant will confirm that the identified source can meet the Facility's water requirements during construction. If the water source is not sufficient, an alternative source will be considered, or water will be obtained from a new well permitted under a limited water use license.

During Facility operations, water use will be limited to a once- or twice-annual cleaning of the solar modules, which will require approximately 1,650,000 gallons of water per year. A third-party contractor will obtain water for panel cleaning from an off-site source.

Wetlands and Waters of the State/United States

A desktop analysis of the Facility site boundary was performed to identify potential impacts to potentially jurisdictional wetlands and waters of the State/United States. An analysis of *National Wetlands Inventory* (NWI) maps from the U.S. Fish and Wildlife Service (USFWS, 2018a) and *National Hydrography Dataset* (NHD) maps from the U.S. Geological Survey (USGS, 2017) suggests that some small, unnamed waterbodies exist within the Facility site boundary. NWI and NHD locations and feature types are shown on Figure G-5.

A formal delineation of wetlands and waters of the State and United States has been conducted to identify potential impacts from construction of the Facility on jurisdictional wetlands and waters. The delineation was performed in accordance with the Oregon Removal-Fill Law and Section 404 of the Federal Clean Water Act. Delineation activities included the detailed desktop analysis described above and an onsite field investigation of land within the Facility site boundary. The results of the delineation show that there are no wetlands and three ephemeral drainages within the Facility site boundary. A wetland delineation report that provides the information and findings of the delineation was submitted to the Oregon Department of State Lands (DSL) and U.S. Army Corps of Engineers (USACE) on December 19, 2018. Following review of the wetland delineation report, DSL provided a letter of concurrence on March 5, 2019 (WD # 2018-0671) stating the agency's concurrence that there are no jurisdictional features within the Facility site boundary and that the three ephemeral drainages are exempt per OAR 141-085-0515(3). On March 25, 2019, the USACE provided a Preliminary Jurisdictional Determination (Corps No. NWP-2018-616) to document that the three ephemeral drainages "may be" waters of the U.S.

Facility components will be sited to avoid impacts to the three ephemeral drainages; no other jurisdictional waters or wetland occur within the site boundary. This information will also be provided in the ASC.

Wildlife and Wildlife Habitat

Jacobs conducted a biological reconnaissance survey on behalf of the Applicant on October 9, 2018. The biological reconnaissance included review of wildlife and habitat data (threatened and endangered species, critical habitat, big game range, and Oregon Conservation Strategy [ODFW, 2016] opportunities, habitats, and species, important bird areas, and eagle nests) from USFWS, USGS, Oregon Biodiversity Information Center (ORBIC), Oregon Department of Fish and Wildlife (ODFW), Oregon Department of Agriculture (ODA), Audubon Society, and the Oregon Eagle Foundation. A site visit was conducted on October 9, 2018, by Forrest Parsons (Professional Wetland Scientist and biologist) of Jacobs to ground-truth desktop-generated data and evaluate potential biological concerns as they relate to siting and permitting the Facility. The survey focused on areas accessible by road within the proposed Facility site boundary and areas within 0.5 mile of the site boundary. The purpose of the survey was to preliminarily identify vegetation communities, wildlife habitat types, wetland types, access routes, and any signs of special-status species or unique habitat features.

The proposed Facility lands are characterized by moderately grazed shrub-scrub habitat that is dominated by rabbitbrush with an understory of mixed native and invasive grasses, recently burned juniper forest interspersed with rocky areas devoid of vegetation, and developed rights-of-way. Common wildlife species in this type of habitat include small mammals, coyotes, and various birds. Onsite investigations identified common raven (*Corvus corax*), western bluebird (*Sialia mexicana*), and common passerines throughout the Facility site. Habitat for small mammal and reptile species in the area supports a prey base for raptors and predatory mammals (for example, coyote and fox). The Facility site boundary and surrounding area are characterized by pasturelands, shrub-scrub, and juniper forests and provide forage for mule deer, bird, and small mammal species. The northern half of the site boundary burned in the summer of 2018 and displays significant ground disturbance associated with firefighting activities.

Projects with a state nexus such as energy facilities subject to the EFSC process are required to abide by the ODFW Habitat Mitigation Policy. This requires assessing impacts and gaining ODFW approval of a habitat mitigation plan. The Applicant, based on the completed biological reconnaissance survey and additional biological surveys, will provide a site-specific habitat analysis as part of the ASC including an ODFW-approved habitat mitigation plan and measures to avoid, minimize, and mitigate impacts to wildlife and wildlife habitats.

Threatened, Endangered, and Sensitive Plant and Animal Species

Methods

Information pertaining to federally listed species was obtained from the USFWS *Information, Planning, and Conservation System* (IPaC) mapping tool (USFWS, 2018b). In 2018, Jacobs requested records from the ORBIC database of documented occurrences of rare, threatened, endangered, and sensitive plant and wildlife species within approximately 2 miles of the Facility site boundary. ORBIC provided the digital data to Jacobs in September 2018. The records are confidential and not to be distributed. The Applicant will provide the records to ODFW and ODOE upon request, with the permission of ORBIC (ORBIC, 2018). Other sources that were queried included the ODA list of plants by county (ODA, 2018).

Results

According to the USFWS IPaC mapping tool results, no federally listed threatened or endangered species, nor candidate species proposed for listing, are expected to occur at or within 2 miles of the Facility site, except for federally listed threatened bull trout (*Salvelinus confluentus*), which is documented to occur northwest of the site in Lake Simtustus. No critical habitats for federally listed species were identified using the IPaC mapping tool within the site boundary. Review of the USFWS IPaC mapping tool also shows six migratory birds of conservation concern as potentially occurring within the Facility site boundary.

No state-listed plants are expected to occur in the entirety of Jefferson County according to ODA's Plant Conservation Program website (ODA, 2018).

ORBIC did not identify any state-listed threatened, endangered, or proposed plant or animal species within the Facility site boundary. ORBIC identified records of the following Oregon sensitive species within an approximate 2-mile radius of the Facility site boundary: bull trout, Chinook salmon (*Oncorhynchus tshawytscha*), and golden eagle (*Aquila chrysaetos*).

Historic, Cultural, and Archaeological Resources

The Applicant has completed a cultural resources survey for the Facility to demonstrate compliance with OAR 345-022-0090, Historic, Cultural and Archaeological Resources, which regulates potential impacts to historic, cultural, and archaeological resources. The survey incorporated information from a detailed literature review, consultation with applicable tribes, and the results of a field survey. No archaeological or historic sites, objects, or resources potentially eligible for listing on the National Register of Historic Places were identified.

The survey included a cultural resources literature review incorporating the results of a search of the Oregon Archaeological Remote Records Access database and review of several map series such as General Land Office maps, Metsker maps, and Historic United States Geodetic Survey topographic maps. In addition, the Applicant incorporated input into the survey received by the three tribes who may have interest in this Project as identified by the Legislative Commission on Indian Services: the Confederated Tribes of the Warm Springs Reservation of Oregon (CTWSRO), the Klamath Tribes, and the Burns Paiute Tribe. Letters detailing the Project along with a map figure were sent to these area tribes on November 8, 2018. Comments received back from the CTWSRO were incorporated into the survey. Finally, a cultural resources field survey was conducted within the Facility site boundary on November 29, 2018. The survey team consisted of five archaeologists comprising four from Jacobs and one from Geo Visions, Inc., the cultural resources contracting firm affiliated with the CTWSRO. No actions to avoid or mitigate significant impacts to archaeological or historical sites, or NRHP-eligible resources, will be necessary. The results of the literature review, consultation with applicable tribes, and the field survey were incorporated into a survey report that will be submitted as part of the ASC.

Scenic, Aesthetic, and Protected Areas

The Applicant will perform a visual impact assessment of the potential effects of the Facility on areas identified and managed as scenic resources or for specific scenic qualities. The study areas for the visual impact assessment are 10 miles for scenic and aesthetic resources (ASC Exhibit R) and 20 miles for protected areas (ASC Exhibit L), in accordance with OAR 345-001-0010(59).

A preliminary review of publicly available maps and information indicates that there are no protected areas located within the Facility site boundary (see Figure G-4). The larger study area encompasses such scenic, aesthetic, and protected areas as the Cove Palisades State Park and the Lower Deschutes Wild and Scenic River.

Potential impacts to these areas will likely be negligible to minimal because the Facility does not include tall structures or features, may be screened by vegetation and topography, and may be outside of the viewshed of these areas. The visual assessment included in the ASC will propose mitigation measures for any significant potential impacts identified.

Recreation

The study area for recreational opportunities consists of a 5-mile buffer around the Facility site boundary, in accordance with OAR 345-001-0010(59). Exhibit T of the ASC will include analysis of the potential impacts.

In general, recreational activities in the study area consist of wildlife viewing, boating, camping, hiking, photography, and angling. No existing recreational opportunities are located within the site boundary. In addition, these activities also occur in numerous locations outside the study area, and therefore provide recreational opportunities that are common and “replaceable” (OAR 345-022-0100).

