



TO: BOARD OF ADA COUNTY COMMISSIONERS

HEARING DATE: September 9, 2015
STAFF: Diana Sanders, Brent Danielson, Associate Planners
PROJECT NO.: 201501245-CU-MSP-PR-V-FP
APPLICANT: ID Solar 1 LLC

INTRODUCTION

A Conditional Use/Master Site Plan for a Centralized Power Facility, consisting of a 40 Mwac solar photovoltaic facility and a 138kV transmission line. A Private Road application to extend W. Chief's Farm Lane (if property is not under one ownership) and add gates where the private road extension starts and another gate towards the end of the private road for security. In addition, a Variance for the facility to exceed 5% property coverage for the solar units, and a Floodplain application for disruption in a portion of the unnumbered A floodplain for the private road. The property contains 362.13 acres and is located on W. Chiefs Farm Lane, east of Cloverdale Road, Kuna, ID; Section 10 & 11, T. 1N, R. 1E.

EXECUTIVE SUMMARY

The Ada County Comprehensive map indicates the property is rural. A centralized power facility is a conditional use within the Rural Preservation (RP) District and is in compliance with the Ada County Comprehensive Plan.

A portion of the facility is within Kuna city limits. The portion of the facility under county jurisdiction complies with the Ada County Code as conditioned. The part of the facility that is within Kuna city limits is under the jurisdiction of the City of Kuna. Any decision made on the portion of the facility in the City will be made by the City of Kuna.

Electricity will be generated via non-reflective solar photovoltaic modules that will be mounted on a single-axis tracking or fixed-tilt mounting structure. Power conversion stations (consisting of inverters and transformers) will sit on either concrete or pier type foundations. Electrical cabling for the project shall be underground or in code-approved conduit, raceways and/or ductbank. A new project substation will be constructed near the corner of Cloverdale Road and Barker Road that is within Kuna city limits.

Temporary construction facilities will be constructed upon mobilization to site for receiving of materials as well as temporary vehicular traffic and parking for workers. This staging area is anticipated to be roughly 2-3 acres in size. Most deliveries will be brought directly into the field and unloaded near where they will be installed. Temporary office facilities during construction may require an additional 4-5 acres. All of these temporary facilities will be removed once construction is complete. Construction is anticipated to last for 7-8 months.

At the time the project was submitted a private road application was necessary because of the parcel ownership of the parcels. Parcel #S211130000 was under the ownership of Nicholson Properties, LP and the parcels of the facility having frontage and access on the existing private road were under the ownership of the Carl & Patty Nicholson Revocable Trust. Because Parcel #S211130000 is under a different ownership than Parcel #S2110314800 a private road application was needed to extend W. Chiefs Farm Lane to provide frontage and

access to Parcel #S211130000. If Parcel #S211130000 has the same ownership as Parcel #S2110314800 then the extension of the private road (W. Chiefs Farm Lane) will not be necessary as the parcels would be considered one (1) property for development purposes. Therefore, the one (1) property would have frontage and access off of the existing private road. If a private road is required access roads throughout the property as conditioned will meet all county and fire department requirements. Gates will observe all minimum setback requirements and will consist of a two-way swinging or retracting chain link fence gate that will be manual in nature with no power. Three way locks, "Knox box" or other access will be provided to all emergency responders.

The project will not be manned on a full-time basis, but will have employees coming to the site throughout the year to perform scheduled routine maintenance. Unless an emergency situation arises, this work is anticipated to be during normal business hours. At the peak of construction, 200 or more workers may be in the field. After commercial operation, crews will be small in number and shouldn't require more than a few vehicles to ever be on site.

The array fields will be accessed by vehicles and minimal parking is required as it will be highly unlikely for a worker to leave his vehicle on one part of the project site. No ADA parking is anticipated.

In order to comply with Ada County's Floodplain Ordinance, a Letter of Map Changes (LOMC) is being prepared. This application is in anticipation of the future improvement of the hardened crossings with culvert crossings over Sand Creek. Specific locations will be identified to help facilitate future maintenance activities. The Ada County Engineer stated that the applicant may proceed with work on the project prior to LOMR approval on the condition that no work is done within the existing unnumbered A zone. Upon FEMA approval of the LOMR, work may proceed in accordance with the Flood Hazard Overlay District for the new floodplain configuration. The existing culvert(s) within the floodplain may be replaced at that time in accordance with the approved LOMR.

The applicant is requesting a variance to allow for an increase in coverage for the solar units. Solar modules contain a large piece of glass that encapsulates the rest of the module.

With the single-axis trackers tracking the sun east to west throughout the day, the panels at some points (mostly during the middle of the day) will cover (and shade) a significant portion of the ground underneath them. However, the ground area itself is only disturbed by the steel pier foundations of the tracking system as they interface with the dirt or by concrete pads for roughly 20 inverter stations. Tracker rows are separated by a carefully calculated pitch that takes into account the amount of time that the rows will cast a shadow or shade their respective neighboring panels. This ground cover ratio (or "GCR") is a widely recognized variable in system design. GCR's are optimized to capture the maximum amount of energy for the project in the most efficient way without incurring too much production loss. This phenomenon is unique to solar photovoltaic power plants.

Idaho Power is working cooperatively with Boise City Solar to ensure the solar farm project can proceed as planned. Idaho Power will be developing a substation to support the interconnection of the solar farm project, which will be located within Kuna City limits.

It should be noted that the applicant and/or owner is required to submit a landscape and screening plan as the landscape plan, signage and lighting is a component of the master site that does not need to be submitted at the time of application, but can be made a condition of approval for the master site plan (Section 8-4E-3D).

Boise City Solar submitted a memo (Exhibit #31) concerning the landscaping. They are proposing landscaping and fencing along the western portion of the property, which abuts the residential properties. The City of Kuna is requiring Boise City Solar to develop a landscaping plan, which includes a portion of W. Chief's Farm Lane bordering the neighboring residences to provide an additional buffer zone. They are looking at plants that do not require a pressurized irrigation system. They are proposing chain-link fence with barbed-wire behind a landscape buffer to be visually appealing, while providing the necessary security for the project. The landscape buffer could be a full wall type hedge row or a mix of plants, shrubs and trees. There will be height restrictions for the plants due to the impacts of shading on the solar panels. The northern boundary abuts the Boise City Solar facility located

within Kuna City limits. The eastern and southern property boundary abuts rangeland. There is an emergency broadcast facility to the south with a structure along Cloverdale Road and 5 radio towers. Boise City Solar will work with staff for the landscaping on the project.

At the time this staff report was written the following agencies have provided comments:

Ada County Building Division, Ada County Highway District, Kuna Fire Department, DEQ, FAA, State of Idaho – Public Safety Communications, USAF-NG, Ada County Engineer, Idaho Fish & Game and Idaho Power.

Staff has received six comments from neighbors with the following concerns:

1. Landscaping/fencing
2. Lighting
3. Wildlife impacts.
4. Setbacks/buffer
5. Lifespan of panels
6. Impacts to neighbors and property values

RECOMMENDATION

Based upon Staff's review of the application, staff concludes that this application complies with the Ada County Code and recommends approval to the Board as set out in the proposed Findings of Fact and Conclusions of Law attached hereto.

The Board should consider the evidence and testimony presented during the public hearing prior to rendering its decision concerning this application.

EXHIBIT LIST – PROJECT NO.: 201501245 CU-MSP-PR-V-FP

1. Master Application and checklists (12 pages)
2. Detailed Letter (10 pages)
3. Vicinity Map (1 page)
4. Site plan (2 pages)
5. Private Road cross-section (1 page)
6. Elevations (3 pages)
7. WUFI map (1 page)
8. Natural Features Analysis (1 pages)
9. Constraints Analysis (10 pages)
10. Soils Report (39 pages)
11. Flood Hazards map (1 page)
12. Fish & Game letter dated June 26, 2015, August 7, 2015, and August 27, 2015 (3 pages)
13. Transmittal (1 page)
14. Hearing notice (1 page)
15. FAA comment received July 24, 2015 (2 pages)
16. State of Idaho – Public Safety Communications comment received July 24, 2015 (2 pages)

17. USAF-NG comment received July 28, 2015 (2 pages)
18. ACHD comment dated August 3, 2015 (4 pages)
19. Kuna Fire District comment received August 5, 2015 (1 page)
20. Department of Environmental Quality comment dated August 6, 2015 (4 pages)
21. Ada County Building Division comment received on August 7, 2015 (1 page)
22. Ada County Engineer comment received on August 24 and August 27, 2015 (3 pages)
23. Idaho Power comment received August 27, 2015 (3 pages)
24. Memo from Origis Energy received August 27, 2015 (1 page)
25. Comment received from Marri Champie August 27, 2015 (39 pages)
26. Comment received from Sherrie Derr August 27, 2015 (2 pages)
27. Comment received from Crista Vesel August 27, 2015 (2 pages)
28. Comment received from Ivan Pupulidy August 27, 2015 (13 pages)
29. Comment received from John Friedenreich August 27, 2015 (3 pages)
30. Comment received from Sarah Perdue August 27, 2015 (1 page)
31. Landscape Memo received August 28, 2015 (2 pages)
32. Sign Posting Certification received on August 28, 2015 (7 pages)
33. Central District Health Department received August 7, 2015 (1 page)



RECEIVED
 JUL 15 2015
 ADA COUNTY
 DEVELOPMENT SERVICES



I. Master Application



MASTER APPLICATION/PETITION REQUEST

ADA COUNTY DEVELOPMENT SERVICES
 200 W. Front Street, Boise, Idaho 83702. www.adaweb.net phone: (208) 287-7900 fax: (208) 287-7909

TYPE OF ADMINISTRATIVE APPLICATION:

- | | |
|--|--|
| <input type="checkbox"/> ACCESSORY USE* | <input checked="" type="checkbox"/> MASTER SITE PLAN* |
| <input type="checkbox"/> FARM DEVELOPMENT RIGHT | <input type="checkbox"/> EXPANSION NONCONFORMING USE |
| <input checked="" type="checkbox"/> FLOODPLAIN PERMIT | <input type="checkbox"/> ONE TIME DIVISION |
| <input type="checkbox"/> HILLSIDE DEVELOPMENT* | <input type="checkbox"/> PRIVATE ROAD |
| <input type="checkbox"/> HIDDEN SPRINGS ADMINISTRATIVE | <input type="checkbox"/> PROPERTY BOUNDARY ADJUSTMENT |
| <input type="checkbox"/> HIDDEN SPRINGS SPECIAL EVENT | <input type="checkbox"/> PLANNED UNIT DEVELOPMENT (PUD) |
| <input type="checkbox"/> LIGHTING PLAN | <input type="checkbox"/> SIGN PLAN |
| <input type="checkbox"/> LANDSCAPE PLAN | <input type="checkbox"/> TEMPORARY USE* |
| <input type="checkbox"/> DRAINAGE PLAN | |

TYPE OF HEARING LEVEL APPLICATION:

- | | |
|--|---|
| <input checked="" type="checkbox"/> CONDITIONAL USE | <input type="checkbox"/> VACATION |
| <input type="checkbox"/> DEVELOPMENT AGREEMENT | <input checked="" type="checkbox"/> VARIANCE |
| <input type="checkbox"/> SUBDIVISION, PRELIMINARY* | <input type="checkbox"/> ZONING MAP AMENDMENT |
| <input type="checkbox"/> PLANNED COMMUNITIES* | <input type="checkbox"/> ZONING TEXT AMENDMENT |
| <input type="checkbox"/> SUBDIVISION, SKETCH PLAT* | |

TYPE OF HEARING LEVEL PETITION:

- COMPREHENSIVE PLAN MAP OR TEXT AMENDMENT PETITION CHECKLIST

TYPE OF ADDENDA:

- | | |
|---|---|
| <input type="checkbox"/> APPEAL | <input type="checkbox"/> FINAL PLAT |
| <input type="checkbox"/> ADMINISTRATIVE MODIFICATION | <input type="checkbox"/> TIME EXTENSION |
| <input type="checkbox"/> DEVELOPMENT AGREEMENT MODIFICATION | |

REQUIRED SUBMITTALS:

- CHECKLIST for applicable application(s). If multiple applications, do not duplicate submittals.
 *SUPPLEMENTAL WORKSHEET REQUIRED

SITE INFORMATION:

Section: _____ Township: _____ Range: _____ Total Acres: _____
 Subdivision Name: Please see Appendix A Lot: _____ Block: _____
 Site Address: _____ City: _____
 Tax Parcel Number(s): _____
 Existing Zoning: _____ Proposed Zoning: _____ Area of City Impact: _____ Overlay District(s): _____

201501245-Eng - Rd, FL

OFFICE USE ONLY

Project #: <u>201501245-CU, NSPV, PR, FP</u>	Planning Fees/GIS:	Engineering Fees:
Received By: <u>BA</u> Date: <u>7/15/15</u> Stamped: <input checked="" type="checkbox"/>		

VERSION 2013-09



APPLICANT/AGENT: (Please print)	ADDITIONAL CONTACT if applicable: (Please Print)
Name: <u>ID Solar 1, LLC (C/O: Michael Chestone)</u>	Name: <u>Samir Verstyn</u>
Address: <u>1200 Brickell Ave, Suite 1800</u>	Address: <u>1200 Brickell Ave, Suite 1800</u>
City: <u>Miami</u> State: <u>FL</u> Zip: <u>33131</u>	City: <u>Miami</u> State: <u>FL</u> Zip: <u>33131</u>
Telephone: <u>(305)560-7539</u> Fax: <u>(786)221-1237</u>	Telephone: <u>(646)467-3966</u> Fax: <u>(786)221-1237</u>
Email: <u>michael.chestone@origisenergy.com</u>	Email: <u>samir.verstyn@origisenergy.com</u>
I certify this information is correct to the best of my knowledge.	ENGINEER/SURVEYOR if applicable: (Please Print)
	Name: _____
	Address: _____
	City: _____ State: _____ Zip: _____
	Telephone: _____ Fax: _____
	Email: _____
Signature: (Applicant) _____ Date _____	

OWNER (S) OF RECORD: (Please Print)	OWNER (S) OF RECORD: (Please Print)
Name: <u>NICHOLSON CARL & PATTY REVOCABLE TRUST</u>	Name: <u>NICHOLSON PROPERTIES LP</u>
Address: <u>PO BOX 73</u>	Address: <u>PO BOX 73</u>
City: <u>KUNA</u> State: <u>ID</u> Zip: <u>83634</u>	City: <u>KUNA</u> State: <u>ID</u> Zip: <u>83634</u>
Telephone: <u>(208) 850-6894</u>	Telephone: <u>(208) 850-6894</u>
Fax: _____	Fax: _____
Email: _____	Email: _____
I consent to this application, I certify this information is correct, and allow Development Services staff to enter the property for related site inspections. I agree to indemnify, defend and hold Ada County and its employees harmless from any claim or liability resulting from any dispute as to the statements contained in this application or as to the ownership of the property, which is the subject of the application.	I consent to this application, I certify this information is correct, and allow Development Services staff to enter the property for related site inspections. I agree to indemnify, defend and hold Ada County and its employees harmless from any claim or liability resulting from any dispute as to the statements contained in this application or as to the ownership of the property, which is the subject of the application.
Signature: All Owner (s) of Record _____ Date _____	Signature: All Owner (s) of Record _____ Date _____

ALL OWNER(S) OF RECORD (ON THE CURRENT DEED) MUST SIGN (Additional Sheets are Available Online)

If the property owner(s) are a business entity, please include business entity documents, including those that indicate the person(s) who are eligible to sign documents.

Please see Appendix 2 for business entity documents demonstrating signing authority.