Land Use

The study area for land use consists of a 0.5-mile buffer around the Facility site boundary, in accordance with OAR 345-001-0010(59). The Facility is proposed on land zoned for agricultural use. Conversion of land zoned for agricultural use will occur; however, the land is currently uncultivated. These impacts will be fully evaluated in the ASC.

References

Oregon Biodiversity Information Center (ORBIC). 2018. *Rare, Threatened, and Endangered Species of Oregon*. Institute for Natural Resources, Portland State University, Portland, Oregon. Oregon Department of Agriculture.

Oregon Department of Agriculture (ODA) Plant Conservation Program. 2018. *Oregon Listed Plants by County*. Accessed March 2019.

<http://www.oregon.gov/ODA/programs/PlantConservation/Pages/ListedPlants.aspx>.

Oregon Department of Fish and Wildlife (ODFW). 2016. *Oregon Conservation Strategy*. Oregon Department of Fish and Wildlife, Salem, Oregon. <http://oregonconservationstrategy.org/strategy-habitats/>.

U.S. Fish and Wildlife Service (USFWS). 2018a. *Information, Planning, and Conservation System*. Accessed March 2019. <https://ecos.fws.gov/ipac/>.

U.S. Fish and Wildlife Service (USFWS). 2018b. *National Wetlands Inventory*. Accessed March 2019. <https://www.fws.gov/wetlands/>.

U.S. Geological Survey (USGS). 2018. *National Hydrography Dataset*. Accessed March 2019. https://nhd.usgs.gov/NHD_High_Resolution.html.

Exhibit K. Community Service Impacts

OAR 345-020-0011(1)(k)

- (k) *Exhibit K. Information about significant potential adverse impacts of construction and operation of the proposed facility on the ability of communities in the study area to provide the services listed in OAR 345-022-0110.*

Response

This exhibit provides summary-level information about potential significant adverse impacts of construction and operation of the proposed Facility on the ability of communities in the study area [10 miles pursuant to OAR 345-001-0010(59)(b)] to provide sewers and sewage treatment, water, stormwater drainage, solid waste management, housing, traffic safety, police and fire protection, health care, and schools. Additional analysis of potential impacts to each of these community services resulting from construction and operation of the Facility will be included in the ASC.

Sewers and Sewage Treatment

During construction, sanitary waste will be collected onsite in portalets. During operations, no sanitary waste will be produced onsite as the O&M enclosure will function as a dry storage shed and will not be equipped with water or septic facilities. Because there will be no connection to the community sewer systems, no significant adverse impacts are anticipated.

Water

Water will be required during Facility construction for road construction, dust control, and other activities. During construction, the contractor will arrange for delivery of water to the site via water trucks from a source with an existing water right. Potential sources include the City of Madras and participating landowners with adequate existing water rights.

Approximately 2,800,000 gallons of water will be needed primarily for concrete, dust control, and road compaction. Approximately 160,000 gallons of water per week will be needed for initial civil/site preparation over the course of approximately 1 month, then approximately 13,333 gallons of water per week will be needed for construction over the course of approximately 5 months. If a concrete batch plant is required, then approximately 350,000 additional gallons of water will be used during construction. Daily water use will vary depending on the timing of construction and the weather (e.g., water use for dust control will increase in dry, windy summer conditions). This water will be transported to the site via water trucks from an offsite municipal or commercial source via bilateral agreements.

During Facility operations, water use will be limited to a once- or twice-annual cleaning of the solar modules, which will require approximately 1,650,000 gallons of water per year. A third-party contractor will obtain water for panel cleaning from an off-site source.

The Applicant will confirm the anticipated amount of water required for construction and operations in the ASC. Additionally, the Applicant will confirm that the identified source is capable of meeting the Facility's water requirements during construction. If the water source is not sufficient, an alternative offsite source will be considered.

During Facility construction and operation, water will only be obtained from permitted sources with adequate water rights. Therefore, public water systems will not be adversely affected by construction or operation of the Facility.

Stormwater Drainage

Currently, no community in the area provides stormwater drainage service to the area within the Facility site boundary, except for stormwater drainage facilities associated with public roads maintained by Jefferson County. Because the ground under the arrays will be pervious, stormwater will be able to infiltrate onsite and erosion will be minimized. In addition, there will be gravel around the substation, POI switching station, and O&M enclosure so stormwater can infiltrate onsite. Therefore, construction of the Facility will not result in large, new, impervious areas that generate significant stormwater runoff.

The Facility will be constructed and operated with its own stormwater management systems, consistent with a NPDES 1200-C permit issued by DEQ as well as a DEQ-approved ESCP.

Stormwater management infrastructure installed during construction of the solar modules will be left in place as needed to continue functioning throughout the life of the Facility and support O&M activities. One example is roadside ditches along service roads. These features will be located on private land, and will not affect stormwater management services provided by any public agency.

Solid Waste Management

Solid waste disposal for the Facility during construction and operations will be provided through a private contract with a local commercial hauler (or haulers) and is not anticipated to disrupt services already being provided to local communities. The public landfill closest to the Facility site boundary is the Jefferson County Transfer Station southeast of the City of Madras. The landfill is owned by Jefferson County and operated by Madras Sanitary Services.

Housing

Construction

During construction, a peak construction workforce of 150 workers will be employed. Most construction workers will be employees of construction and equipment companies under contract to the Applicant. Workers will include a mix of local and nonlocal personnel, with nonlocal personnel more likely for specialized construction (for example, substation and electrical transmission construction, solar array erection, and solar array testing). Thus, some construction workers are expected to come from outside of the study area and will require temporary housing. Construction workers hired from areas outside a commutable distance will likely stay in local motels, trailer parks, or other rental units during their stay. The increased demand created by construction workers could potentially impact temporary housing in the vicinity of the Facility if an adequate supply is unavailable. Local hiring may be greater and will depend on the availability of workers with appropriate skills. Additional workers may commute daily from communities outside the Facility study area (e.g., Redmond and Bend), which will lessen the impacts associated with the in-migration of outside workers.

Typical housing options for temporary workers include motels, hotels, apartments, short-term rental homes, and campgrounds or other areas where workers can park trailers or other mobile housing. Madras has six hotels or motels, including several large hotel chains. In addition, there are numerous RV parks and campgrounds in the vicinity. Workers from outside the area will benefit the community and local businesses by renting rooms, eating at local restaurants, and purchasing goods and services.

Operations

The Facility is not anticipated to require full-time operations and maintenance (O&M) staff. The Facility will be monitored remotely, with 2-4 technicians at a time deployed on an as-needed basis for maintenance and repairs. It is expected that operations and maintenance staff will be hired locally (i.e., within a two hour radius of the project site), with the exception of positions that may require previous experience at other solar generation facilities. Some specialized third-party contractors also may be required for

equipment repairs. The assumption is that operations will continue for at least 35 years. No significant adverse impacts are anticipated as a result of housing operational personnel.

Traffic Safety

The primary transportation route is assumed to carry the majority of construction-related heavy-duty and light-duty delivery vehicles, as well as some workforce traffic. This route will likely begin eastbound along US Highway 26 or northbound along US Highway 97. From Madras, the route would continue west along SW Belmont Lane to SW Elk Drive, following this road north as it turns into NW Elk Drive.

During construction, trucks will be accessing the Facility using these transportation corridors. Heavy-duty trucks will carry Facility components as well as gravel and other materials required to improve access roads from existing roadways. Lighter-duty trucks will also deliver water, electrical equipment, and other materials. Construction-related vehicles are not expected to cause traffic safety hazards or traffic delays due to the rural nature of the area. Any improvements, if necessary, to County roads will be restricted to areas within the County rights-of-way and subject to approval. If necessary, a traffic management plan will be developed in cooperation with Jefferson County and the City of Madras in order to minimize impacts to traffic safety. In addition, if necessary, the Applicant will enter into road use agreements with Jefferson County to ensure that public roads impacted by construction will be left in "as good or better" condition than that which existed prior to the start of construction.

During operations, traffic impacts from technician visits are not anticipated. The Applicant intends to hire O&M personnel locally, where feasible. Employees will travel to work in their personal vehicles. Specialized personnel responsible for repairs of select pieces of equipment may be hired from outside the area and may travel in light-duty trucks. Delivery trucks may also access the site during operations on an infrequent basis. An analysis of traffic generated from both construction and operation of the Facility will be included in the ASC.

Police and Fire Protection

Police service is primarily provided by county police departments in the vicinity of the Facility. The Applicant will seek assistance from the Jefferson County Sheriff's Office for police services, located in Madras, Oregon (Jefferson County Sheriff's Office, 2019). Additional law enforcement service is available through the Oregon State Police, which has offices in Madras and Bend (OSP, 2019). The number of new temporary and permanent employees is not anticipated to place significant new demands on law enforcement agencies in the area.

The Facility is located just outside of the Jefferson County Fire District #1 (District) service boundary. The Applicant will work with the District to obtain documentation that the District will be able to provide fire protection within the Facility site boundary. The Applicant will provide construction plans and phasing information, and identify the location of Facility structures and their points of access.

The Facility will be equipped with fire protection equipment in accordance with the Oregon Fire Code. Given the inherent fire safety features of Facility components and the relatively small number of new temporary residents during construction, significant new demands on fire protection resources are not anticipated.

Health Care

The nearest hospital to the Facility is St. Charles Madras Hospital, located approximately 5 miles from the nearest point of the Facility site boundary. Ambulance service in the area is provided by Jefferson County Emergency Medical Services (Jefferson County Emergency Medical Services District, 2017).

Impacts on health care could occur if Facility construction activities were to result in an increase in the use of emergency health care services exceeding the capacity of local providers. Impacts on local health care services during both construction and operation will be minimized by careful management of site

health and safety risks. The estimated number of new temporary and permanent employees is not expected to place significant new demands on routine health care services.

Schools

The Facility site boundary encompasses Jefferson County School District 509-J (Jefferson County School District, 2019) and Culver School District #4 (Culver School District, 2019). Within the 10-mile public services study area, there are four high schools, two middle schools, one K-8 school, one Christian school, and three elementary schools. The nearest schools to the Facility site boundary are Madras High School, Bridges Career and Technical High School, Madras Christian School, Buff Elementary School, and Madras Elementary School, all in the City of Madras.

No significant adverse impacts to schools are anticipated during construction and operation of the Facility. Construction will be temporary and short-term, and much of the peak work period (March through October) will occur during the summer months when school is not in session. Consequently, new students are not expected to relocate to the area as a result of construction.

During Facility operations, any increase in the local population due to hiring of Facility O&M staff would be too small to produce any kind of tangible increase in school enrollment. O&M staff will be hired locally if possible, and will consist of 2-4 individuals, at most. Given the number of schools in the study area, the dispersed area in which new residents are likely to settle, and the small number of new school children expected, it is unlikely that any one school will receive more new students than it can accommodate.

References

Culver School District #4. 2019. *Schools*. Accessed February 12, 2019. <http://www.culver.k12.or.us/>.

Jefferson County Emergency Medical Services District. 2019. *Welcome to Jefferson County EMS*. Accessed February 12, 2019. <https://www.jeffersoncountyems.com/>.

Jefferson County School District 509-J. 2019. *Schools*. Accessed February 12, 2019. <http://jcsd.k12.or.us/schools>.

Jefferson County Sheriff's Office. 2019. *Jefferson County Sheriff*. Accessed February 12, 2019. <https://www.jeffco.net/sheriff>.

Oregon State Police (OSP). 2019. *Contact Us*. Accessed February 12, 2019. http://www.oregon.gov/osp/pages/contact_us.aspx.

Exhibit L. Water Sources and Use

OAR 345-020-0011(1)(L)

- (L) **Exhibit L.** *Information about anticipated water use during construction and operation of the proposed facility, including:*
- (A) *A description of each source of water and the applicant's estimate of the amount of water the facility will need from each source.*

Response

Construction

The construction contractor will be responsible for obtaining water for construction including any required permits. Water will be required during Facility construction, primarily for concrete, dust control, and road compaction. During construction, the contractor will arrange for delivery of water to the site via water trucks from an offsite municipal or commercial source via bilateral agreements. Approximately 160,000 gallons of water per week will be needed for initial civil and site preparation over the course of approximately 1 month, then approximately 13,333 gallons of water per week will be needed for construction over the course of approximately 5 months. If a concrete batch plant is required, then approximately 350,000 additional gallons of water will be used during construction. Daily water use will vary depending on the timing of construction and the weather (e.g., water use for dust control will increase in dry, windy summer conditions).

In the ASC, the Applicant will confirm the anticipated amount of water required for construction. Additionally, the ASC will confirm that the identified source is capable of meeting the Facility's water requirements during construction.

Operations

During Facility operations, water use will be limited to a once- or twice-annual cleaning of the solar modules, which will require approximately 1,650,000 gallons of water per year. A third-party contractor will obtain water for panel cleaning from an off-site source.

- (B) *If a new water right is required, the approximate location of the points of diversion and the estimated quantity of water to be taken at each point.*

Response

The Applicant does not anticipate needing new water rights for the proposed Facility. Therefore, this rule is not applicable.

- (C) *For operation, the source of cooling water and the estimated consumptive use of cooling water, based on annual average conditions.*

Response

The proposed Facility does not require cooling water. Therefore, this rule is not applicable.

Exhibit M. Carbon Dioxide Emissions

OAR 345-020-0011(1)(m)

- (m) **Exhibit M.** *If the proposed facility would emit carbon dioxide, an estimate of the gross rate of carbon dioxide emissions, a table listing all the factors that form the basis for calculating the estimate, and a statement of the means by which the applicant intends to comply with the applicable carbon dioxide emissions standard under OAR 345-024-560, OAR 345-024-600, or OAR 345-024-630.*

Response

The proposed Facility will not emit carbon dioxide. Therefore, this exhibit is not applicable.

Exhibit N. Evaluation of Statutes, Rules, and Ordinances

OAR 345-020-0011(1)(n)

- (n) **Exhibit N.** Identification, by legal citation, of all state statutes and administrative rules and local government ordinances containing standards or criteria that the proposed facility must meet for the Council to issue a site certificate, other than statutes, rules and ordinances identified in Exhibit E, and identification of the agencies administering those statutes, administrative rules and ordinances. The applicant shall analyze and describe any problems the applicant foresees in satisfying the requirements of any such statute, rule or ordinance.

Response

Table N-1 identifies state statutes, administrative rules, and local government ordinances not identified in Exhibit E. The statutes, rules, and ordinances identified in Table N-1 specify the standards or criteria that the proposed Facility must meet for the Council to issue a site certificate. The Applicant does not anticipate difficulty in meeting specific requirements.

Table N-1. Statutes, Rules, and Ordinances Containing Relevant Standards or Criteria

Department	Legal Citation	Agency Address
Oregon Department of Agriculture	Plant Conservation Biology Program— ORS 564; OAR Chapter 603, Division 73	Oregon Department of Agriculture 635 Capitol Street, N.E. Salem, OR 97301-2532 503-986-4550
Oregon Biodiversity Information Center (formerly the Oregon Natural Heritage Information Center)	ORS 564.105; OAR 603, Division 73 and OAR 345-022-0070	Oregon Biodiversity Information Center Oregon State University Institute for Natural Resources University Center Building, Suite 335 527 SW Hall Street Portland, OR 97201
Oregon Department of Environmental Quality—Hazardous Waste Management	ORS 465 and 466; OAR Chapter 340, Divisions 100-113	Oregon Department of Environmental Quality 811 SW Sixth Avenue Portland, OR 97204-1390 503-229-5696
Oregon Department of Environmental Quality—Noise	ORS 467; OAR Chapter 340, Division 35	Oregon Department of Environmental Quality 811 SW Sixth Avenue Portland, OR 97204-1390 503-229-5696
Oregon Department of Environmental Quality—Solid Waste	ORS 459; OAR Chapter 340, Division 93	Oregon Department of Environmental Quality 811 SW Sixth Avenue Portland, OR 97204-1390 503-229-5696
Oregon Department of Environmental Quality—Water Quality	ORS 468 and 468B; OAR Chapter 340, Divisions 14, 41, 45, 52, and 55	Oregon Department of Environmental Quality 475 NE Bellevue Dr., Suite 110 Bend, OR 97701 541-388-6146
Oregon Department of Fish and Wildlife—Habitat Conservation Division	ORS 496 and 506; OAR Chapter 635, Divisions 100 and 415	Oregon Department of Fish and Wildlife 3406 Cherry Avenue N.E. Salem, OR 97303-4924 503-947-6000
Oregon Department of Geology and Mineral Industries	OAR Chapter 632	Oregon Department of Geology and Mineral Industries 800 NE Oregon Street, Suite 965 Portland, OR 97232 971-673-1555

Table N-1. Statutes, Rules, and Ordinances Containing Relevant Standards or Criteria

Department	Legal Citation	Agency Address
Oregon Department of Land Conservation and Development	ORS Chapter 197, ORS 215.274; OAR Chapter 660	Oregon Department of Land Conservation and Development 635 Capitol Street NE, Suite 150 Salem, OR 97301-2540 503-373-0050
Oregon Office of State Fire Marshal	ORS 453; OAR Chapter 837, Divisions 85 and 95	Oregon Office of State Fire Marshal 4760 Portland Road NE Salem, OR 97305-1760 503-378-3473
Oregon Parks and Recreation Department—Archaeological	Native American Graves and Protected Objects—ORS 97.740-97.760 Archaeological Objects and Sites—ORS 358.905-358.961	State Historic Preservation Office 725 Summer St. NE, Suite C Salem, OR 97301 503-986-0671
Oregon Water Resources Department—Water Rights Division	Appropriation of Water Generally—ORS Chapter 537 Distribution of Water; Watermasters; Change in Use; Transfer or Forfeiture of Water Rights—ORS Chapter 540 Water Resources Administrative Rules—OAR Chapter 690	Department of Water Resources Commerce Building 158 12th NE Salem, OR 97301-4172 503-378-8455

Exhibit O. Schedule

OAR 345-020-0011(1)(o)

(o) *Exhibit O. A schedule stating when the applicant expects to submit a preliminary application for a site certificate.*

Response

Table O-1 provides a schedule of key EFSC milestones, including the expected submittal date for the ASC.