APPLICANT/AGENT: (Please print)		ADDITIONAL CONTACT if applicable: (Please Print)	
Name: <u>ID Solar I, LLC (C. O. Michael Chestone)</u>		Name: <u>Samir Verstyn</u>	
Address: <u>1200 Brickell Ave, Suite 1600</u>		Address: <u>1200 Brickell Ave, Suite 1600</u>	
City: <u>Miami</u> State: <u>FL</u> Zip: <u>33131</u>		City: <u>Miami</u> State: <u>FL</u> Zip: <u>33131</u>	
Telephone: <u>(305) 560-7339</u> Fax: <u>(786) 221-4237</u>		Telephone: <u>(646) 467-3960</u> Fax: <u>(786) 221-4237</u>	
Email: <u>michael.chestone@origisenergy.com</u>		Email: <u>samir.verstyn@origisenergy.com</u>	
I certify this information is correct to the best of my knowledge		ENGINEER / SURVEYOR if applicable: (Please Print)	
		Name: _____	
		Address: _____	
		City: _____ State: _____ Zip: _____	
		Telephone: _____ Fax: _____	
		Email: _____	
Signature (Applicant) _____		Date _____	

OWNER (S) OF RECORD: (Please Print)		OWNER (S) OF RECORD: (Please Print)	
Name: <u>NICHOLSON CARL & PATTY REVOCABLE TRUST</u>		Name: <u>NICHOLSON PROPERTIES LP</u>	
Address: <u>PO BOX 73</u>		Address: <u>PO BOX 73</u>	
City: <u>KUNA</u> State: <u>ID</u> Zip: <u>83634</u>		City: <u>KUNA</u> State: <u>ID</u> Zip: <u>83634</u>	
Telephone: <u>(208) 550-6594</u>		Telephone: <u>(208) 550-6594</u>	
Fax: _____		Fax: _____	
Email: _____		Email: _____	
I consent to this application. I certify this information is correct and allow Development Services staff to enter the property for related site inspections. I agree to indemnify, defend and hold Ada County and its employees harmless from any claim or liability resulting from any dispute as to the statements contained in this application or as to the ownership of the property, which is the subject of the application.		I consent to this application. I certify this information is correct and allow Development Services staff to enter the property for related site inspections. I agree to indemnify, defend and hold Ada County and its employees harmless from any claim or liability resulting from any dispute as to the statements contained in this application or as to the ownership of the property, which is the subject of the application.	
 Signature: All Owner (s) of Record _____ Date: <u>7/13/15</u>		 Signature: All Owner (s) of Record _____ Date: _____	

ALL OWNER(S) OF RECORD (ON THE CURRENT DEED) MUST SIGN (Additional Sheets are Available Online)

If the property owner(s) are a business entity, please include business entity documents, including those that indicate the person(s) who are eligible to sign documents.

Please see Appendix 2 for business entity documents demonstrating signing authority.



I. Master Application



MASTER APPLICATION/PETITION REQUEST

ADA COUNTY DEVELOPMENT SERVICES

200 W Front Street, Boise, Idaho 83702. www.adaweb.net phone: (205) 257-7900 fax: (205) 257-7909

TYPE OF ADMINISTRATIVE APPLICATION:

- ACCESSORY USE*, FARM DEVELOPMENT RIGHT, FLOODPLAIN PERMIT, HILLSIDE DEVELOPMENT*, HIDDEN SPRINGS ADMINISTRATIVE, HIDDEN SPRINGS SPECIAL EVENT, LIGHTING PLAN, LANDSCAPE PLAN, DRAINAGE PLAN, MASTER SITE PLAN*, EXPANSION NONCONFORMING USE, ONE TIME DIVISION, PRIVATE ROAD, PROPERTY BOUNDARY ADJUSTMENT, PLANNED UNIT DEVELOPMENT (PUD), SIGN PLAN, TEMPORARY USE*

TYPE OF HEARING LEVEL APPLICATION:

- CONDITIONAL USE, DEVELOPMENT AGREEMENT, SUBDIVISION, PRELIMINARY*, PLANNED COMMUNITIES*, SUBDIVISION, SKETCH PLAT*, VACATION, VARIANCE, ZONING MAP AMENDMENT, ZONING TEXT AMENDMENT

TYPE OF HEARING LEVEL PETITION:

- COMPREHENSIVE PLAN MAP OR TEXT AMENDMENT PETITION CHECKLIST

TYPE OF ADDENDA:

- APPEAL, ADMINISTRATIVE MODIFICATION, DEVELOPMENT AGREEMENT MODIFICATION, FINAL PLAT, TIME EXTENSION

REQUIRED SUBMITTALS:

- CHECKLIST for applicable application(s). If multiple applications, do not duplicate submittals. *SUPPLEMENTAL WORKSHEET REQUIRED

SITE INFORMATION:

Section, Township, Range, Total Acres, Subdivision Name, Site Address, Tax Parcel Number(s), Existing Zoning, Proposed Zoning, Area of City Impact, District(s), Overlay

OFFICE USE ONLY

Table with 3 columns: Project #, Planning Fees/GIS, Engineering Fees. Includes a 'Received By' row with Date and Stamped checkboxes.



II. Conditional Use Permit

ADA COUNTY DEVELOPMENT SERVICES

200 W. Front Street, Boise, ID 83702. www.adaweb.net phone: (208)287-7900 fax: (208)287-7909



CONDITIONAL USE CHECKLIST

A Conditional Use request requires a public hearing.

GENERAL INFORMATION:

Applicant	DESCRIPTION	Staff
X	One paper copy and one electronic copy of all required submittals.	
X	Completed and signed Master Application	
See PART A II	DETAILED LETTER by the applicant fully describing the request or project and addressing the following:	
See PART A-II	Explain the proposed use, and all uses associated with the request.	
	Any other supporting information.	
	Address the standards in ACC 8-5-3 for proposed use(s):	
	Days of use:	
	Hours of use:	
	Duration of use(s):	
PART B-III	MASTER SITE PLAN (If required)	
APPX. 3	NEIGHBORHOOD MEETING CERTIFICATION	
APPX. 4	PRE APPLICATION CONFERENCE NOTES	
APPX. 5	SITE PLAN is not required if associated with a MSP.	
	Show existing and proposed structures.	
	Submit one electronic copy, one full sized plan and one 5 1/2 X 11 plan	
APPX. 6	DEED (or evidence of proprietary interest)	
APPX. 7-5	OVERLAY DISTRICT: May require a separate checklist or additional information for the following	
	HILLSIDE (ACC 8-3H)	
APP. 1	FLOOD HAZARD (ACC 8-3F)	
APPX. 5	WILDLAND-URBAN FIRE INTERFACE (ACC 8-3B)	
	SOUTHWEST PLANNING AREA (ACC 8-3C)	
	PLANNED UNIT DEVELOPMENT (ACC 8-3D)	
	BOISE RIVER GREENWAY (ACC 8-3G)	
	BOISE AIR TERMINAL AIRPORT INFLUENCE AREAS (ACC 8-3A)	
PART A-II	MUST COMPLY WITH SIGN POSTING REGULATIONS (ACC 8-7A-5)	
INCLUDED	APPLICATION FEE: Call County or go to www.adaweb.net for fees	

Supplementary information at the discretion of the Director or County Engineer may be required to sufficiently detail the proposed development within any special development areas including but not limited to full-scale planned unit development, floodplain, southwest, WUFI, Boise River Greenway, airport influence, and/or hazardous or unique areas of development.

Application will not be accepted unless all applicable items on the form are submitted. The application shall not be considered complete until staff has received all required information.



III. Master Site Plan



ADA COUNTY DEVELOPMENT SERVICES

200 W. Front Street, Boise, ID 83702 www.adaweb.net phone: (208)287-7900 fax: (208)287-7909



MASTER SITE PLAN CHECKLIST (ACC 8-4D)

A Master Site Plan request does not require a public hearing. It is a staff level application, as long as it is not associated with a conditional use.

GENERAL INFORMATION:

Applicant	DESCRIPTION	Staff
X	One paper copy and one electronic copy of all required submittals.	
X	Completed and signed Master Application.	
PART A-II	Completed Supplemental Information.	
PART A-II	DETAILED LETTER by the applicant fully describing the request or project and address the information on supplemental sheet.	
APPX 6	DEED or evidence of proprietary interest.	
APPX 10	IDAHO DEPARTMENT OF FISH AND GAME LETTER.	
APPX 5	FULL SIZE SCALED PLOT PLAN, showing all existing and proposed easements, property lines, and structures drawn to scale, including one electronic copy and one copy reduced to 8 1/2 X 11. (Address required information on supplemental sheet)	
APPX 9	FULL SIZE NATURAL FEATURES ANALYSIS ACC 8-4E-4D, including one electronic copy and one copy reduced to 8 1/2 X 11. (Address required information on supplemental sheet)	
	LANDSCAPING (ACC 8-4E) (Address required information on supplemental sheet) One electronic copy, one full size, and one 8 1/2 X 11 copy.	
	Drawn by a landscape professional. (within an area of impact)	
APPX 14	OFF STREET PARKING & LOADING FACILITIES (ACC 8-4G) (Address required information on supplemental sheet)	
APPX 11	LIGHTING (ACC 8-4E) (Address required information on supplemental sheet)	
	SIGN PLAN (ACC 8-4I)	
	Indicate all proposed and existing signs.	
APPX 9	NATURAL FEATURES ANALYSIS (ACC 8-4E-4D) see supplemental info.	
	OVERLAY DISTRICT: May require a separate checklist or additional information for the following.	
APPX 7-8	HILLSIDE DEVELOPMENT (ACC 8-3H)	
APPX 7	FLOOD HAZARD (ACC 8-3F)	
APPX 8	WILDLAND-URBAN FIRE INTERFACE (ACC 8-3B)	
	SOUTHWEST PLANNING AREA (ACC 8-3C)	
	PLANNED UNIT DEVELOPMENT (ACC 8-3D)	
	BOISE RIVER GREENWAY (ACC 8-3G)	
	BOISE AIR TERMINAL AIRPORT INFLUENCE AREAS (ACC 8-3A)	
INCLUDED	APPLICATION FEE: Call County or go to www.adaweb.net for fees	

Supplementary information at the discretion of the Director or County Engineer may be required to sufficiently detail the proposed development within any special development area, including but not limited to hillside, planned unit development, floodplain, southwest, WUI, Boise River Greenway, airport influence, and/or hazardous or unique areas of development.

APPLICATION WILL NOT BE ACCEPTED UNLESS ALL APPLICABLE ITEMS ON THE FORM ARE SUBMITTED.



MSP SUPPLEMENTAL INFORMATION (to be completed by the applicant)

DETAILED LETTER MUST ADDRESS THE FOLLOWING (If applicable)	
PART A-II	Proposed use (s):
	Is the project associated with a Conditional Use YES (X) NO ()
	Conditional Use #
	Area of city impact:
	Is this application a modification of an approved master site plan? Original MSP #
	Is this application a change or expansion of an approved master site plan? Original MSP #
	Total square feet of all proposed structures:
	Hours of operation:
	Days of operation:
	Required parking:
	Required bicycle parking:
	Required ADA parking:
	Number of employees during the largest shift:
	Maximum number of patrons expected:
	Outdoor speaker system YES () NO (X)
	Proposed Sewer:
	Proposed Water:
	Pressurized Irrigation YES () NO (X)
	Multi-family structures shall have varied setbacks within the same structure and staggered and/or reversed unit plans. Structures within a multi-family development shall be rotated, staggered, and/or reversed.
	Explain if the utilities are underground or if screening is provided.
SITE PLAN	
APPX 5	Structure location.
	Pedestrian access and circulation.
	Building elevations.
	Well locations.
	Drain fields.
	Hydrant location, fire department access, fire flow resources, etc.
	Pressurized Irrigation if required.
	Parking plan. (required) ACC 8-4G
	ADA parking identified.
	Automobile access and circulation.
	Lighting plan. (condition of approval) ACC 8-4H
	Sign Plan. (If proposed, condition of approval) ACC 8-4I
LANDSCAPING (If applicable)	
APPX 13	Location, size, type, 75% maturity
	Vegetation to be saved YES () NO ()
	Phased project YES () NO ()
	Verification that standards are met.
	Fences over 100' YES () NO ()
	Size at planting:
	Flood Hazard Overlay YES (X) NO ()
	Sound walls YES () NO (X)



APP. 13	Outdoor speakers	YES () NO (X)	
↓	Perimeter Landscaping & Screening		
		Required landscape points:	
		Minimum landscape width:	
	Parking Area Landscaping & Screening		
		% of Shading required:	
↓		Screening	YES () NO ()
		Pedestrian access required	YES () NO ()
PARKING			
APPX 14	Identify all off street parking and loading.		
↓		Phased project	YES () NO ()
		Restrictions on use	YES () NO ()
		Within 300' of the entrance:	YES () NO ()
		Joint Parking Agreement (Submit copy)	YES () NO ()
		Identify width, angle, and depth of parking spaces.	
		Address Bicycle Parking	
		List the number of required spaces for cars, bikes:	
		List the number of off street loading spaces:	
	List dimensions of off street loading spaces:		
	Detailed description of proposed paving materials.		
LIGHTING (If applicable)			
APPX 11	Setbacks of the proposed lights:		
↓		Maximum Height:	
		Floodlights	YES () NO ()
		Shielding	YES () NO ()
NATURAL FEATURES ANALYSIS			
APPX 9	HYDROLOGY ACC 8-4E-4D1		
↓		SOILS ACC 8-4E-4D2	
		TOPOGRAPHY ACC 8-4E-4D3	
		VEGETATION ACC 8-4E-4D4	
		SENSITIVE PLANT AND WILDLIFE SPECIES ACC 8-4E-4D5	
		HISTORIC RESOURCES ACC 9-4E-4D6	
↓		HAZARDOUS AREAS ACC 8-4E-4D7	
		IMPACT ON NATURAL FEATURES ACC 8-4E-4D8	



IV. Variance

ADA COUNTY DEVELOPMENT SERVICES

200 W. Front Street, Boise, ID 83702. www.adaweb.net phone (208)287-7900 fax (208)287-7909



VARIANCE CHECKLIST (ACC 8-7-4)

A Variance request requires a public hearing.

GENERAL INFORMATION:

Applicant	DESCRIPTION	Staff
X	One paper copy and one electronic copy of all required submittals.	
X	Completed and signed Master Application	
See PART A-II	DETAILED LETTER by the applicant fully describing the request or project and address the following:	
	PART A-II Reason for the variance. Be specific.	
	Explain how the variance does not grant a right or special privilege that is not otherwise allowed in the base district.	
	Explain how the variance relieves an undue hardship due to the characteristics of the site.	
	Explain how the variance is not detrimental to the public health, safety, and welfare.	
	What is the hardship if the variance is denied?	
	Are there characteristics of the property that are unusual and make it necessary to obtain the variance?	
	Were you aware of this hardship prior to purchasing or developing your property?	
	How does the request comply with Idaho Code 67-6516?	
APPX 5	CURRENT SITE PLAN One reduced copy to 8 1/2 X 11.	
APPX 6	DEED or evidence of proprietary interest.	
APPX 3	NEIGHBORHOOD MEETING CERTIFICATION	
APPX 4	PRE-APPLICATION CONFERENCE NOTES	
X	MUST COMPLY WITH SIGN POSTING REGULATIONS (ACC 8-7A-5)	
INCLUDED	APPLICATION FEE: Call County for Current Planning Fee or go to www.adaweb.net	

APPLICATION WILL NOT BE ACCEPTED UNLESS ALL APPLICABLE ITEMS ON THE FORM ARE SUBMITTED.



V. Floodplain Application



ADA COUNTY DEVELOPMENT SERVICES

200 W. Front Street, Boise, Idaho 83702. adacounty.id.gov phone: (208) 287-7900 fax: (208) 287-7909

FLOODPLAIN APPLICATION CHECKLIST (ACC 8-3F)

GENERAL INFORMATION

- 1. No work of any kind may begin in a floodplain until a floodplain development permit is issued.
2. The permit will expire if no work is commenced within 24 months of the date of issue.
3. The permit will not be issued until any other necessary local, state or federal permits have been obtained.

Type of Structure:

- Residential Single Family
Non-Residential
Combined Use (Residential and Non-Residential)
Manufactured Home
No Structure

Type of Structural Activity:

- New Structure
Addition to Existing Structure*
Alteration of Existing Structure*
Relocation of Existing Structure**
Demolition of Existing Structure**
Replacement of Existing Structure**
* Substantial Improvement
** Relocation or Replacement

Other Development Activities:

- Excavation (not related to a structural development)
Clearing
Placement of Fill Material
Grading
Mining
Dredging
Watercourse alteration
Drainage improvement (including culvert work)
Roadway or bridge construction
Specify other development not listed above:

Table with columns: Applicant, DESCRIPTION, Status. Rows include: Completed and signed MASTER APPLICATION and DEED, Associated planning project number, DETAILED LETTER by the applicant, A pre-construction elevation Certificate, Wet or Dry floodproofing design, SITE PLAN showing all existing and proposed easements, Flood Study, A No-Rise Certificate, Other supplemental data.