Table O-1. Proposed Schedule for Submittal of Notice of Intent and Application for Site Certificate

Activity	Target Completion Date
Applicant submits NOI to EFSC	May 2019
EFSC reviews NOI, distributes public notice, conducts public information meeting, facilitates comment period, and issues Project Order	May 2019 – August 2019
Applicant submits preliminary ASC to EFSC	September 2019

Exhibit P. Evidence of Consultation with State Commission on Indian Services

OAR 345-020-0011(1)(p)

- (p) *Exhibit P. Evidence of consultation with the Legislative Commission on Indian Services to identify each appropriate tribe to consult with regarding the proposed facility's possible effects on Indian historic and cultural resources.*

Response

Evidence of consultation with the Legislative Commission on Indian Services is provided in Attachment P.

Attachment A
Articles of Incorporation and Authorization



Secretary of State
Corporation Division
255 Capitol Street NE, Suite 151
Salem, OR 97310-1327

Phone: (503)986-2200
www.filinginoregon.com

Registry Number: 1522565-91
Type: DOMESTIC LIMITED LIABILITY COMPANY

Next Renewal Date: 02/05/2020

MADRAS PV1, LLC
101 SECOND ST STE 1250
SAN FRANCISCO CA 94105

Acknowledgment Letter

The document you submitted was recorded as shown below. Please review and verify the information listed for accuracy.

Document

ARTICLES OF ORGANIZATION

Filed On

02/05/2019

Jurisdiction

OREGON

Name

MADRAS PV1, LLC

Principal Place of Business

101 SECOND ST STE 1250
SAN FRANCISCO CA 94105

Registered Agent

CORPORATION SERVICE COMPANY
1127 BROADWAY ST NE STE 310
SALEM OR 97301

Mailing Address

101 SECOND ST STE 1250
SAN FRANCISCO CA 94105

Member

ECOPLEXUS INC.
101 SECOND ST STE 1250
SAN FRANCISCO CA 94105



Articles of Organization - Limited Liability Company

Secretary of State - Corporation Division - 255 Capitol St. NE, Suite 151 - Salem, OR 97310-1327 - sos.oregon.gov/business - Phone: (503) 986-2200

FILED

FEB 05 2019

OREGON SECRETARY OF STATE For office use only

REGISTRY NUMBER:

1522565-91

In accordance with Oregon Revised Statute 192.410-192.490, the information on this application is public record. We must release this information to all parties upon request and it will be posted on our website.

Please Type or Print Legibly in Black ink. Attach Additional Sheet if Necessary.

1. NAME OF LIMITED LIABILITY COMPANY: (Must contain the words "Limited Liability Company" or the abbreviations "LLC" or "L.L.C.")

Madras PV1, LLC

2. DURATION: (Please check one.)

- Duration shall be perpetual.
Latest date upon which the Limited Liability Company is to dissolve is

3. PRINCIPAL OFFICE: (Must be a physical street address)

101 Second Street, Suite 1250
San Francisco, California 94105

4. REGISTERED AGENT: (Individual or entity that will accept legal service for this business)

Corporation Service Company

5. REGISTERED AGENT'S PUBLICLY AVAILABLE ADDRESS: (Must be an Oregon Street Address, which is identical to the registered agent's office.)

1127 Broadway Street NE, Suite 310
Salem, OR 97301

6. ADDRESS WHERE THE DIVISION MAY MAIL NOTICES:

101 Second Street, Suite 1250
San Francisco, California 94105

7. HOW WILL THIS LIMITED LIABILITY COMPANY BE MANAGED?

- This LLC will be member-managed by one or more members.
This LLC will be manager-managed by one or more managers.

8. IF RENDERING A LICENSED PROFESSIONAL SERVICE OR SERVICES, DESCRIBE THE SERVICE(S) BEING RENDERED: ORS 58.015(5)(m)

9. OPTIONAL PROVISIONS: (Attach a separate sheet if necessary.)

- BENEFIT COMPANY: The Limited Liability Company is a benefit company subject to sections 1 to 11 of chapter 269, Oregon Laws 2013.
INDEMNIFICATION: The company elects to indemnify its members, managers, employees, agents for liability and related expenses under ORS 63.160 - 63.170.
SEE ATTACHED

10. NAME AND ADDRESS OF EACH PERSON WHO IS FORMING THIS BUSINESS: (ORGANIZER)

Ecoplexus Inc.
101 Second Street, Suite 1250
San Francisco, California 94105

LIST MEMBERS AND/OR MANAGERS NAMES AND ADDRESSES (MAY BE REQUIRED BY YOUR BANK)

11. OWNERS: (MEMBERS) (Names and Addresses)

Ecoplexus Inc.
101 Second Street, Suite 1250
San Francisco, California 94105

12. MANAGERS: (MANAGERS) (Names and Addresses)

13. INDIVIDUAL WITH DIRECT KNOWLEDGE (Name and Address) List the name and address of at least one individual who is a member or manager of the LLC or an authorized representative with direct knowledge of the operations and business activities of the LLC.

John Gorman
101 Second Street, Suite 1250
San Francisco, California 94105

14. EXECUTION/SIGNATURE OF EACH PERSON WHO IS FORMING THIS BUSINESS: (Organizer)

I declare as an authorized signer, under penalty of perjury, that this document does not fraudulently conceal, fraudulently obscure, fraudulently alter or otherwise misrepresent the identity of the person or any members, managers, employees or agents of the limited liability company. This filing has been examined by me and is, to the best of my knowledge and belief, true, correct, and complete. Making false statements in this document is against the law and may be penalized by fines, imprisonment or both.

SIGNATURE:

[Handwritten Signature]

PRINTED NAME:

John Gorman

TITLE:

CEO of Ecoplexus Inc.

CONTACT NAME: (To resolve questions with this filing)

Kim Gammill

PHONE NUMBER: (Include area code)

415-240-4751

FEES

Required Processing Fee \$100

Processing Fees are nonrefundable. Please make check payable to "Corporation Division".

Free copies are available at sos.oregon.gov/business using the Business Name Search program.

**WRITTEN CONSENT OF ECOPLEXUS INC.
THE SOLE MEMBER AND MANAGER
OF
MADRAS PV1, LLC**

The undersigned, President of Ecoplexus Inc., a Delaware corporation, which is the sole member and manager of Madras PV1, LLC, an Oregon limited liability company (the "Company"), adopts the following resolutions effective March 6, 2019:

WHEREAS, the Company desires to file a Notice of Intent with the Oregon Energy Facility Siting Council;

WHEREAS, Ecoplexus Inc. is authorized to grant signing authority and authority to conduct business to certain persons on behalf of the Company.

NOW THEREFORE, BE IT RESOLVED, that the Company is hereby authorized and directed to file a Notice of Intent with the Oregon Energy Facility Siting Council;

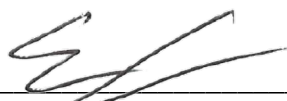
RESOLVED FURTHER, that Erik Stuebe, President of Ecoplexus Inc., and Nathan Rogers, Director of Project Development of Ecoplexus Inc., are each authorized to execute, deliver and cause the Company to perform all tasks necessary in accordance with this Consent, and such actions hereby in all respects are ratified, approved and confirmed; and

RESOLVED FURTHER, that the authority given hereunder shall be deemed retroactive and any and all acts authorized hereunder performed prior to the passage of this resolution are hereby ratified and affirmed.

IN WITNESS WHEREOF, the undersigned has executed this Consent effective as of the date written above.

**SOLE MEMBER AND MANAGER OF
MADRAS PV1, LLC:**

ECOPLEXUS INC.

By: 

Erik Stuebe, President

Attachment F
Jefferson County Landowners
(Lists and Map)

Table F-1. Jefferson County Property Owners Inside and Within 500 feet of the Facility Site Boundary

Notice of Intent for the Madras Solar Energy Facility

Parcel data and owner addresses provided by Jefferson County on April 9, 2019

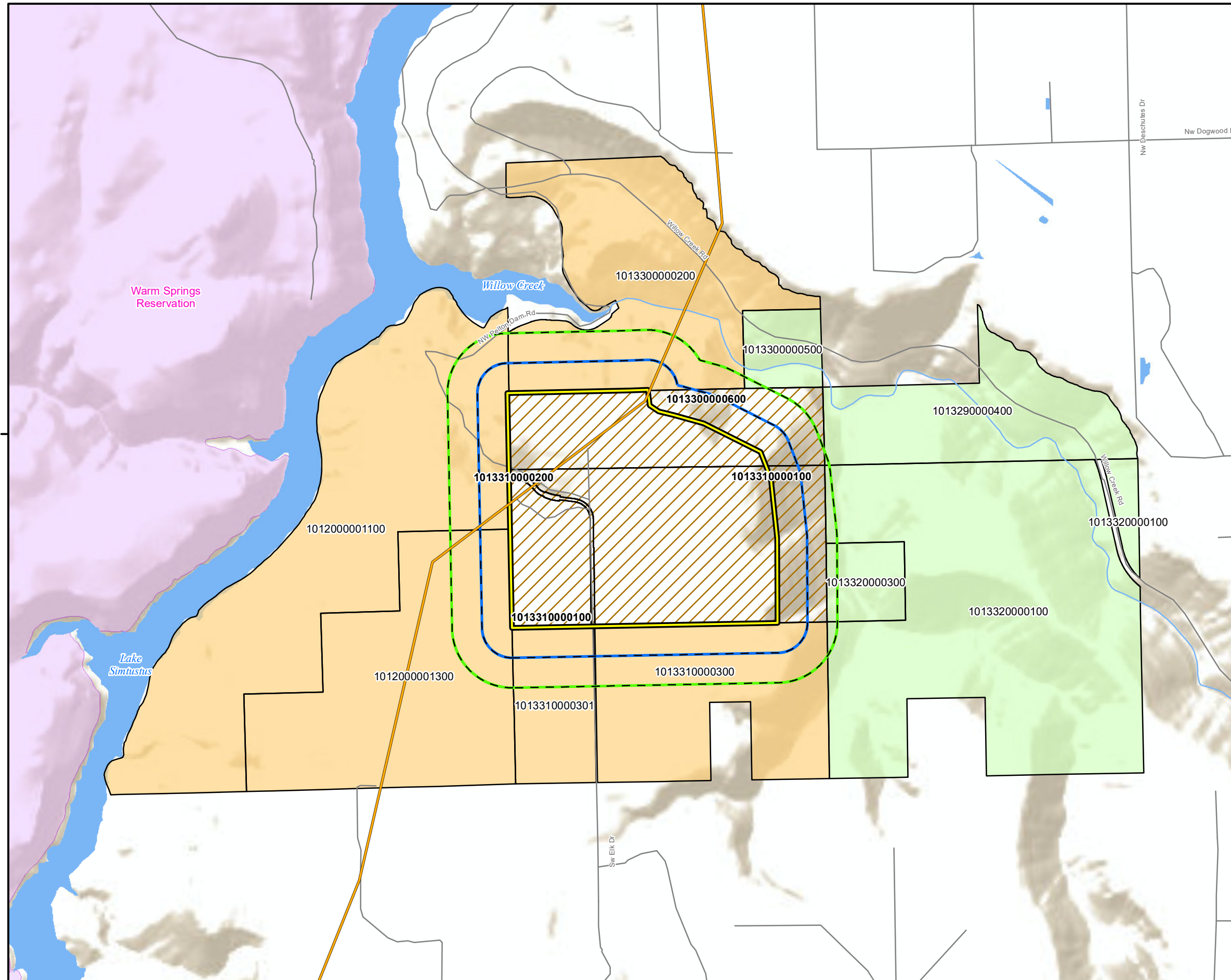
Map Tax Lot	First Name	Last Name	Company/Organization	Address	City	State	Zip Code
1012000001300			MCCALL, ERNEST EH TRUST	5052 SW HILLTOP LN	PORTLAND	OR	97221
1013300000200	GLADYS	GRANT		PO BOX 494	WARM SPRINGS	OR	97761
1012000001100			US FOREST SERVICE, ATTN: LAND & REALTY	3160 NE 3RD ST	PRINEVILLE	OR	97754
1012000001100			BUREAU OF LAND MANAGEMENT, ATTN: SLATER TURNER	3050 NE 3RD ST	PRINEVILLE	OR	97754
1013310000301			BOMBAY TRADING COMPANY LLC	5480 NW FRONT AVE	PORTLAND	OR	97210
1013310000300			BOMBAY TRADING COMPANY LLC	5480 NW FRONT AVE	PORTLAND	OR	97210
1013310000200			JEFFERSON COUNTY	66 SE D ST #STE A	MADRAS	OR	97741
1013300000600			BINDER, LLC	2250 N ADAMS DR	MADRAS	OR	97741
1013310000100			BINDER, BRYCE K TRUST	2250 N ADAMS DR	MADRAS	OR	97741

Table F-2. Jefferson County Property Owners Within 1,000 feet of the Facility Site Boundary

Notice of Intent for the Madras Solar Energy Facility

Parcel data and owner addresses provided by Jefferson County on April 9, 2019

Map Tax Lot	First Name	Last Name	Company/Organization	Address	City	State	Zip Code
1013300000500			BUREAU OF LAND MANAGEMENT, ATTN: SLATER TURNER	3050 NE 3RD ST	PRINEVILLE	OR	97754
1013290000400	GLADYS	GRANT		PO BOX 494	WARM SPRINGS	OR	97761
1013320000100			BUREAU OF LAND MANAGEMENT, ATTN: SLATER TURNER	3050 NE 3RD ST	PRINEVILLE	OR	97754
1013320000300			BINDER, LLC	2250 N ADAMS DR	MADRAS	OR	97741



LEGEND

- Facility Site Boundary
- Facility Tax Lot
- Tax Lot within 500 feet
- Tax Lot within 1,000 feet
- 500 feet from Facility Site Boundary
- 1,000 feet from Facility Site Boundary
- Existing Pelton Dam to Round Butte 230-kV Transmission Line
- Road
- Watercourse
- Waterbody
- Warm Springs Reservation

Coordinate System: NAD 1983 UTM Zone 10N
 Data Sources: Site Boundary: Ecoplexus; Tax Lot: Jefferson County; Imagery: DigitalGlobe 2016 via ESRI ArcGIS online; Waterbody: BLM; Watercourse: NHD; Warm Springs Reservation: USGS 2009
 1. T/R/S lines
 2. Tax lot GIS data for Jefferson County received from Jeff McCaulou, Jefferson County GIS Coordinator/Cartographer on 4/9/2019

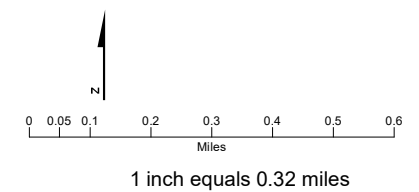
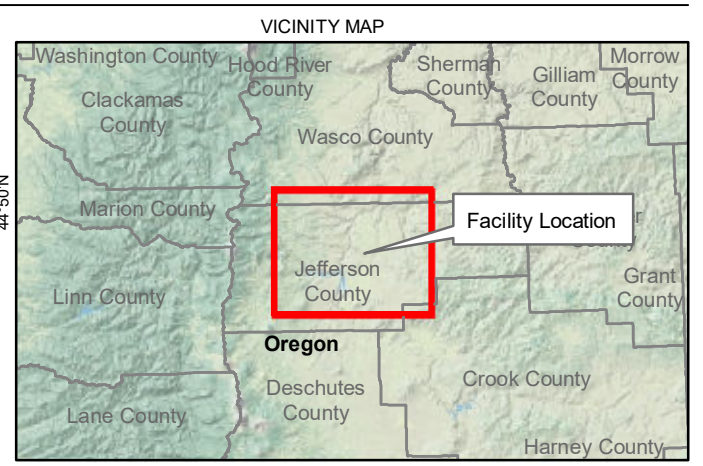
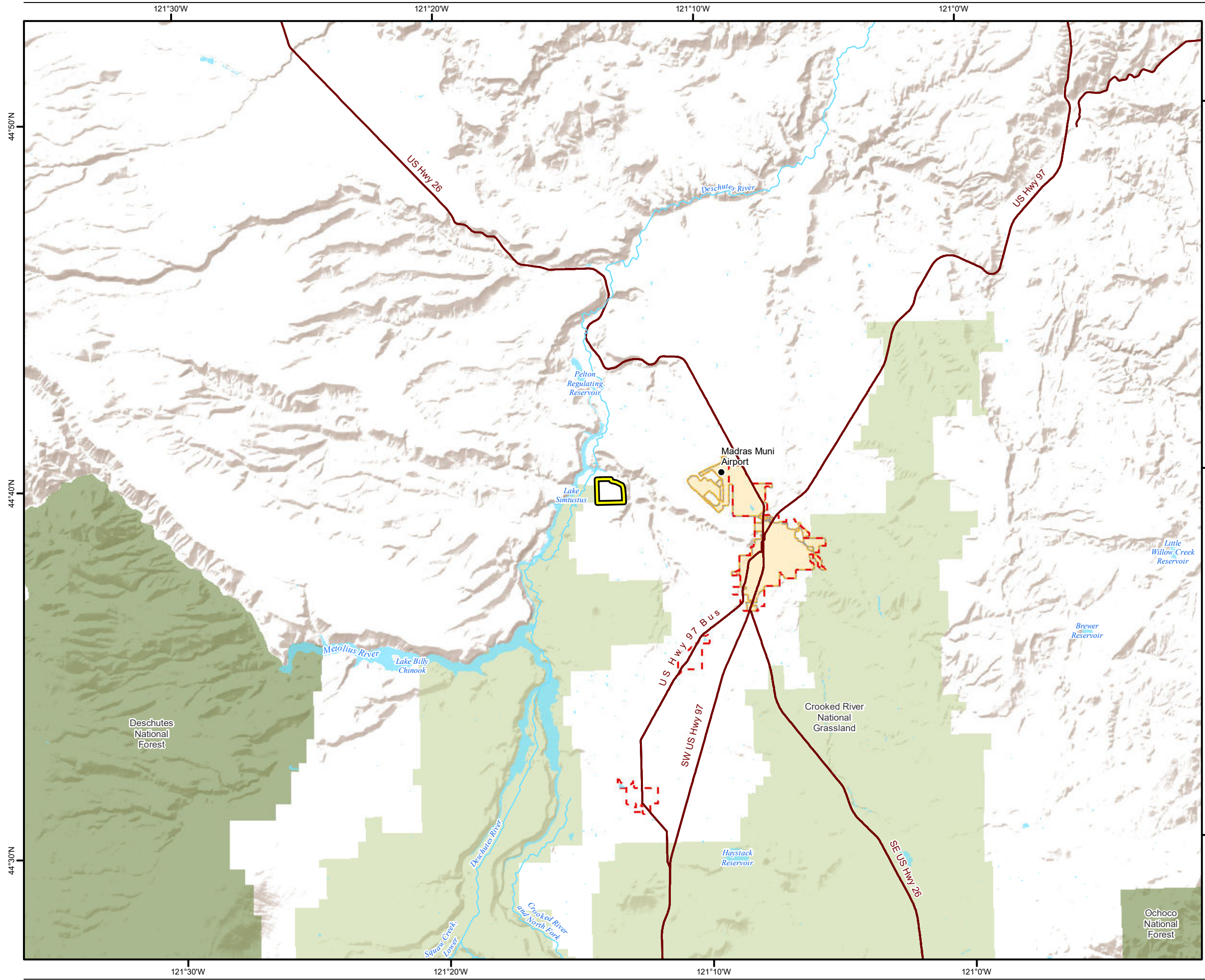