Flood Information (To Be Completed By Floodplain Administrator):

- 1. The proposed development is located on FIRM map panel: 16001C0425H
2. Effective date on the FIRM: 2/19/2003
3. The proposed development is located in Zone X of the SFHA
4. Is the proposed development located within the reg. floodway: No Yes (Attach completed FES for a No-Rise Certificate)

Substantial Improvement Evaluation:

Cost of Improvement (a) Assessed Value of the Building (b) Percent of Value Change (a/b) Substantial Improvement Evaluation must be supported by project cost documentation and approved assessed evaluation (attach)



VI. Private Road



ADA COUNTY DEVELOPMENT SERVICES

200 W. Front Street, Boise, ID 83702. www.adaweb.net phone: (208)287-7900 fax: (208)287-7909



PRIVATE ROAD CHECKLIST (ACC 8-4D)

A Private Road request is a staff level application.

GENERAL INFORMATION:

Applicant	DESCRIPTION	Staff
X	One paper copy and one electronic copy of all required submittals.	
PART B-II	Completed and signed Master Application	
PART A-II	DETAILED LETTER by the applicant fully describing the request or project and addressing the following:	
↓	Ownership of the private road.	
	The applicant or owner shall state if the private road currently has an easement and the restrictions placed on the easement.	
	Is it a new private road? YES () NO ()	
	Is it an extension to an existing private road? YES () NO ()	
	Is it an existing private road to be widened and paved due to access to more than four properties? YES () NO ()	
	Number of existing dwellings that will use the private road:	
	Number of properties that the private road will provide access or frontage to:	
	Private road is an easement? YES () NO ()	
	Private road is a separate lot? YES () NO ()	
	Paved? YES () NO ()	
	Gravel? YES () NO ()	
		DRAFT MAINTENANCE AGREEMENT (Required)
APPX. 5	SITE PLAN showing all existing and proposed easements, property lines, and frontage drawn to scale on 8 1/2" X 11" paper.	
APPX. 6	DEED or evidence of proprietary interest	
APPX. 5 & PART A-II	STREET CROSS SECTION for the private road, including:	
↓	Private Road and Public Street intersection. (Private Road cannot intersect a Private Road)	
	Turnaround configuration.	
	Grade of the proposed road:	
	Length of the proposed road:	
	Width of the private road:	
	Width of the easement of the private road. (Inside Area of Impact 50', Outside Area of Impact 30' in width)	
	Detailed description of paving material.	
APPX. 5	GATE (only for exceptional circumstances)	
↓	Submit evidence for an exceptional circumstance necessary to improve safety or to halt environmental degradation in the area.	
	Dimensions of Gate:	
	Dimensions of Openings:	
	Direction of Traffic:	
	Locking devices:	



	OVERLAY DISTRICT: May require a separate checklist or additional information for the following:	
	HILLSIDE DEVELOPMENT (ACC 8-3H) YES () NO (X)	
APPX. 7	FLOOD HAZARD (ACC 8-3F) YES (X) NO ()	
APPX. 8	WILDLAND-URBAN FIRE INTERFACE (ACC 8-3B)	
	SOUTHWEST PLANNING AREA (ACC 8-3C)	
	PLANNED UNIT DEVELOPMENT (ACC 8-3D)	
	BOISE RIVER GREENWAY (ACC 8-3G)	
	BOISE AIR TERMINAL AIRPORT INFLUENCE AREAS (ACC 8-3A)	
PART A-II	PROPOSED STREET NAME	
	Must comply with ACC 2-1.	
	Copy of application for requesting Street Name (Ada County Assessor's office).	
INCLUDED	APPLICATION FEE: Call County or go to www.adaweb.net for fees	

APPLICATION WILL NOT BE ACCEPTED UNLESS ALL APPLICABLE ITEMS ON THE FORMS ARE SUBMITTED.



**Ada County
Development Services
Planning and Zoning Division
("Ada County P&Z")**

Submitted by:



Origis Energy USA, Inc

On Behalf of:

**ID Solar 1, LLC
(dba Boise City Solar)**

**Permitting Package Submission for
ID Solar 1, LLC (dba Boise City Solar)**

Submitted: July 14th, 2015

ATTN: ADA COUNTY PLANNING & ZONING

**FROM: MICHAEL CHESTONE,
DIRECTOR OF DEVELOPMENT
ORIGIS ENERGY USA, INC.
1200 BRICKELL AVE, SUITE 1800
MIAMI, FLORIDA 33131
Email : michael.chestone@origisenergy.com**



PREAMBLE

Origis Energy USA, Inc., on behalf of **ID Solar 1, LLC (dba Boise City Solar)**, is honored to submit our permitting package for our solar project to Ada County Planning and Zoning. Due to our Origis Group structure and our very relevant global photovoltaic (“PV”) experience in general, we believe that we are offering a comprehensive solution to the region that can help to satisfy the growing demand for electricity in a safe and clean manner, while being a good member the community and contributing in a significant way to the local economy.

Contained within this permitting package, Origis Energy USA, Inc. will offer the unique combination of financial capability, asset management skills, project development, construction management ability and experience, backed by highly reputable U.S. financing institutions. By combining its experience, hands on knowledge and solar network, Origis is convinced it can successfully develop, engineer, finance, construct, operate and manage the Boise City Solar project while ensuring world-class standards for the community. This project will provide a series of benefits to the local community and economy, all of which will be further detailed in this package.

Origis Energy USA, Inc. will provide to Ada County P&Z all required information as requested throughout this process. We would also like to express our sincere desire to be a good long-term partner with Ada County and the rest of the Treasure Valley.

Origis Energy USA, Inc.

Guy Vanderhaegen, Managing Partner & President
Johan Vanhee, Chief Operational Officer
Samir Verstyn, U.S. Partner
Michael Chestone, Director of Development



PART A: PROJECT OVERVIEW AND DETAILED LETTER(S)

I. Project Overview

The Boise City Solar project is a 40 MWac solar photovoltaic project that will sell power to Idaho Power Company under a long-term power purchase agreement. Interconnecting into Idaho Power Company's 138 kV Bowmont-Mora transmission line, the project will be complete with state-of-the-art technology to provide electricity in a safe and clean manner. With most of the facility being surrounded by company-owned property located east of S. Cloverdale Road and south of Barker Road, the project will be of minimal impact to the neighboring community. The project falls under the jurisdiction of both the Planning and Zoning Departments of both the City of Kuna as well as Ada County and is not within the boundaries of the Morley Nelson Snake River Birds of Prey National Conversation Area.

The project held a Pre-Application Meeting with Ada County P&Z staff on Tuesday July 7th, 2015 and conducted a neighborhood meeting on Wednesday July 8th, 2015. This permit application package is submitting a Master Application, Conditional Use Permit, Master Site Plan, Variance, Floodplain Application and Private Road application for a Central Power Facility. A similar package will be submitted to the City of Kuna Planning and Zoning Department in parallel of this application.

Natural Features Analyses results in limited impacts, with the exception being a small portion of the project being within the Flood Hazard Overlay District (Zone A). Managing this unnumbered 'A' flood zone is more thoroughly described in the Detailed Letter Below and in Appendix 7. The project also sits within the Wildland-Urban Fire Interface, which is further described in the Detailed Letter Below and in Appendix 8.



II. Detailed Letter(s)

a. Master Application

Sited on company-controlled private land, the project contains areas that are currently both non-irrigated and irrigated and are all classified as being within the Rural Preservation zone. Site Information and parcel detail can be found in Appendix 1. Deeds for all properties can be found in Appendix 6, which also contains business entity information confirming the authority and eligibility of the individuals signing the Master Application Form in PART B-I.

b. Conditional Use Permit

The project is a Centralized Power Facility and meets all of the requirements of ACC 8-5-3-83 and is consistent with Article 2-A of the County Code for the Rural Preservation District. The sole purpose of the project is generating electricity for sale to the local electric utility, Idaho Power Company. Electricity will be generated via non-reflective solar photovoltaic modules that will be mounted on a single-axis tracking or fixed-tilt mounting structure. Power conversion stations (consisting of inverters and transformers) will sit on either concrete or pier type foundations. Electrical cabling for the project shall be underground or in code-approved conduit, raceways and/or ductbank. A new project substation will be constructed near the corner of Cloverdale Road and Barker Road on the project property.

Temporary constructions facilities will be constructed upon mobilization to site for receiving of materials as well as temporary vehicular traffic and parking for workers. This staging area is anticipated to be roughly 2-3 acres in size. Most deliveries will be brought directly into the field and unloaded near where they will be installed. Temporary office facilities during construction may require an additional 4-5 acres. All of these temporary facilities will be removed once construction is complete. Construction is anticipated to last for 7-8 months.

A private road, "West Chief's Farm Lane", will need to be extended and a Private Road application is included herein. Access roads throughout the property will meet all county and fire department requirements. Gates will observe all minimum setback requirements and will consist of a two-way swinging or retracting chain link fence gate that will be manual in nature with no power. Three way locks, "Knox box" or other access will be provided to all emergency responders.

The facility is nearly silent once in operation and the panels are designed to absorb light and not reflect it, so impacts to the neighboring area will be minimal. Visual impacts will be further reduced with fencing, landscaping and or berms where appropriate and allowed by code. The facility has an expected operational life of at least 30 years and could be in operation for as much as 40 years (or more). Access to the site will be strictly controlled and adequate security systems will be installed to protect the project and the public. The facility requires very little human presence on-site on a day-to-day basis (if any). Scheduled routine maintenance includes dust control, vegetation management, panel washing and inspections of electrical and mechanical components. Small crews of maintenance workers will be on a preventative maintenance schedule, but will also be dispatched over and above this scheduled maintenance on an as-needed basis to ensure the safe operation and visual aesthetics of the project area. All scheduled maintenance is during normal business hours, with only emergency type maintenance occurring during evening or night hours.



Origis Energy

The Master Site Plan Application can be found in PART B-III, the Neighborhood Meeting Certification can be found in Appendix 3, the Pre-Application Conference Notes can be found in Appendix 4, The Site Plan can be found in Appendix 5, Deeds and business entity information can be found in Appendix 6, and information on the Flood Hazard Overlay District and Wildland-Urban Fire Interface Overlay district and be found in Appendices 7 & 8 (respectively).

The project will comply with all sign posting regulations as detailed in Append 12 and has included all required application fees along with this application.

c. Master Site Plan

This Master Site Plan application for a new project is being submitted with the above mentioned Conditional Use Permit. The project will not be manned on a full-time basis, but will have employees coming to the site throughout the year to perform scheduled routine maintenance. Unless an emergency situation arises, this work is anticipated to be during normal business hours. At the peak of construction, 200 or more workers may be in the field. After commercial operation, crews will be small in number and shouldn't require more than a few vehicles to ever be on site. The array fields will be accessed by vehicles and minimal parking is required as it will be highly unlikely for a worker to leave his vehicle on one part of the project site. No ADA parking is anticipated. The project does not contemplate an outdoor speaker system or sewer system. Limited water needs will be satisfied with an existing 3,000 GPM well and project-controlled water rights. The total water required for operation is estimated to be about one-half of an acre foot and only used for panel washing. No additional irrigation is anticipated and any existing underground utilities will be located and either removed or avoided during construction.

Structure locations can be seen on our Site Plan in Appendix 5. There will be no public pedestrian access and the entire area will be monitored with a high-tech security system. The existing well that will provide water for construction and operation is located near the barn near the center of the northern border of parcel # S2110314800. The site offers very good natural drainage and no diversion or swales are anticipated to be required, aside from minor features near the substation (within City of Kuna jurisdiction). A full drainage plan will be developed during final civil engineering. There are no fire hydrants on the property.

As mentioned above, the Deeds and business entity information can be found in Appendix 6. A full size scaled plot plan can be found in Appendix 5, including easements, roads, property lines and structures. The project will work with Ada County Planning and Zoning, Ada County Highway District and Kuna Fire to ensure that all roads, entrances, gate and access meet agency requirements. The approach to civil engineering allows the project to have a very minimal impact on the ground itself and the project is designed to conform to the natural features of the land. Mounting structures will follow the natural contours of the land and will not require extensive grading or balancing of the site. The project will meet and/or exceed all setback requirements of the Ada County Code.

The underlying ground is not being improved significantly and the installation of the arrays has insignificant impact to the drainage patterns and drainage flows. The only impacts are going to be at any structures or pavement (where required) that will increase the flow. The only area where improvements will be required for drainage will be near the substation where some storm water retention swales will be developed to handle the drainage.



Origis Energy

The site entrance off of Barker Road (leading to the very northwestern corner of the site) as well as West Chief's Farm Lane (after diverging from Cloverdale Road) shall be paved for the first 30' as required by regulation. The balance of West Chief's Farm Lane will be reviewed with staff to determine what improvements are needed (if any). West Chief's Farm Lane will be extended as needed to access other areas of the property. Any new extensions of West Chief's Farm Lane will use ¾" rock as a base in lieu of 2" (or other as approved). West Chief's Farm Lane shall terminate using a cul-de-sac with a minimum of a 45' turn radius (or other approved turn-around feature). All private roads will have vehicular turnouts 8' wide by 30' long, which shall be spaced at a maximum interval of 700'. Gates will observe all minimum setback requirements and will consist of a two-way swinging or retracting chain link fence gate that will be manual in nature with no power. Three way locks, "Knox box" or other access will be provided to all emergency responders. All gates shall have a "fail open box".

Project team members have met with Idaho Department of Fish and Game to introduce them to the project and have received a preliminary letter that can be found in Appendix 10. It is anticipated that Idaho Department of Fish and Game will be reviewing this application further as part of the public agency review process. Our third-party environmental screening efforts have shown no sensitive plant or wildlife species on the property.

The project has been through a rigorous analysis process to ensure minimal impact to the environment where it will be operated. Criteria used for the site screening analysis included: State and federal permitting status, scenic resources within five miles of the project area, historic sites within five miles of the project area, mapped Federal Critical Habitat, waters of the United States and wetlands, known migratory bird and bat areas, mapped locations of State and federally listed rare, threatened and endangered species within five miles of the project area and other local permitting requirements. With the exception of the unnumbered 'A' flood zone, the results of these studies yielded no results in the project area and the maps can be found in Appendix 9.

Surveys teams recently provided 1' contour interval data for the project, which can be found in Appendix 9. Cross-sectioning has been completed of the flood hazard area and project will be constructed in areas outside of the Sand Creek Shallow Flood Hazard Zone. For the initial application submittal, access crossing over the FEMA-designated Shallow Flood Hazard Areas will be made using hardened crossings. No changes to the base flood elevations are anticipated due to the construction of the hardened crossings. In order to comply with Ada County's Floodplain Ordinance, a Letter of Map Changes (LOMC) is being prepared. This application is in anticipation of the future improvement of the hardened crossings with culvert crossings over Sand Creek. Specific locations will be identified to help facilitate future maintenance activities. Upon receipt of a FEMA-approved LOMC, we intend to submit the proposed changes to Ada County under a No-Rise certification.

Stormwater drainage studies are being conducted and will be submitted as part of our submittals for drainage and building permits once final civil and site engineering is completed. A Custom Soil Resources Report by the Natural Resources Conservation Service is provided in Appendix 9. Existing vegetation on the site is mostly comprised of agricultural crops. Outside of the land that is currently in agricultural production, the site is abandoned agriculture with low-productivity ground and miscellaneous ground cover (rock, small sage brush and shrub type). A vegetation management plan will be developed to ensure the safe operation of the facility as well as to be in compliance with WUFI requirements.



Origis Energy

These types of projects generally require little to no landscaping and we expect that to be the case for this particular case. The project area is surrounded by a 5-6' chain link fence with three strands of barbed wire. It is anticipated that the City of Kuna will have some light landscaping requirements on the east side of Cloverdale Road, but the rest of the project is pretty well hidden and mostly surrounded by other property that is owned by the project or BLM. There is a stretch of the project along the southwestern side where we anticipate that some landscaping be required and the project will propose to obtain the necessary points required by using a fence or dirt berm to remove the field from the view of the neighboring homes. This project emits very little sound and no noise barriers will be installed.

Signage and lighting is generally minimal on these types of projects. The only signs anticipated are those that are required by Ada County or other authorities having jurisdiction as well as some small warning signs around the perimeter fence to warn trespassers of the dangers of entering the project area. Company contact information may be displayed near the access gates. Perimeter lighting as well as lighting near entrances and inverter pads will be considered and it may be the case that this lighting is only turned on when the security system and alarm is triggered. These lights would be able to be controlled remotely and turned on and off on demand.