Figure F-1
 Property Owner Notification Map
 Notice of Intent
 Madras Solar Energy Facility
 Jefferson County, OR

Attachment G
Figures Referenced in Text



- LEGEND**
- Madras Solar Energy Facility Site Boundary
 - City of Madras City Limits
 - City of Madras Urban Growth Boundary
 - Major Highway
 - Existing Road
 - Watercourse
 - Waterbody
 - Airport/Heliport
 - National Forest
 - National Grassland

Coordinate System: NAD 1983 UTM Zone 10N
 Data Sources: Site Boundary, City Limits, Urban Growth Boundary: Jefferson County 2018; National Forest/Grassland: US Forest Service 2013; National Wilderness Area: Wilderness Connect; Watercourse: NRI 1996; Waterbody: BLM; ESRI ArcGIS online; Airport: US Dept of Transportation;

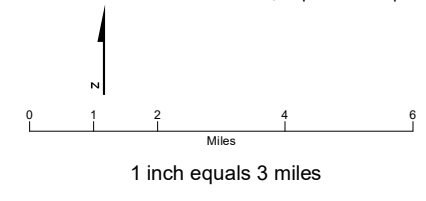
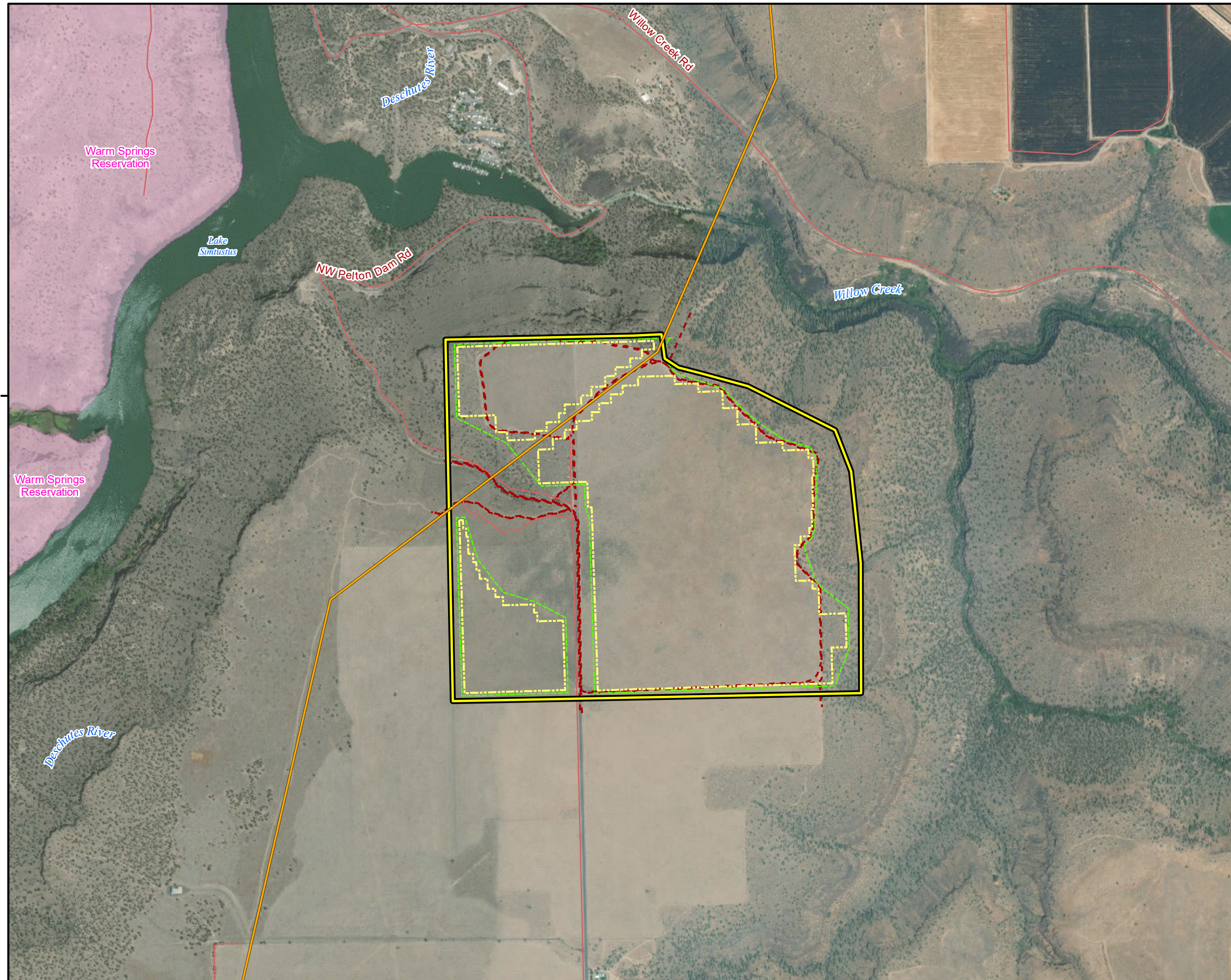


Figure G-1
 Facility Vicinity Map
 Notice of Intent
 Madras Solar Energy Facility
 Jefferson County, OR

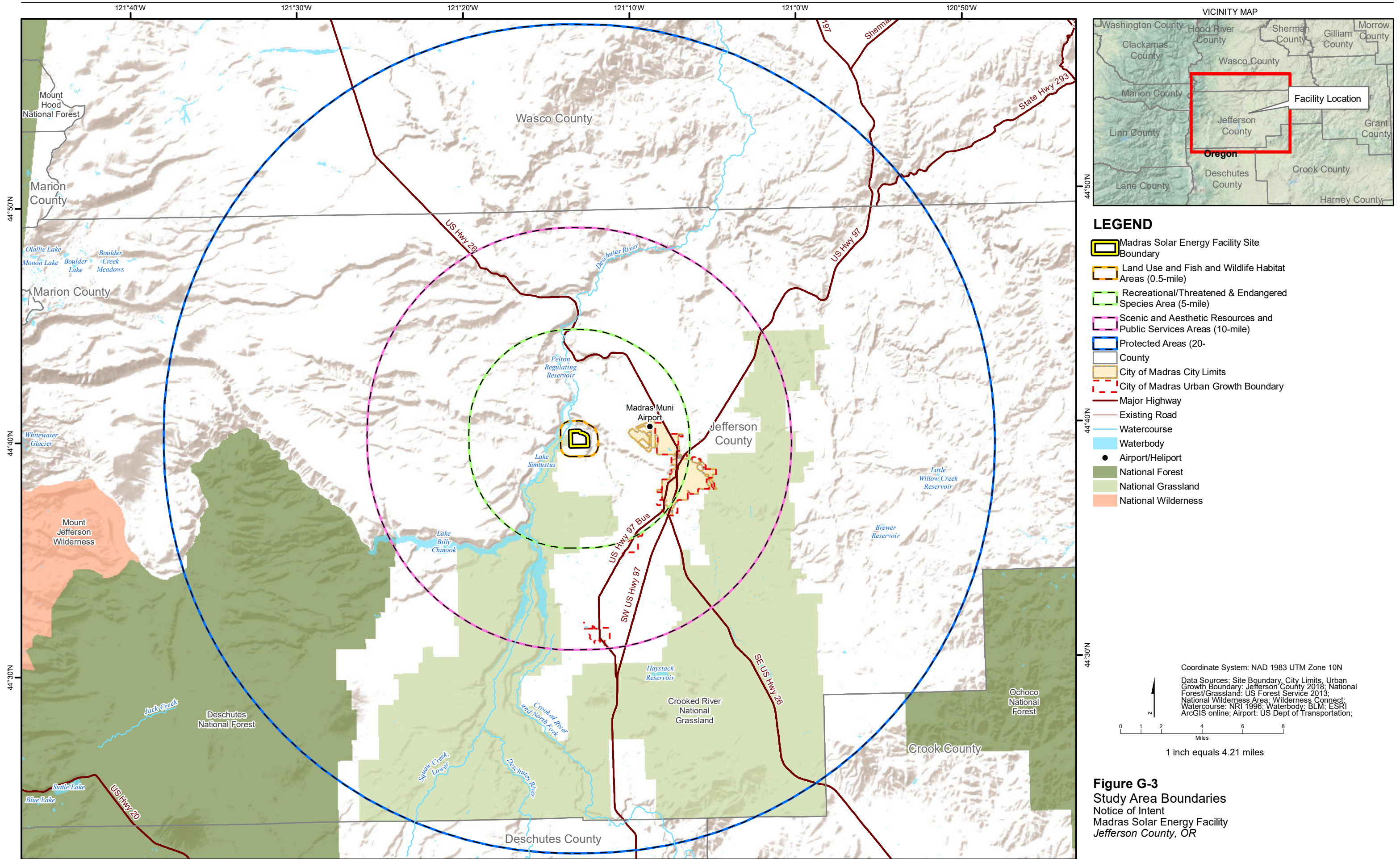


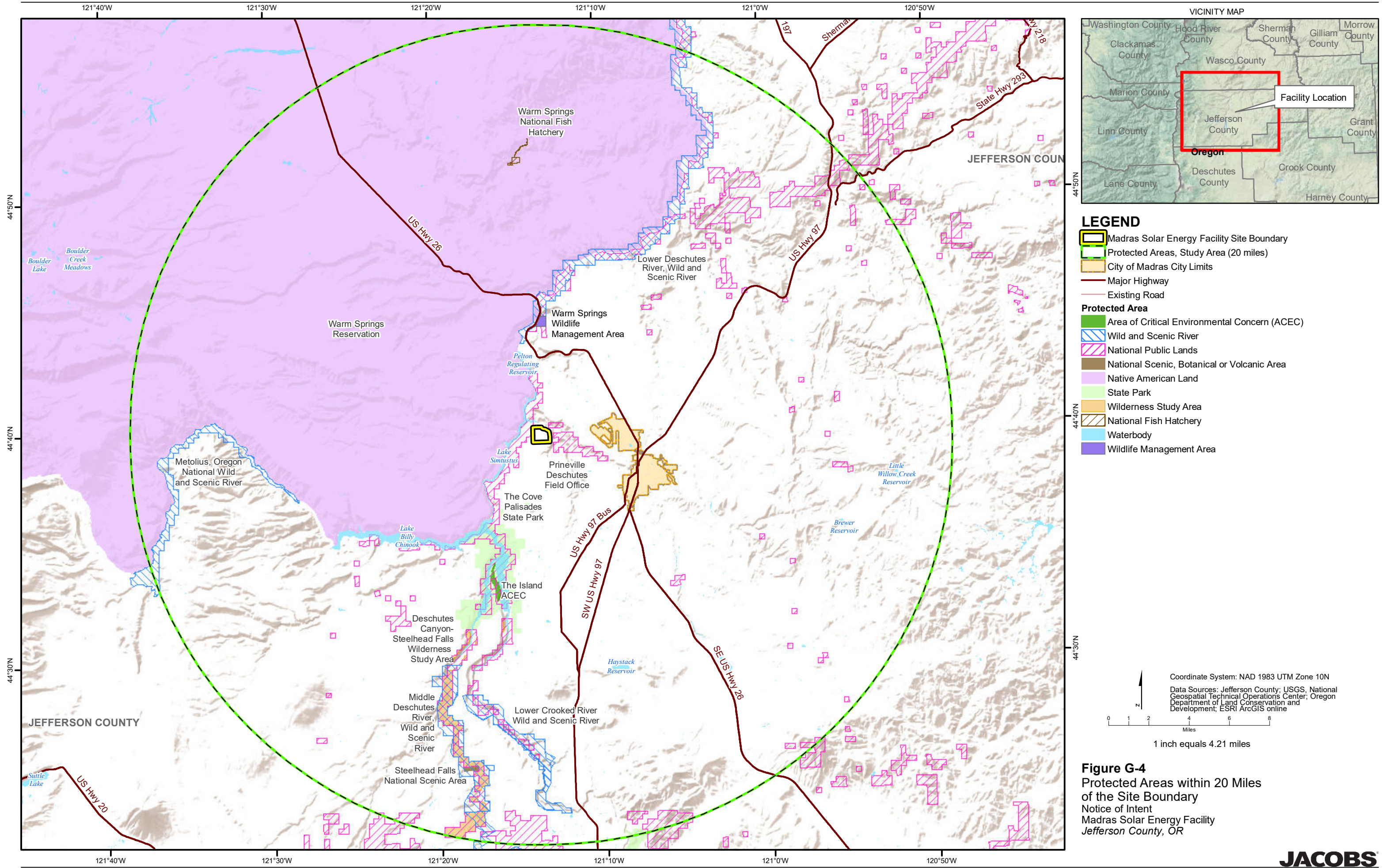
- LEGEND**
- Madras Solar Energy Facility Site Boundary
 - Existing Pelton Dam to Round Butte 230-kV Transmission Line
 - Fence
 - Access Road
 - Solar Array Outline
 - Road
 - Warm Springs Reservation

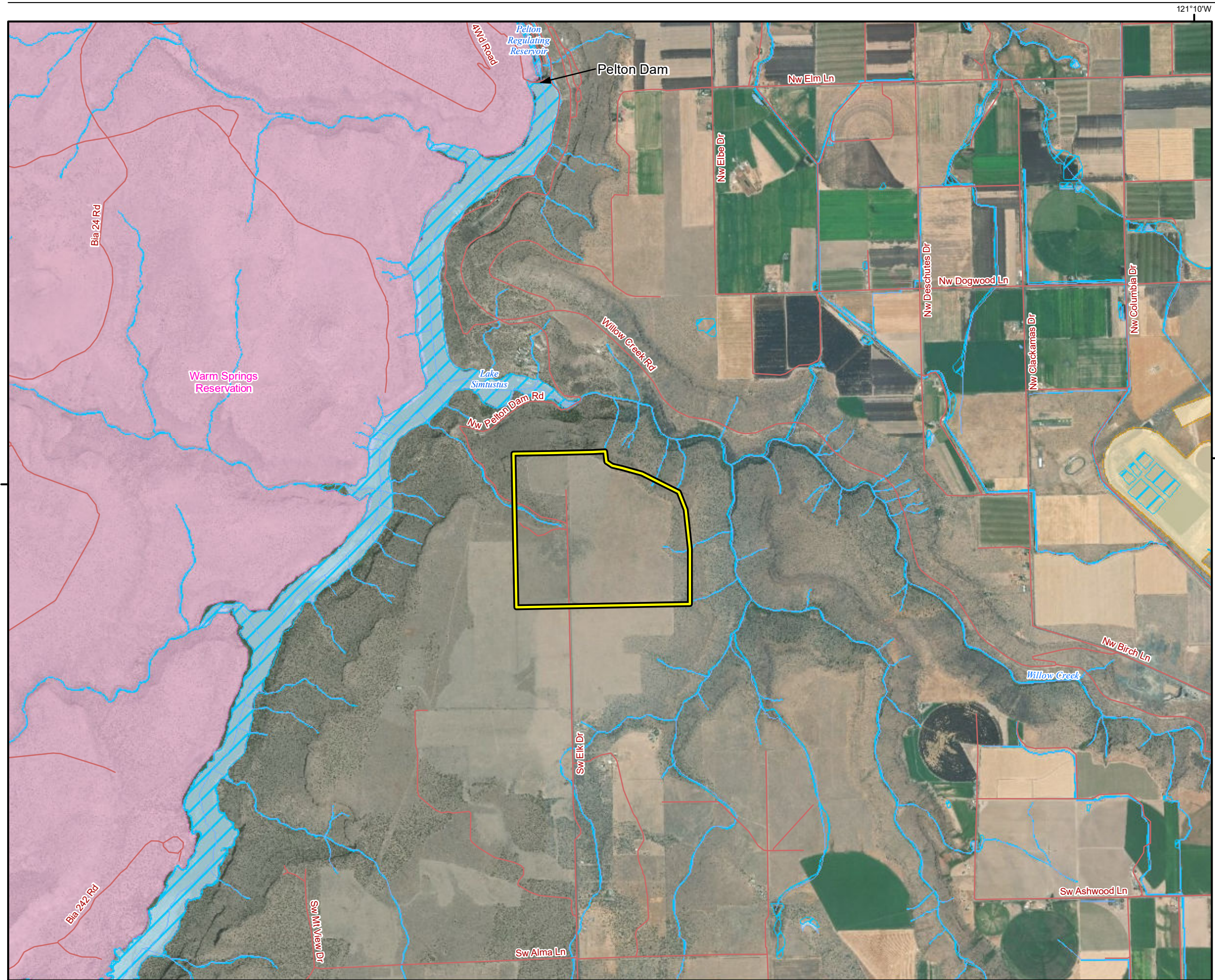
Coordinate System: NAD 1983 UTM Zone 10N
 Data Sources: Site Boundary: Ecoplexus; City Limits: Jefferson County; Imagery: DigitalGlobe 2016 via ESRI ArcGIS online; Waterbody: BLM; Watercourse: NHD; Warm Springs Reservation: USGS 2009