Due to the un-manned nature of these facilities, only a small parking area is proposed directly south of West Chief's Farm Lane on the western side of the project. Limited spaces will be built here and they will be compacted native earth or crushed rock as required (not pavement). Technicians who do need to be on site will generally drive their vehicle out to the area where they are servicing and not park in a centralized location. However, this area will be dedicated in the rare event that some parking does indeed become necessary. No additional permanent loading zones are required for the project. No bicycle or ADA parking will be required.

The project falls within Kuna Rural Fire District boundary. Parcel # S2111300000 is currently outside of the Kuna Rural Fire District boundary, but the project anticipates annexing this portion of the project into their district. The project will comply with all of the elements of ACC 8-3B (Wildland-Urban Interface) to help to minimize the potential of spreading fire from wildland areas into structures. All internal project access roads will have adequate turning radii and shall not dead end. All private roads will have vehicular turnouts 8' wide by 30' long, which shall be spaced at a maximum interval of 700'. A vegetation management system will be implemented to ensure compliance with ACC 8-3B-3.



d. Variance

This project is also submitting a Variance Application as the site will cover more than 5% of the total area. Solar modules contain a large piece of glass that encapsulates the rest of the module. With the single-axis trackers tracking the sun east to west throughout the day, the panels at some points (mostly during the middle of the day) will cover (and shade) a significant portion of the ground underneath them. However, the ground area itself is only disturbed by the steel pier foundations of the tracking system as they interface with the dirt or by concrete pads for roughly 20 inverter stations. Tracker rows are separated by a carefully calculated pitch that takes into account the amount of time that the rows will cast a shadow or shade their respective neighboring panels. This ground cover ratio (or "GCR") is a widely recognized variable in system design. GCR's are optimized to capture the maximum amount of energy for the project in the most efficient way without incurring too much production loss. This phenomenon is unique to solar photovoltaic power plants.

The variance is not detrimental to public health, safety or welfare. On the contrary, it is generating a highly sought after commodity (electricity) in one of the cleanest possible ways on earth. The request for variance is unavoidable as these types of projects cannot be able to be built without them.

The current site plan can be found in Appendix 5, copies of the Deeds are located in Appendix 6, the Neighborhood Meeting Certification is located in Appendix 3, the Pre-Application Conference Notes are in Appendix 4 and the Sign Plan for the project is in Appendix 12. All application fees will accompany the submission of this permitting package.

e. Floodplain Application

The site will be constructed in areas outside of the Sand Cr. Shallow Flood Hazard Area. For the initial application submittal, access crossings over the FEMA-designated Shallow Flood Hazard Areas will be made using hardened crossings.

Hardened crossings will consist of removal of existing soft soils located in the active channel area of Sand Cr. On-site rock (with a minimum D50 of 8-inches and a course thickness of 24-inches) will be used to replace the soft materials across the entire active channel width. Existing topography will not be modified by the construction of the hardened crossings. No changes to the base flood elevations are anticipated due to the construction of the hardened crossings.

In order to comply with Ada County's Floodplain Ordinance, a Letter of Map Change (LOMC) is being prepared. This application is in anticipation of the future improvement of the hardened crossings with culvert crossings over Sand Cr. Specific locations will be identified to help facilitate future maintenance activities. Upon receipt of a FEMA-approved LOMC, the applicant intends to submit the proposed changes to Ada County under a No-Rise certification.



f. Private Road

This permitting package also submitted a Private Road application to extend an existing road and ensure its code compliance. The site entrance off of Barker Road (leading to the very northwestern corner of the site) as well as West Chief's Farm Lane (after diverging from Cloverdale Road) shall be paved for the first 30' as required by regulation. The balance of West Chief's Farm Lane will be reviewed with staff to determine what improvements are needed (if any). West Chief's Farm Lane will be extended as needed to access other areas of the property. Any new extensions of West Chief's lane will use 3/4" rock as a base in lieu or 2" (or other as approved). West Chief's Farm Lane shall terminate using a cul-de-sac with a minimum of a 45' turn radius (or other approved turn-around feature). All private roads will have vehicular turnouts 8' wide by 30' long, which shall be spaced at a maximum interval of 700'. Parcels will retain a minimum 100' frontage along this private road.

The road will be owned by the project and be an extension of an existing road. The private road currently provides frontage to 3-4 properties and this will not change, so the road will not need to be widened. The private road is not on a separate lot and will be constructed on a perpetual access easement that is a minimum of 3' wide. Gates will observe all minimum setback requirements and will consist of a two-way swinging or retracting chain link fence gate that will be manual in nature with no power. Three way locks, "Knox box" or other access will be provided to all emergency responders. All gates shall have a "fail open box".

This site will only be accessed by authorized personal and will be complete with a state-of-the-art security system.

The current site plan can be found in Appendix 5 and copies of the Deeds are located in Appendix 6. Information on the Flood Hazard Overlay District and Wildland-Urban Fire Interface Overlay district and be found in Appendices 7 & 8 (respectively). The street name is not intended to be changed at this time and all application fees are being submitted with this application package.



11. Lighting

Final design of the lighting plan is not complete, but typical lighting plans for these types of projects are minimal in nature and are only used for safety and security purposes. Typical locations for lighting is near access gates, inverter stations and some perimeter lighting. Many of Origis' existing plants in operation only have lighting that will illuminate in the event when the security alarm is breached and have remote control capability to turn it off or on. The Origis team will work closely with Ada County to develop a lighting plan that allows for a safe and secure operation of the plant within the applicable codes.

12. Sign Plan

Final design of the signage plan is not complete, but typical signage plans for these types of projects are minimal in nature and are only used for safety and security purposes. Typical locations for signage is near access gates, inverter stations and around the perimeter fencing. These signs would include warnings of the electrical equipment, company contact information and security related information. The Origis team will work closely with Ada County to develop a signage plan that allows for a safe and secure operation of the plant within the applicable codes.

The project will comply with all Public Hearing Signposting Requirements (Section 8-7A-5F).

13. Landscaping

Final design of the landscaping plan is not complete, but typical landscaping plans for these types of projects are minimal in nature and are only used for visual or aesthetic purposes. Origis will likely propose a fence in lieu of any landscaping for this project. Only one section of the project will be exposed to any of the neighboring residences, otherwise, the project is surrounded by our own property, unoccupied and islanded desert ground or BLM land. The Origis team will work closely with Ada County to develop a landscaping plan that allows for a safe and secure operation of the plant within the applicable codes.

14. Parking

Due to the un-manned nature of these facilities, only a small parking area is proposed directly south of West Chief's Farm Lane on the western side of the project. Limited spaces will be built here and they will be compacted native earth or crushed rock as required (not pavement). Technicians who do need to be on site will generally drive their vehicle out to the area where they are servicing and not park in a centralized location. However, this area will be dedicated in the rare event that some parking does indeed become necessary.

VICINITY MAP



Legend

- Railroads
- Major Streets
- Minor Arterial
- Collector
- SECTION
- PRINCIPAL Arterial
- INTERSTATE
- Other
- Minor Streets
- LOCAL
- PARKS
- PRIVATE
- RESIDENTIAL
- Other
- Parcels
- Sections
- Water
- Parks
- City Limits
- Kuna
- Boise
- Garden City
- Eagle
- Star
- Meridian
- Ada-OQ2013

0 1700 3400 5100 ft.

Map center: 43° 25' 57" N, 116° 18' 58" W



Scale: 1:17,435

This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION.

PLAN PREPARED BY

**BOISE CITY SOLAR
SINGLE AXIS TRACKER
PHOTOVOLTAIC ARRAYS
40 MWAC
ADA COUNTY, ID**

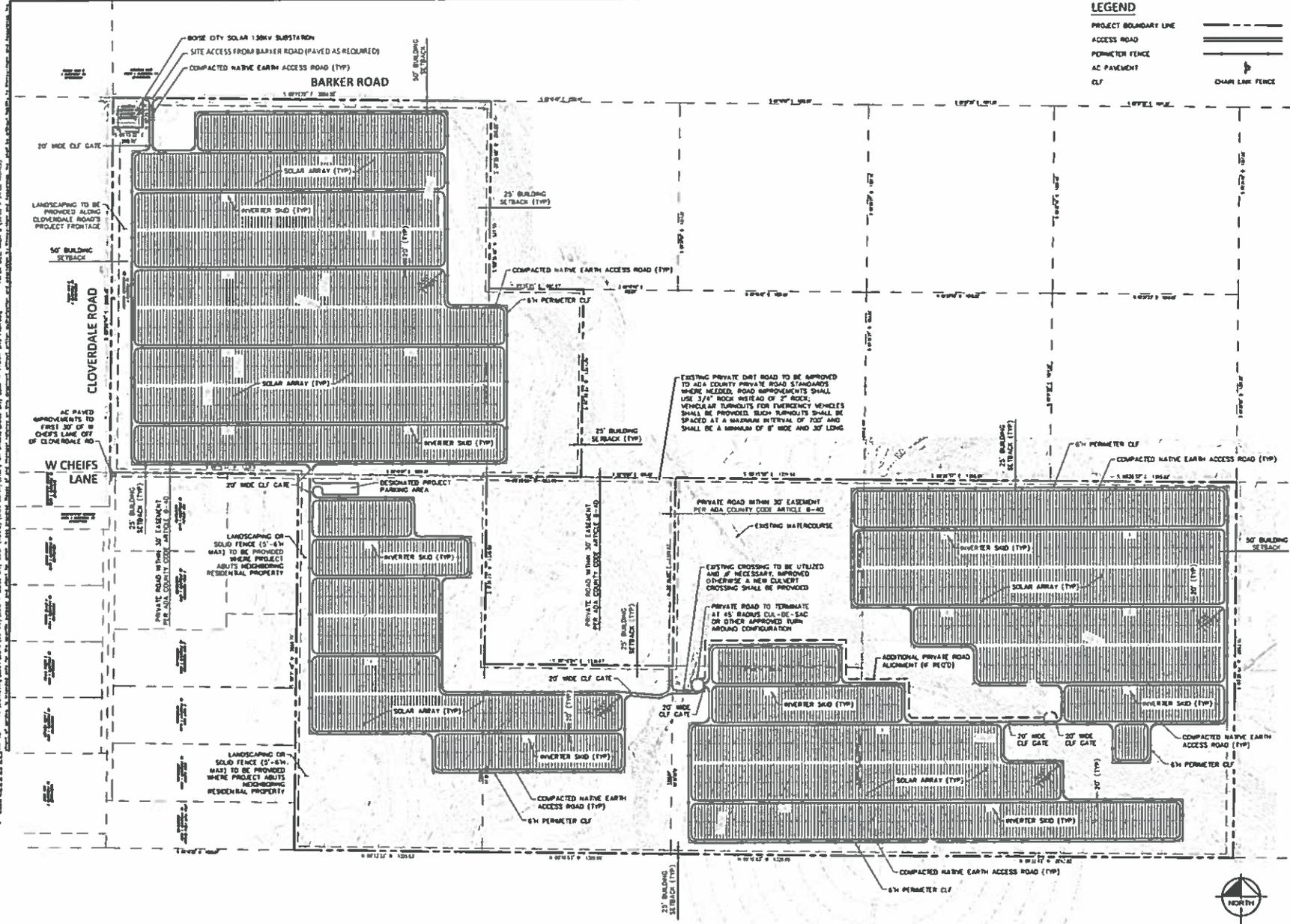
SITE PLAN

DATE: 7/9/2015

C-01

LEGEND

- PROJECT BOUNDARY LINE 
- ACCESS ROAD 
- PERIMETER FENCE 
- AC PAVEMENT 
- CLF 
- CHAIN LINK FENCE 

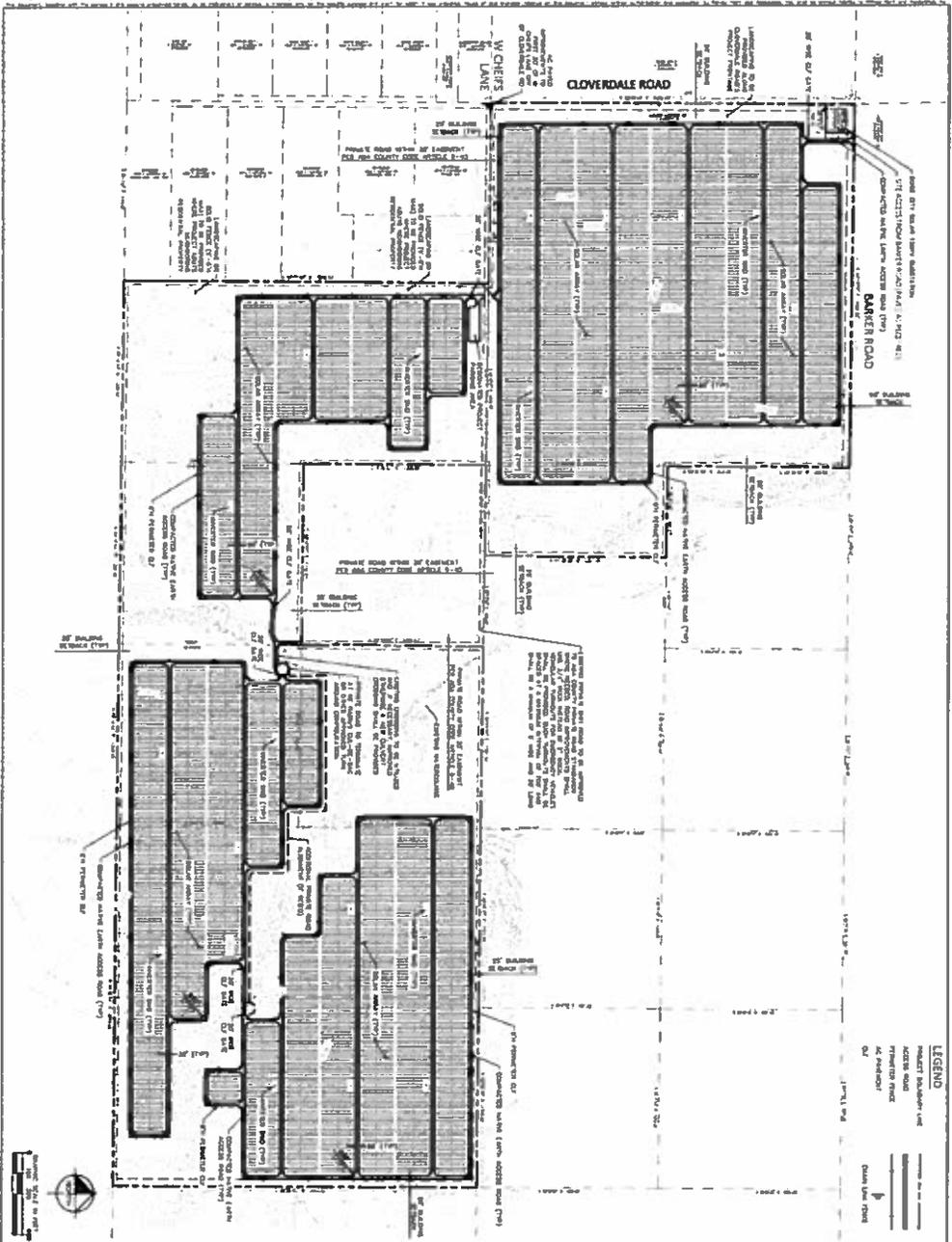


EXISTING PRIVATE DIRT ROAD TO BE IMPROVED TO ADA COUNTY PRIVATE ROAD STANDARDS WHERE NEEDED. ROAD IMPROVEMENTS SHALL USE 3/4" ROCK INSTEAD OF 2" ROCK. VEHICULAR TURNOUTS FOR EMERGENCY VEHICLES SHALL BE PROVIDED. SUCH TURNOUTS SHALL BE SPACED AT A MAXIMUM INTERVAL OF 200' AND SHALL BE A MINIMUM OF 8' WIDE AND 20' LONG.

EXISTING CROSSING TO BE UTILIZED AND, IF NECESSARY, IMPROVED OTHERWISE A NEW CULVERT CROSSING SHALL BE PROVIDED.