1 inch equals 0.21 miles

Figure G-2
 Facility Layout
 Notice of Intent
 Madras Solar Energy Facility
 Jefferson County, OR







- LEGEND**
- Madras Solar Energy Facility Site Boundary
 - National Wetlands Inventory (NWI)
 - National Hydrography Dataset (NHD) Waterbody
 - National Hydrography Dataset (NHD) Watercourse
 - Road
 - City of Madras City Limits
 - Warm Springs Reservation

44°40'N

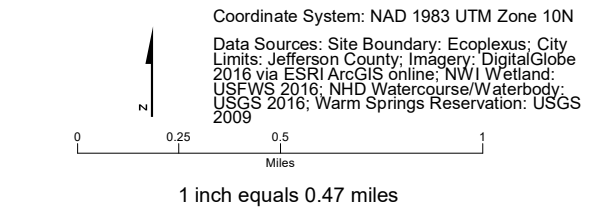
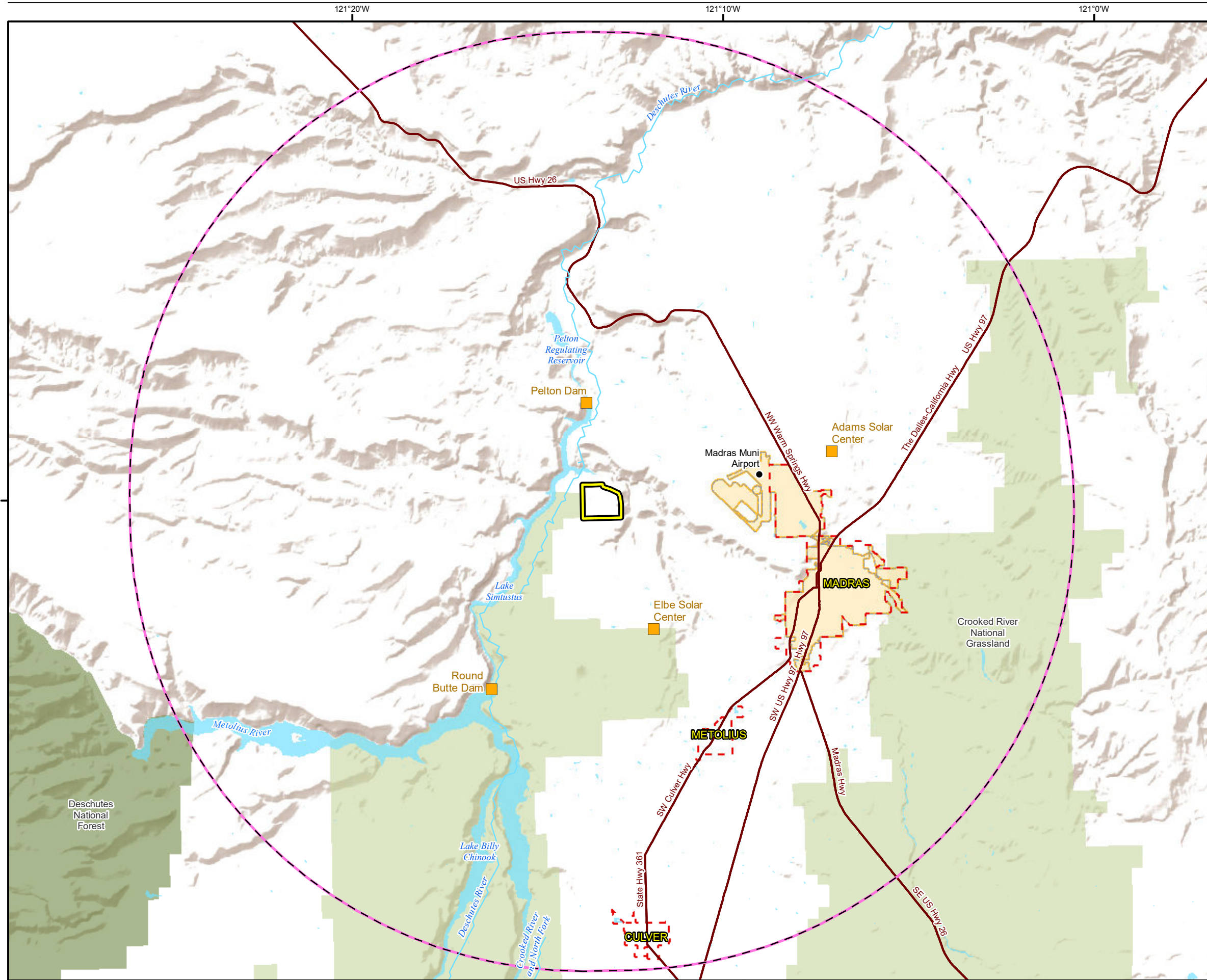


Figure G-5
 Wetlands and Waters
 Notice of Intent
 Madras Solar Energy Facility
 Jefferson County, OR



LEGEND

- Madras Solar Energy Facility Site Boundary
- Scenic and Aesthetic Resources and Public Services Areas (10-mile)
- Energy Generation Facility
- City of Madras City Limits
- Urban Growth Boundary
- Major Highway
- Existing Road
- Watercourse
- Waterbody
- Airport/Heliport
- National Forest
- National Grassland

Coordinate System: NAD 1983 UTM Zone 10N
 Data Sources: Site Boundary, City Limits, Urban Growth Boundary; Jefferson County 2018; National Forest/Grassland: US Forest Service 2013; National Wilderness Area: Wilderness Connect; ESRI ArcGIS online; Airport: US Dept of Transportation;

0 1 2 4
Miles

1 inch equals 2.16 miles

Figure G-6
 Energy Generation Facilities
 Notice of Intent
 Madras Solar Energy Facility
 Jefferson County, OR

Attachment P
Evidence of Consultation with Legislative
Commission on Indian Services

Seilo, Paul/PDX

From: Quigley Karen M <Karen.M.Quigley@oregonlegislature.gov>
Sent: Tuesday, October 30, 2018 1:09 PM
To: Seilo, Paul/PDX
Subject: [EXTERNAL] Re: Potential Madras Solar Project - Jefferson County, Oregon

Warm Springs:

Robert Brunoe, NR Mgr, robert.brunoe@ctwsbnr.org

Tribal Historic Preservation Office:
thpo@ctwsbnr.org

Burns Paiute
Culture & Heritage Director

Diane Teeman. dlteeman.burns.paiute@gmail.com

Klamath
Culture & Heritage Director

Perry Chocktoot
perry.chocktoot@klamathtribes.com

Karen

*Karen Quigley, Executive Director
Legislative Commission on Indian Services.*

"Seilo, Paul/PDX" <Paul.Seilo@jacobs.com> wrote:

Hi Karen-

Thank you so much. Just for our files on this specific project, can you provide points of contact for each tribe. Thanks again.

Paul Seilo | **Jacobs** | D 503 736 4012 | M 503 200 0005

From: Quigley Karen M [mailto:Karen.M.Quigley@oregonlegislature.gov]
Sent: Tuesday, October 30, 2018 12:34 PM
To: Seilo, Paul/PDX <Paul.Seilo@jacobs.com>
Cc: Quigley Karen M <Karen.M.Quigley@oregonlegislature.gov>; Sheldon, David/PDX <David.Sheldon@jacobs.com>
Subject: [EXTERNAL] Re: Potential Madras Solar Project - Jefferson County, Oregon

Hello Paul,

I suggest you touch base with Warm Springs, Burns Paiute and Klamath.

Thanks,
Karen

*Karen Quigley, Executive Director
Legislative Commission on Indian Services.*

"Seilo, Paul/PDX" <Paul.Seilo@jacobs.com> wrote:

Ms. Quigley-

I am working for a client that is exploring development of a photovoltaic (PV) solar power generation project in Jefferson County, Oregon, just west of Madras. I have attached a preliminary map for your review which shows the general evaluation area under consideration.

The project proponent will conduct cultural resource file searches at the State Historic Preservation Office (SHPO) and field surveys within the proposed project area. I respectfully request your assistance in identifying appropriate tribes to consult with regarding tribal historic and cultural resources in the vicinity of this proposed project.

Thank you very much for your assistance.

Regards,
Paul Seilo, AICP
Senior Project Manager
Jacobs | Global Environmental Solutions

D 503 736 4012
M 503 200 0005
Paul.Seilo@Jacobs.com
2020 SW 4th Ave, Suite 300
Portland, OR 97201
www.jacobs.com

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.