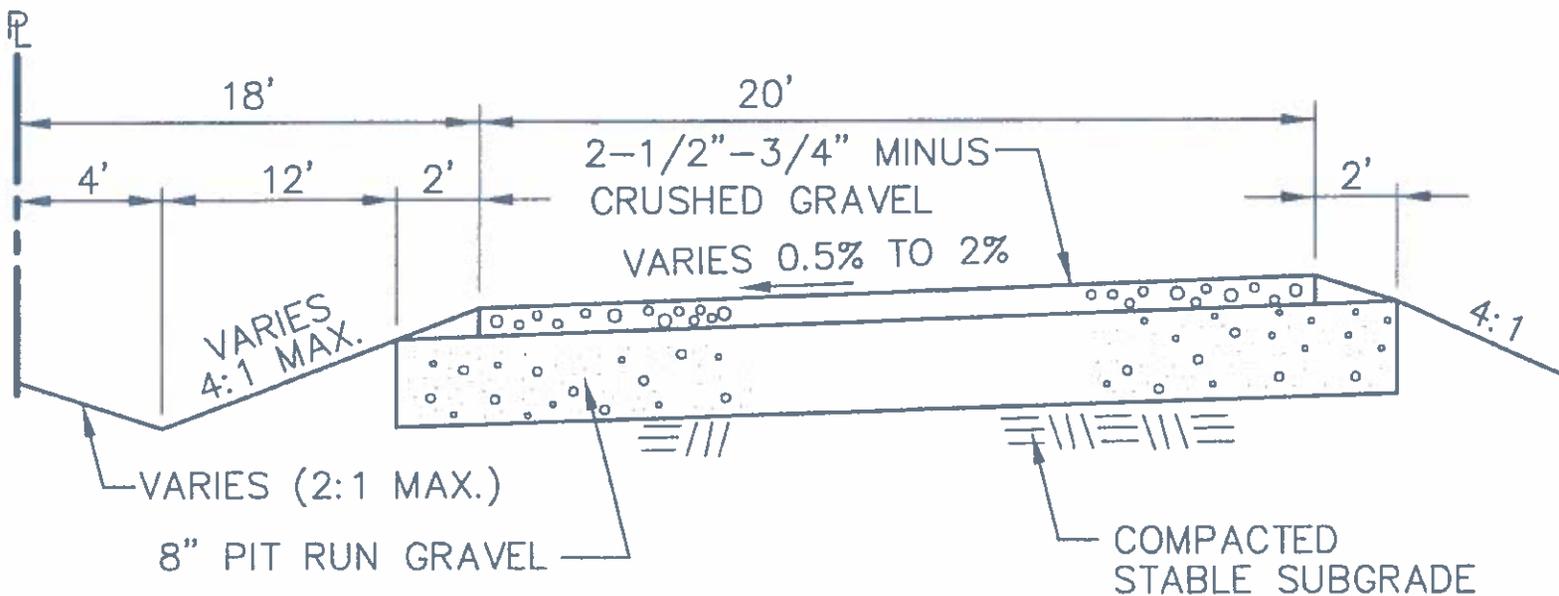
PRIVATE ROAD TO TERMINATE AT 45° RADIUS CURVE-DE-SAC OR OTHER APPROVED TURN AROUND CONFIGURATION.

EXHIBIT 4
 201501245 CU-MSP-PR-V-FP
 ID SOLAR LLC



SITE PLAN

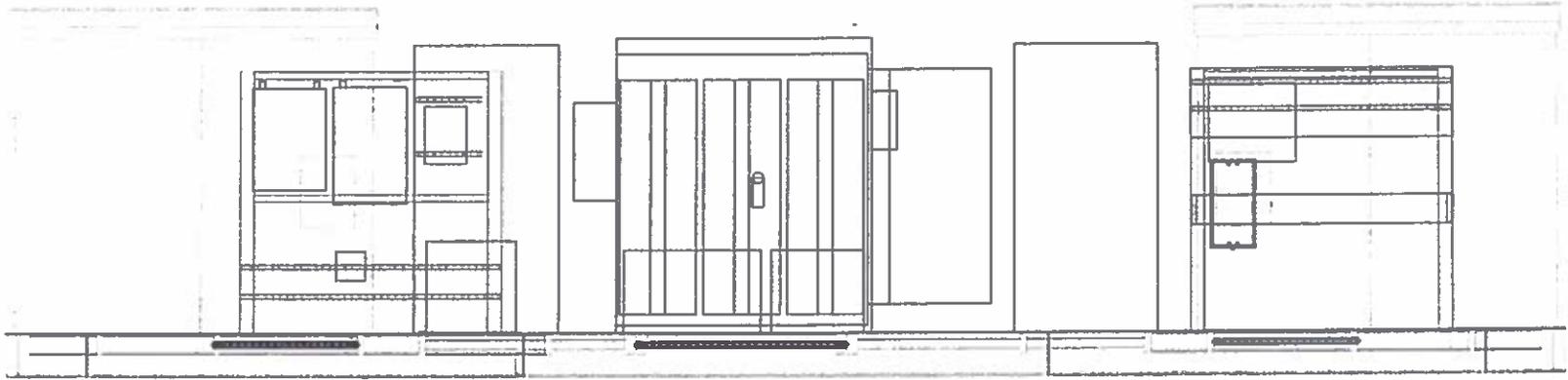
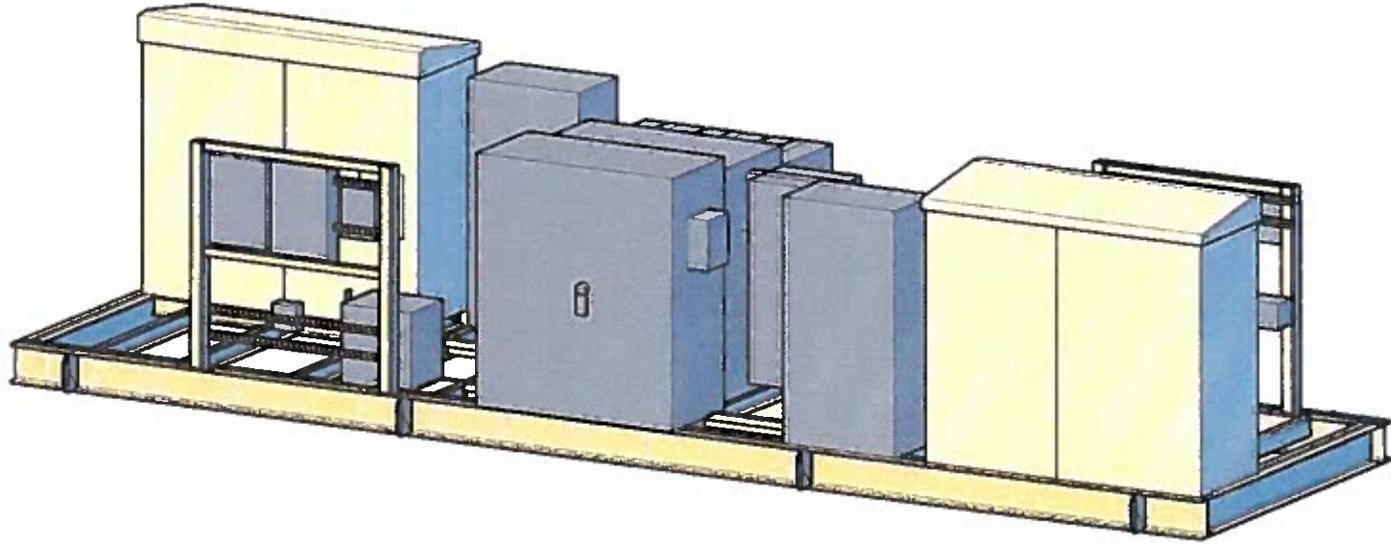
C-01



GRAVEL ROAD DETAIL

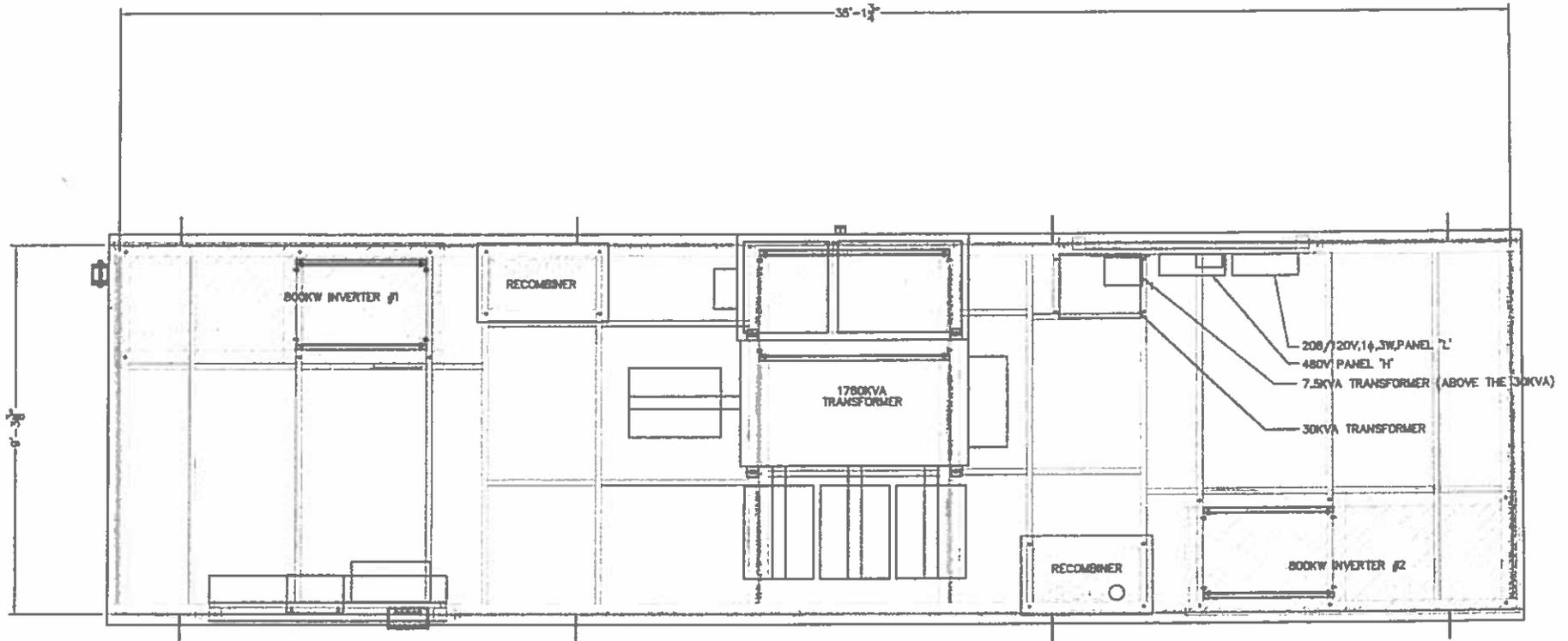
N.T.S.

RECEIVED
 JUL 15 2015
 ADA COUNTY
 DEVELOPMENT SERVICES

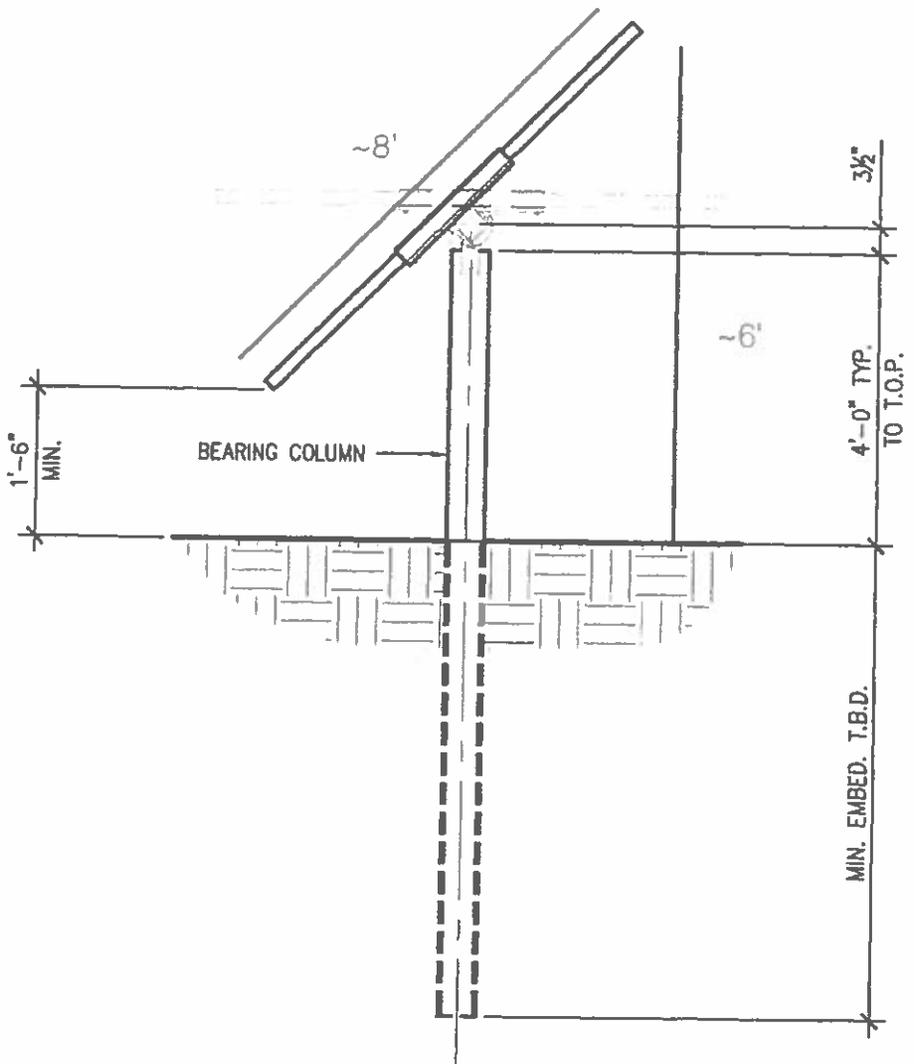


RECEIVED
JUL 15 2015
ADA COUNTY
DEVELOPMENT SERVICES

EXHIBIT 6
201501245 CU-MSP-PR-V-FP
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 ADA COUNTY
 DEVELOPMENT SERVICES



1
-

BEARING COLUMN FOUNDATION DETAIL

SCALE: NTS

RECEIVED

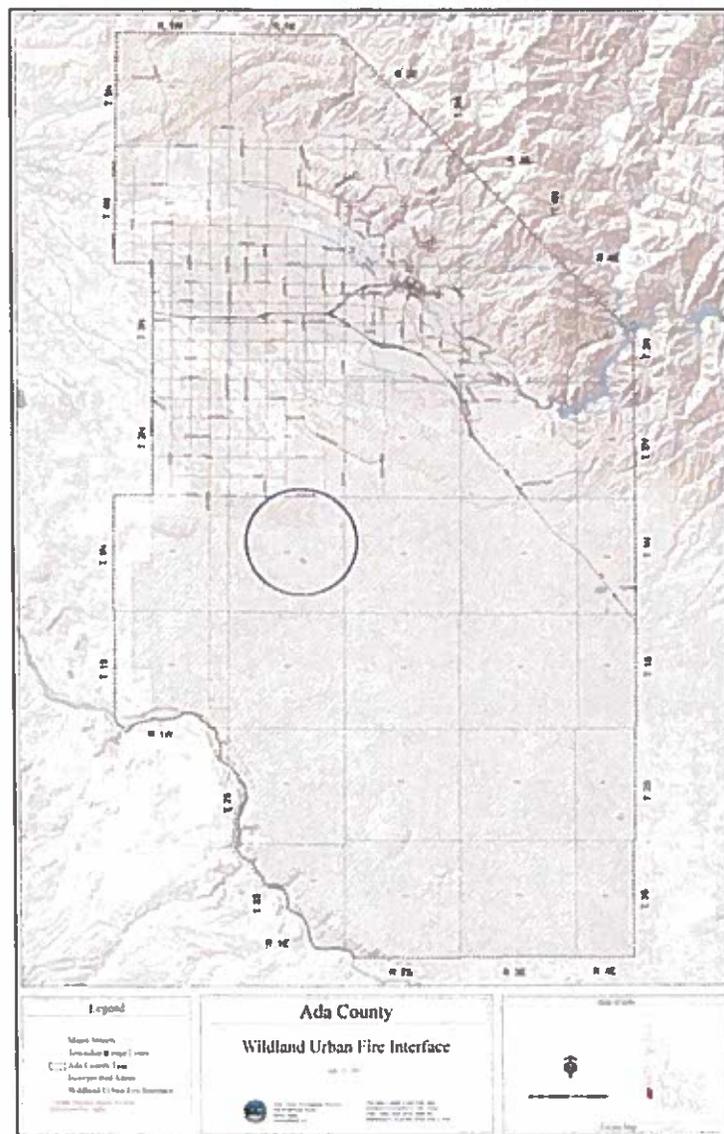
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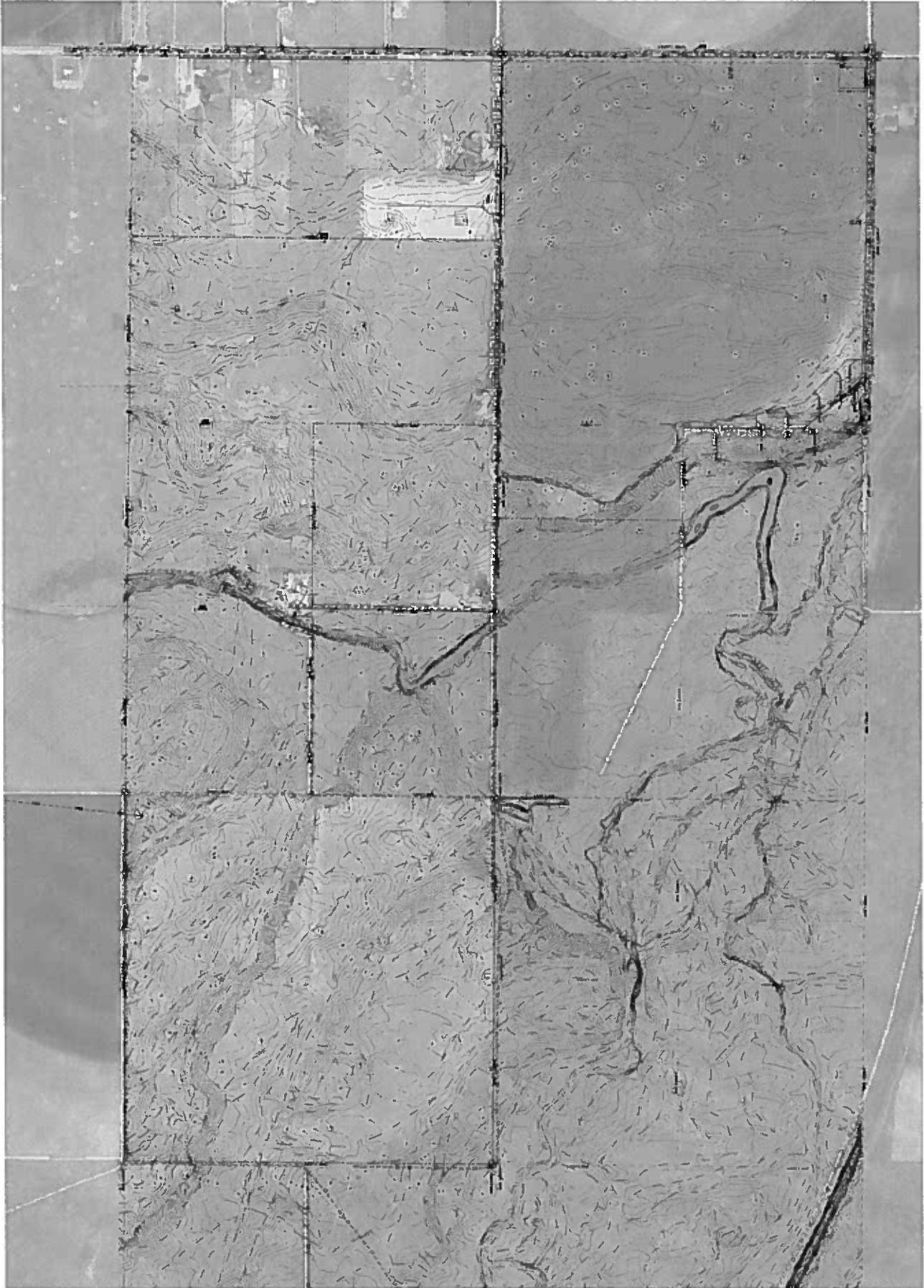
ADA COUNTY
DEVELOPMENT SERVICES



8. Wildland-Urban Fire Interface District

The project falls within Kuna Rural Fire District boundary. Parcel # S2111300000 is currently outside of the Kuna Rural Fire District boundary, but the project anticipates annexing this portion of the project into their district. The project will comply with all of the elements of ACC 8-3B (Wildland-Urban Interface) to help to minimize the potential of spreading fire from wildland areas into structures. All internal project access roads will have adequate turning radii and shall not dead end. All private roads will have vehicular turnouts 8' wide by 30' long, which shall be spaced at a maximum interval of 700'. A vegetation management system will be implemented to ensure compliance with ACC 8-3B-3.

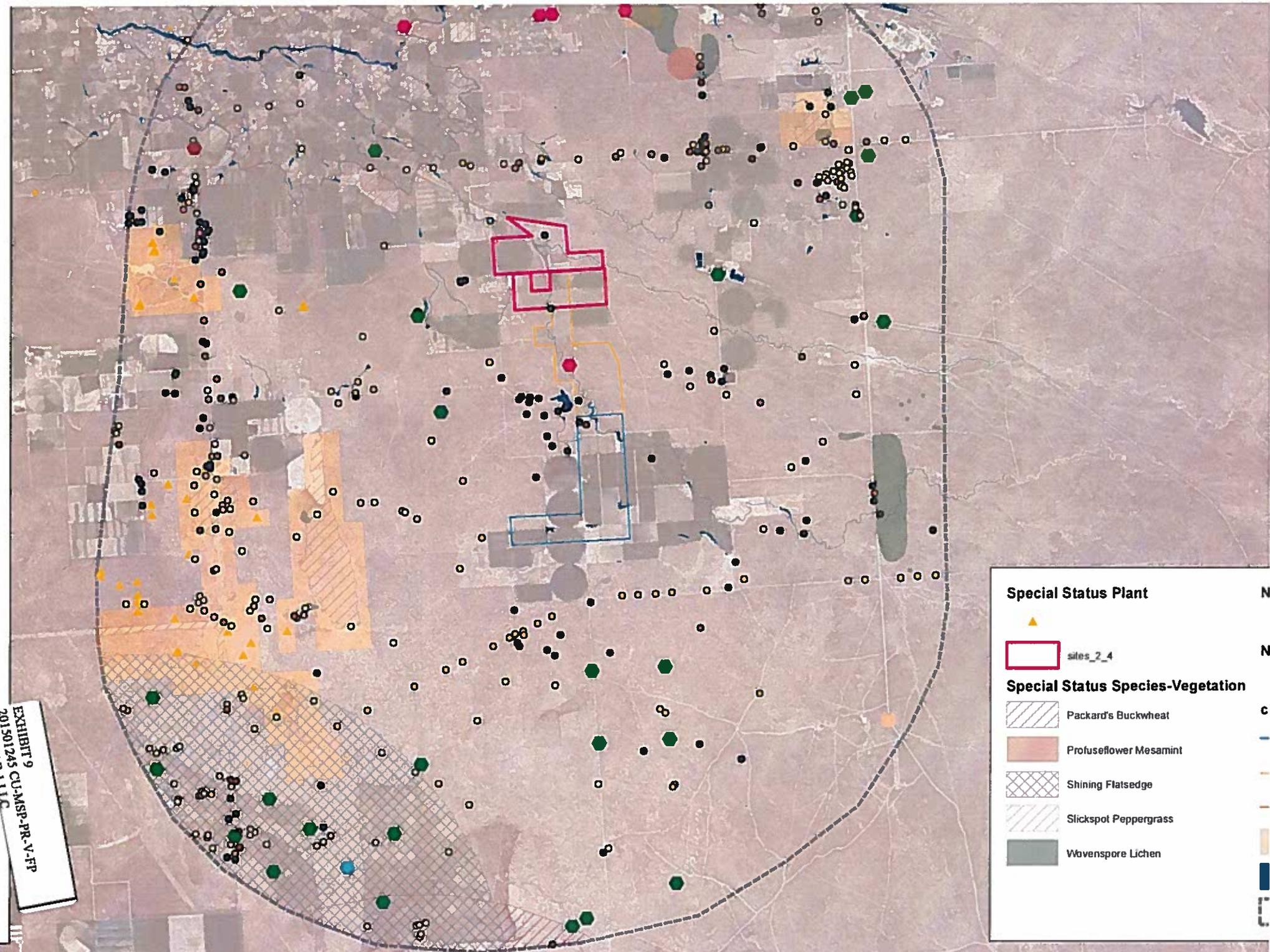




11-1 11-1 11-1	BOISE SOLAR		BRIGGS ENGINEERING, INC. ENGINEERS SURVEYORS 1000 S. GARDEN WAY • BOISE, IDAHO 83725 • 208-333-0100
	NATURAL FEATURES PLAN		
DATE: 07/26/15	ISSUE NO: 150216	SCALE: 1" = 250'	

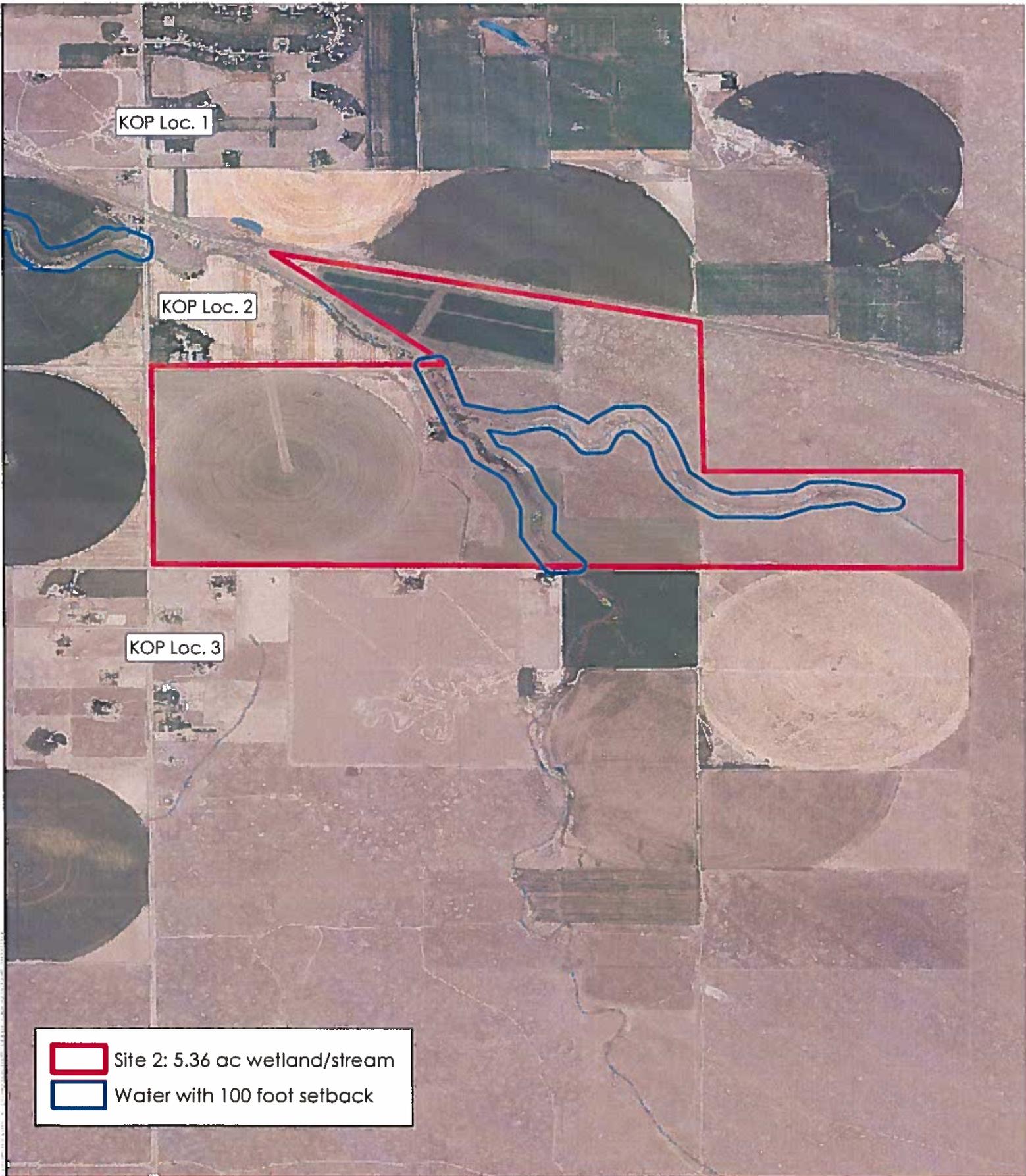


EXHIBIT 8
201501245 CU-MSP-PR-V-FP
ID SOLAR LLC



Special Status Plant		N
		
	sites_2_4	N
Special Status Species-Vegetation		C
	Packard's Buckwheat	
	Profuseflower Mesamint	
	Shining Flatsedge	
	Slickspot Peppergrass	
	Wovenspore Lichen	

EXHIBIT 9
201501245 CUAMP-PR-V-FP

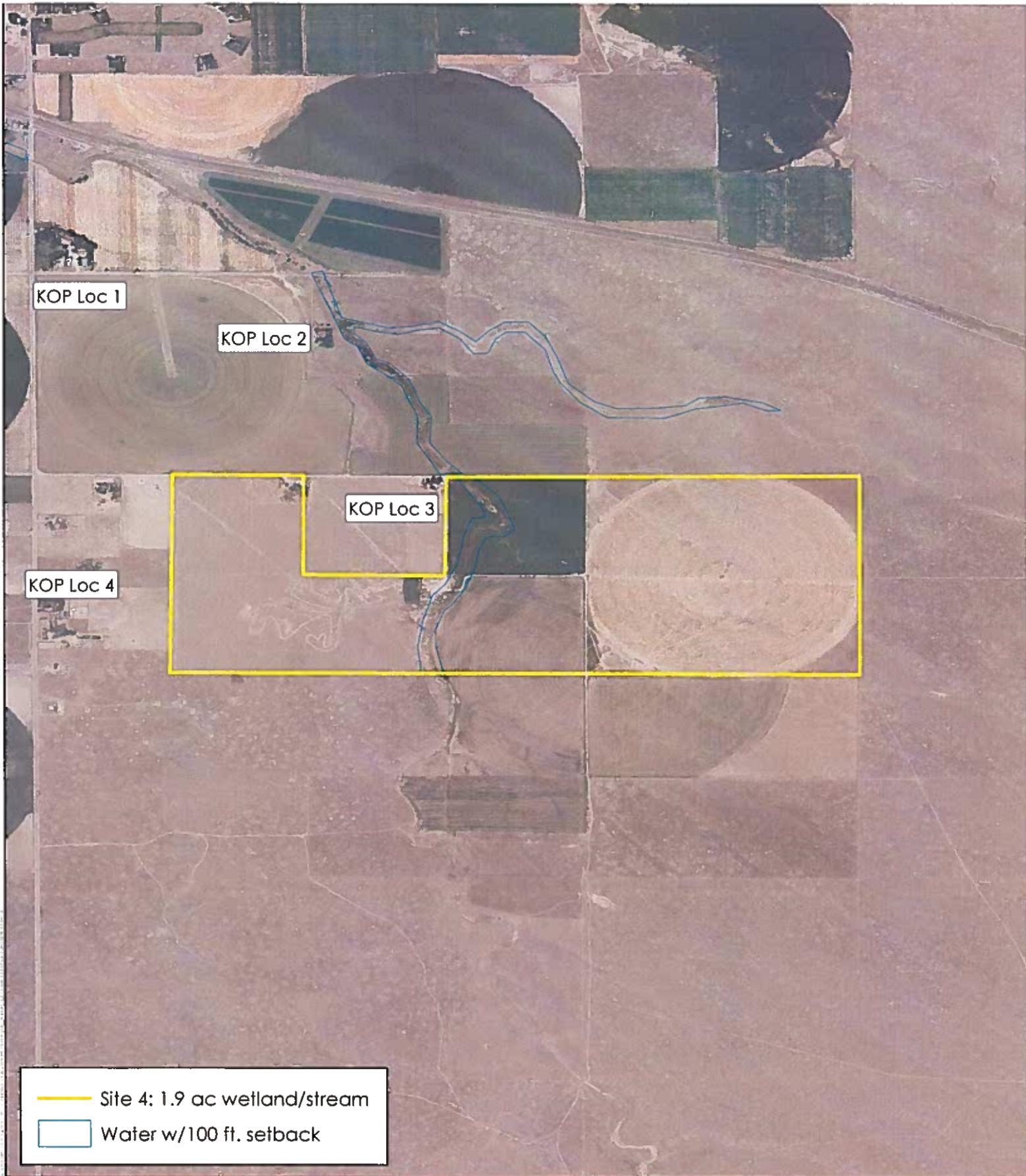


Project: Origis Solar Site Analysis-Idaho. Sources: Stantec 2014. Created By: L. McCandless 6/6/2015. Coordinate System: GCS North American 1983. Datum: North American 1983. Service Layer Credits:



0 0.5 Miles

Hydrologic Features and Key Observation Points (KOP)



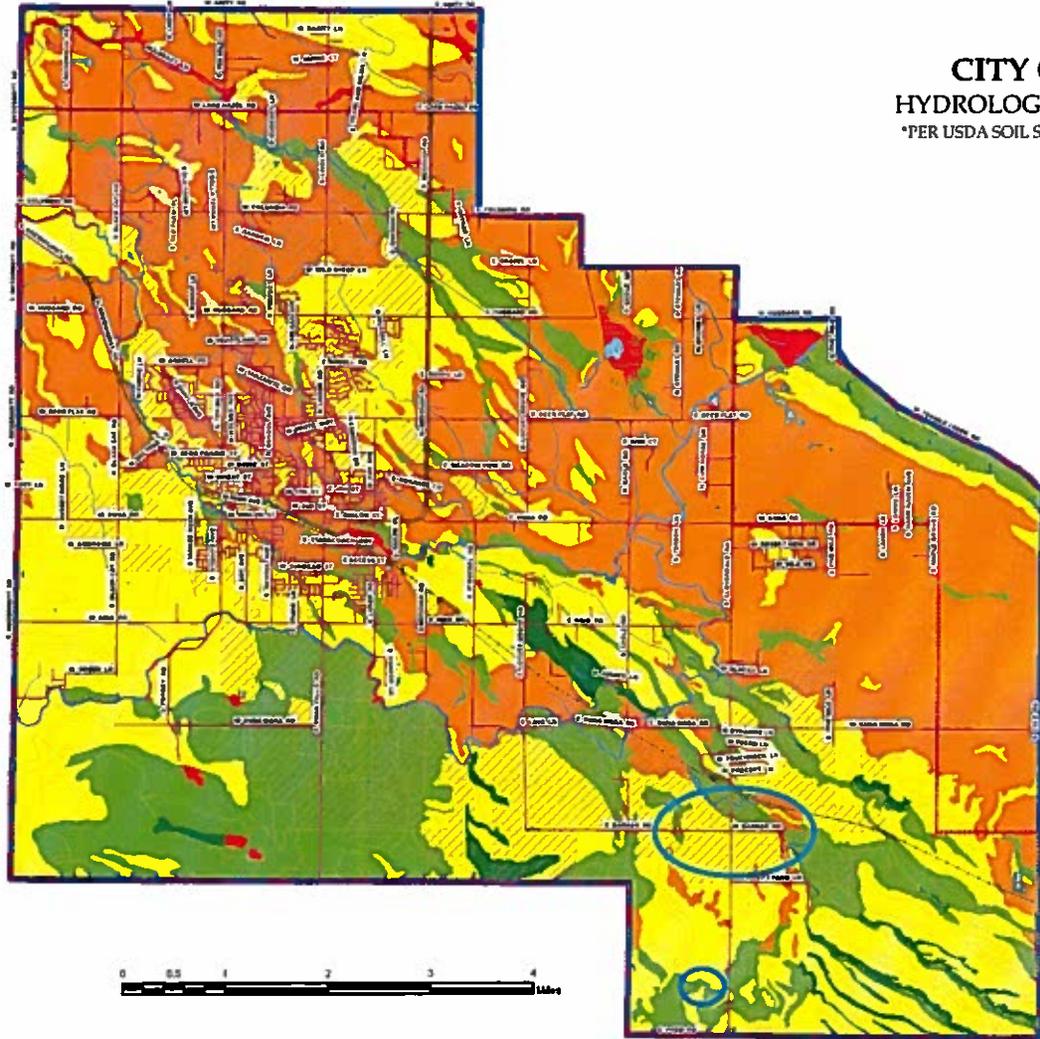
Project: 18-030122; Sources: Stantec 2014; Created By: L. McCandless 7/14/2015; Coordinate System: GCS North American 1983; Datum: North American 1983
Service Layer Credits:



0 0.4 Miles

1 in = 0 miles

CITY OF KUNA
HYDROLOGIC GROUP ~ SOIL
*PER USDA SOIL SURVEY OF ADA COUNTY



LEGEND

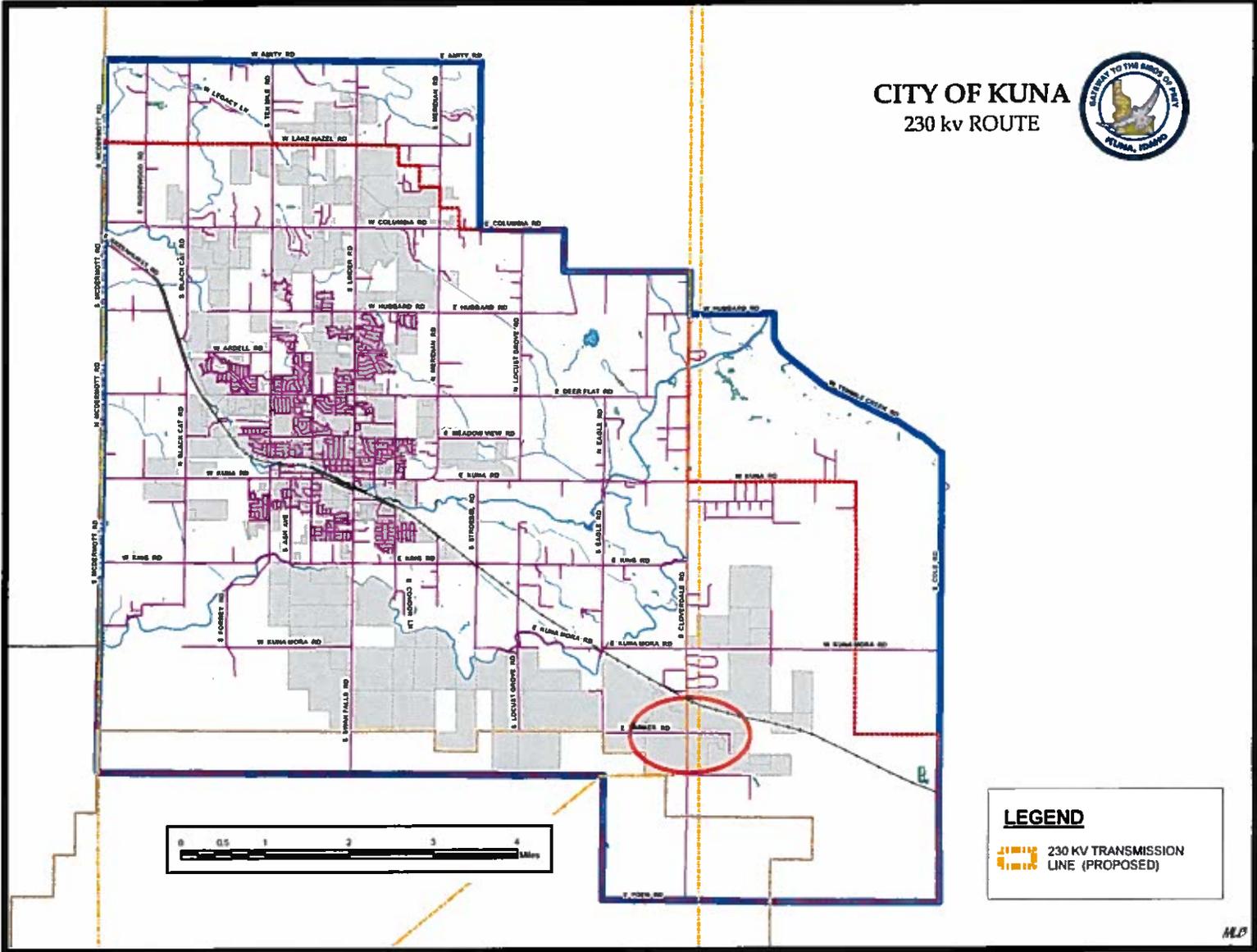
HYDROLOGIC GROUP

	HYDROLOGIC GROUP A
	HYDROLOGIC GROUP B
	HYDROLOGIC GROUP C
	HYDROLOGIC GROUP D
	NOT RATED

MLB



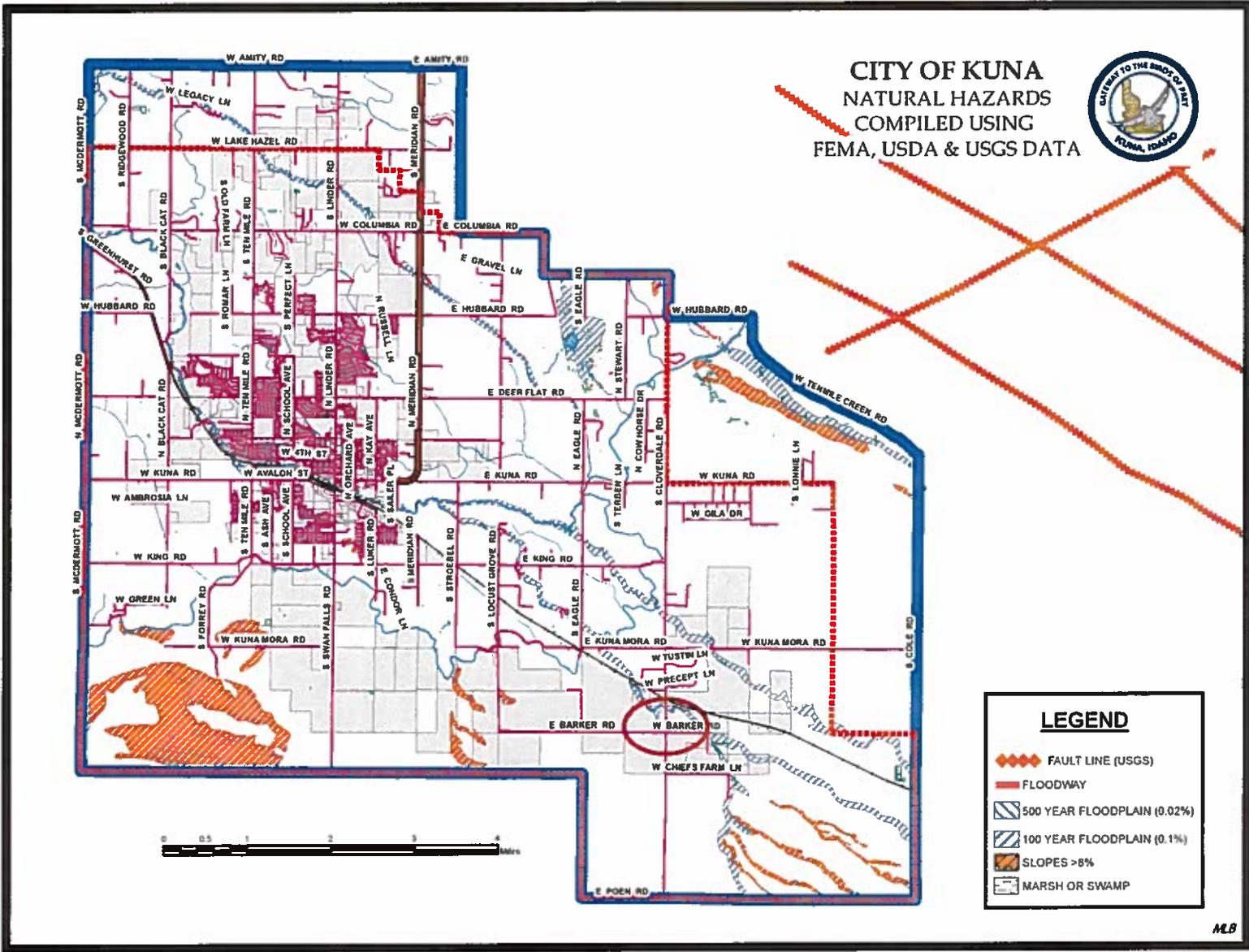
CITY OF KUNA
230 kv ROUTE



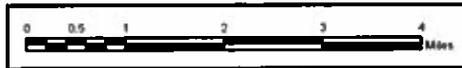
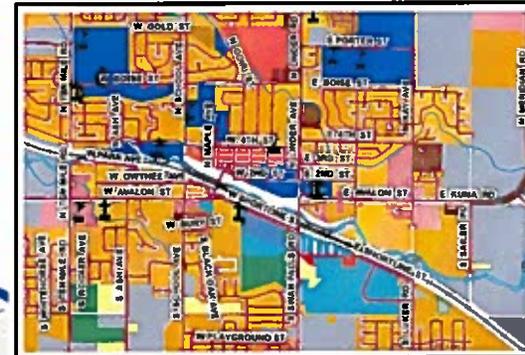
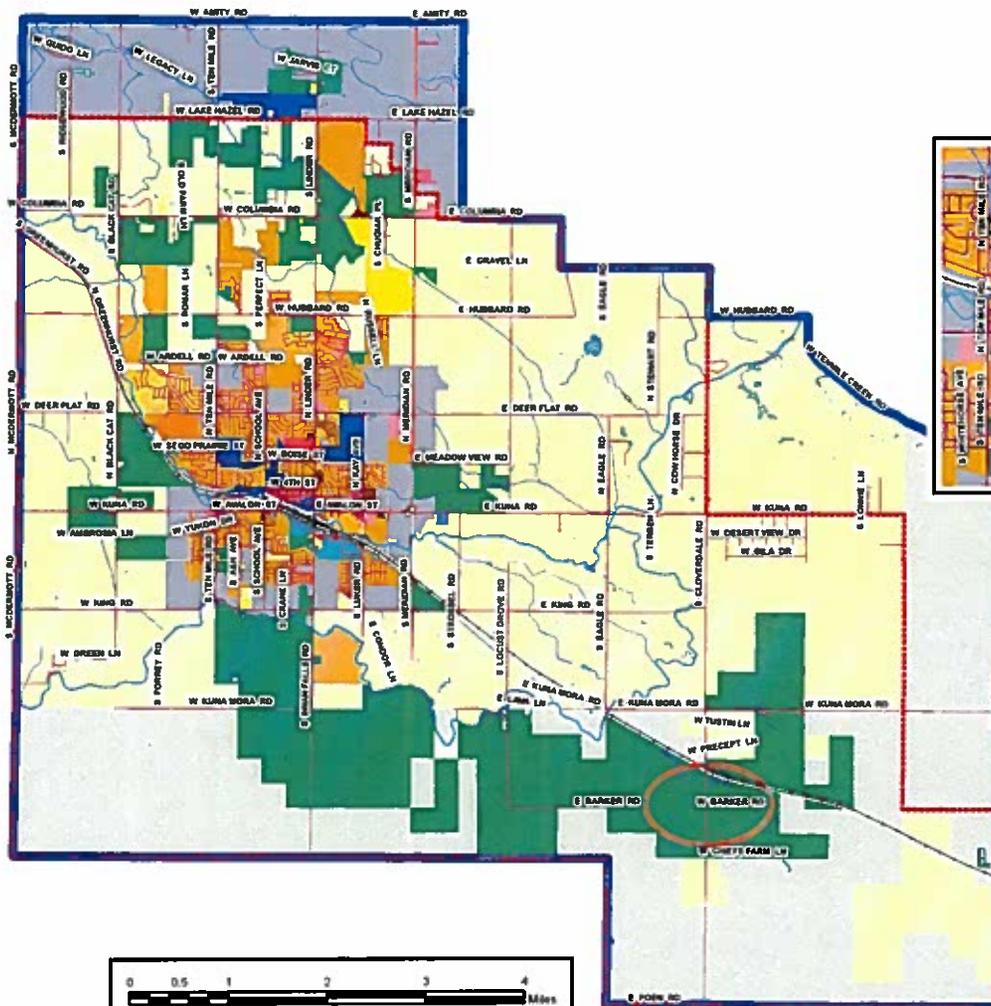
LEGEND

 230 KV TRANSMISSION LINE (PROPOSED)

MLP

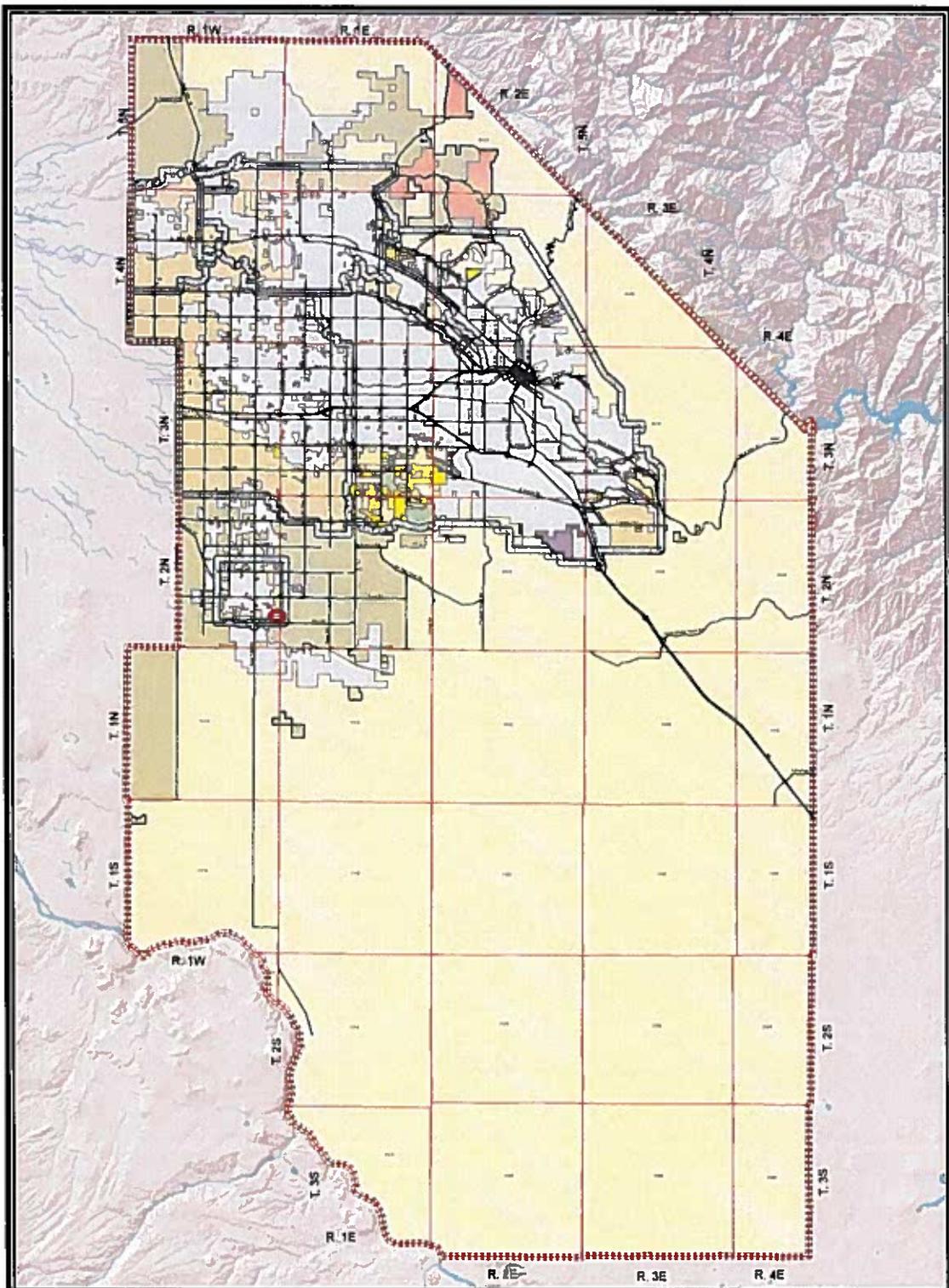


CITY OF KUNA ZONING MAP



ZONING			
A	AGRICULTURAL	RR	RURAL RESIDENTIAL
C-1	NEIGHBORHOOD BUSINESS DIST	R-1	RESIDENTIAL SINGLE FAMILY
C-2	AREA BUSINESS DIST.	R-2	LOW DENSITY RESIDENTIAL
C-3	SERVICE BUSINESS DIST.	R-3	LOW DENSITY RESIDENTIAL
CBD	CENTRAL BUSINESS DISTRICT	R-4	LOW DENSITY RESIDENTIAL
L-O	LIMITED OFFICE	R-5	MEDIUM DENSITY RESIDENTIAL
M-1	LIGHT MANUFACTURING	R-6	MEDIUM DENSITY RESIDENTIAL
M-2	HEAVY MANUFACTURING	R-8	HIGH DENSITY RESIDENTIAL
P	PUBLIC	R-12	HIGH DENSITY RESIDENTIAL
PLD	PLANNED UNIT DEVELOPMENT	R-16	HIGH DENSITY RESIDENTIAL
		R-30	HIGH DENSITY MULTI-FAMILY RESIDENTIAL
		RP	RURAL PRESERVATION
		RUT	RURAL URBAN TRANSITION

MLB



Legend		
	Township Range Lines	Ada County, M2
	Major Streets	Ada County, M3
	Ada County Lane	Ada County, PC
	Impact Areas	Ada County, R1
	Incorporated Areas	Ada County, R1M
	Ada County, C1	Ada County, R2
	Ada County, C2	Ada County, R4
	Ada County, I1	Ada County, R6
	Ada County, M1	Ada County, R8
	Ada County, M2	Ada County, R10
	Ada County, M3	Ada County, R12
	Ada County, PC	Ada County, R20
	Ada County, R1	Ada County, RP
	Ada County, R1M	Ada County, RR
	Ada County, R2	Ada County, RSW
	Ada County, R4	Ada County, RL/T
	Ada County, R6	Ada County, T1
	Ada County, R8	

Ada County

Base Zoning Districts

July 21, 2011

Ada County Data Management Services
 300 West Front Street
 Boise, Idaho
www.adacounty.idaho.gov

This map is made up of data that was prepared or compiled by Ada County. Ada County does not warrant the accuracy or timeliness of the map or data.

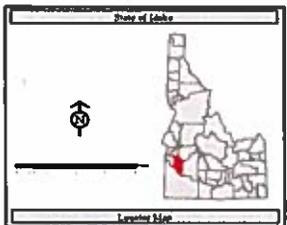
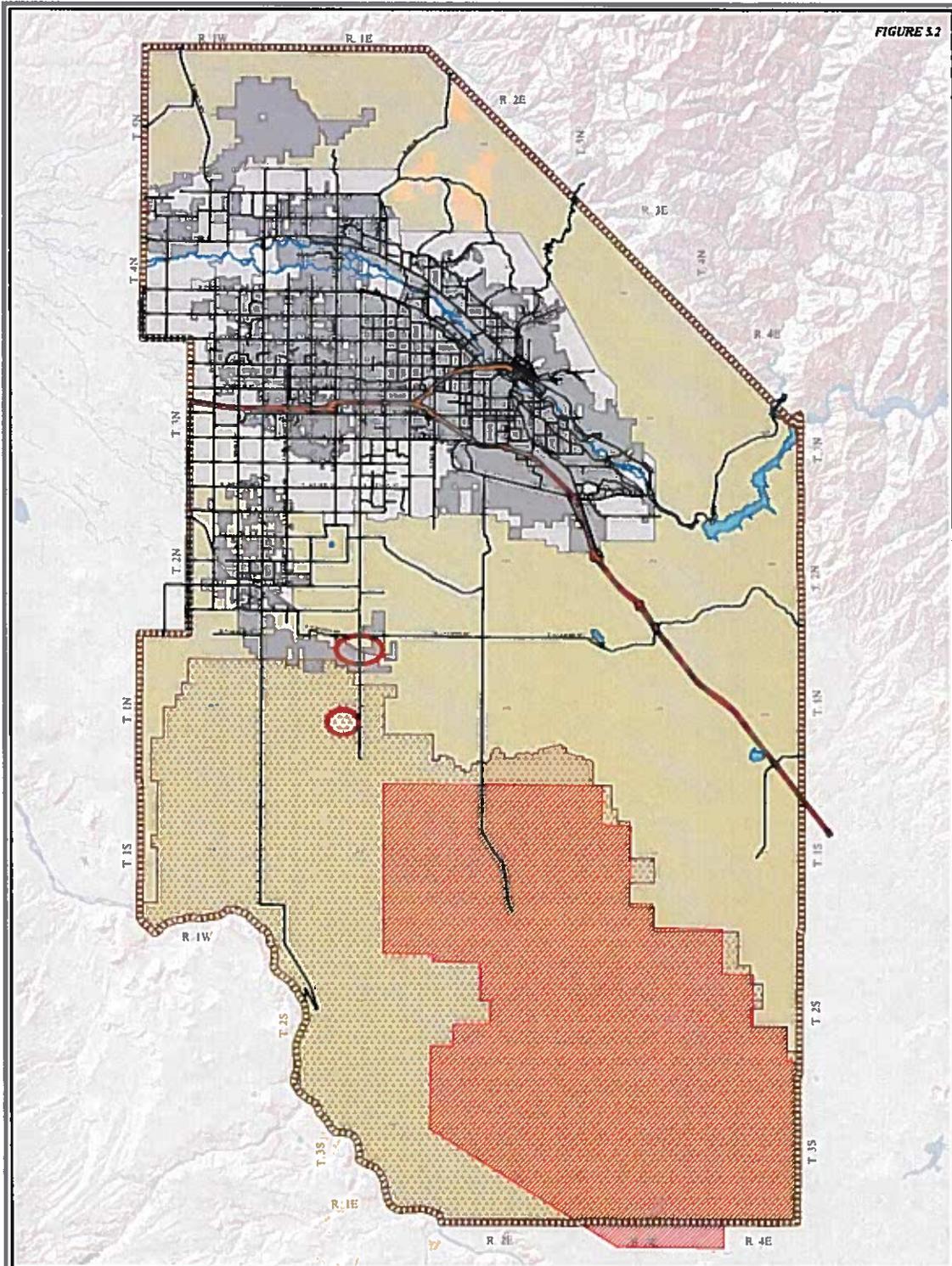
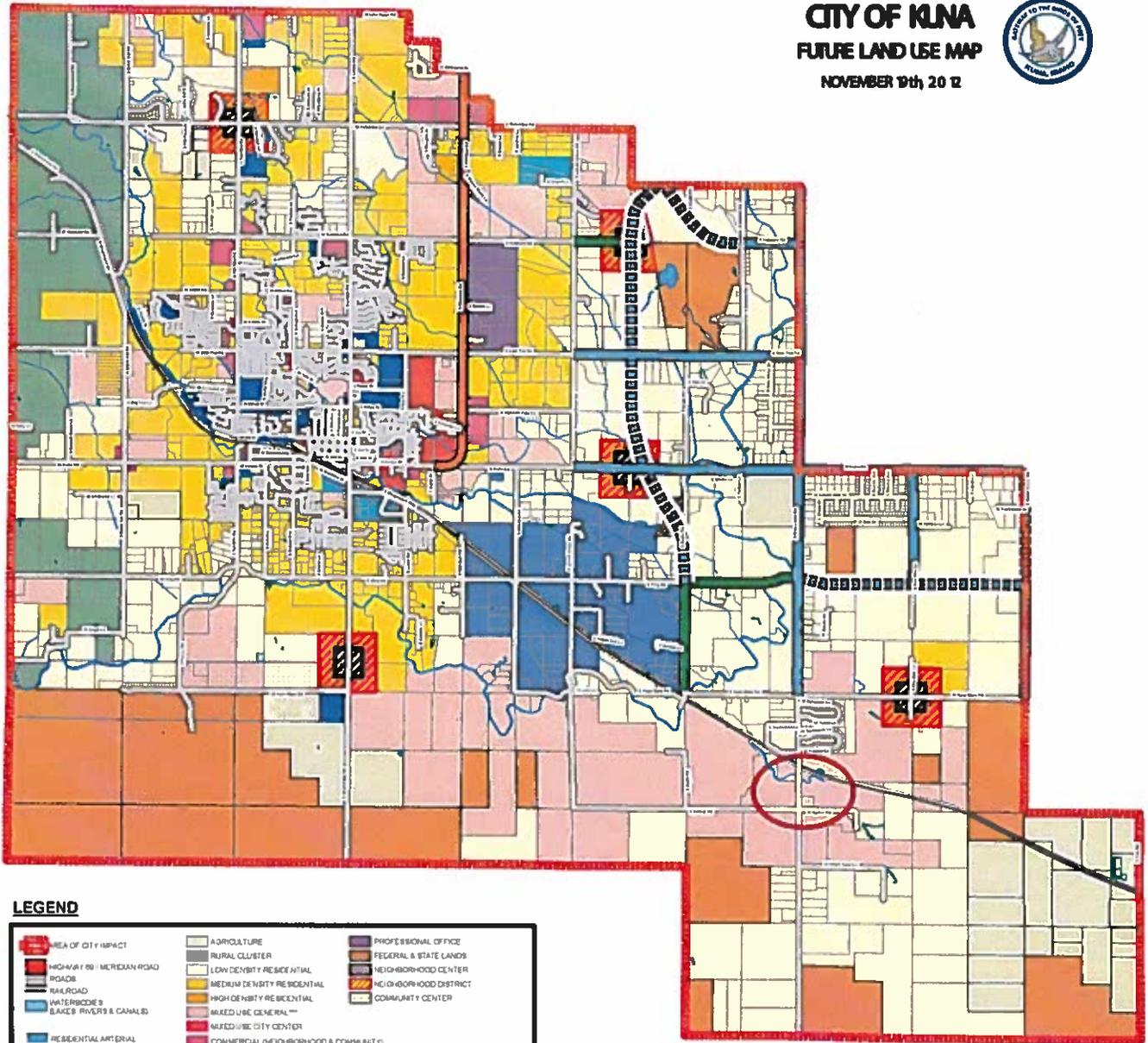


FIGURE S.2



LEGEND		<p>ADA COUNTY COMPREHENSIVE PLAN FUTURE LAND USE APRIL 15, 2011</p> <p><small>This map is made in part from data prepared or compiled by ADA County. ADA County shall not be liable for misprints or omissions of this map or data.</small></p>	<p>SCALE OF 1:50,000</p> <p>ADA County Development Services 200 W. Third St. Brewer, ND 58512 Phone: (701) 211-1900</p> <p>DATE: 09/08/10</p>
<p>ROAD NETWORK</p> <ul style="list-style-type: none"> Interstate Major Roads Railroad <p>FUTURE LAND USES</p> <ul style="list-style-type: none"> Rural Planned Communities 	<ul style="list-style-type: none"> ADA County Boundary Water Features Birds of Prey Habitat Conservation Area Incorporated City Area City Impact Areas Orchard Training Area 		

CITY OF KUNA
FUTURE LAND USE MAP
 NOVEMBER 19th 2012



LEGEND

AREA OF CITY IMPACT	AGRICULTURE	PROFESSIONAL OFFICE
HIGHWAY 99 / MEDIAN ROAD	RURAL CLUSTER	FEDERAL & STATE LANDS
ROAD	LOW DENSITY RESIDENTIAL	NEIGHBORHOOD CENTER
RAILROAD	MEDIUM DENSITY RESIDENTIAL	NEIGHBORHOOD DISTRICT
WATERBODIES (LAKES, RIVERS & CANALS)	HIGH DENSITY RESIDENTIAL	COMMUNITY CENTER
RESIDENTIAL ARTERIAL	MIXED USE GENERAL ***	
RESIDENTIAL ARTERIAL (NEW)	MIXED USE CITY CENTER	
RURAL ARTERIAL	COMMERCIAL (NEIGHBORHOOD & COMMUNITY)	
RURAL ARTERIAL (NEW)	LIGHT INDUSTRIAL	
	HEAVY INDUSTRIAL	
	PUBLIC	

*** MIXED USE GENERAL EXPEDITED RESIDENTIAL DENSITIES CAN RANGE FROM 1 TO 20 UNITS PER ACRE





United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for **Ada County, Idaho**

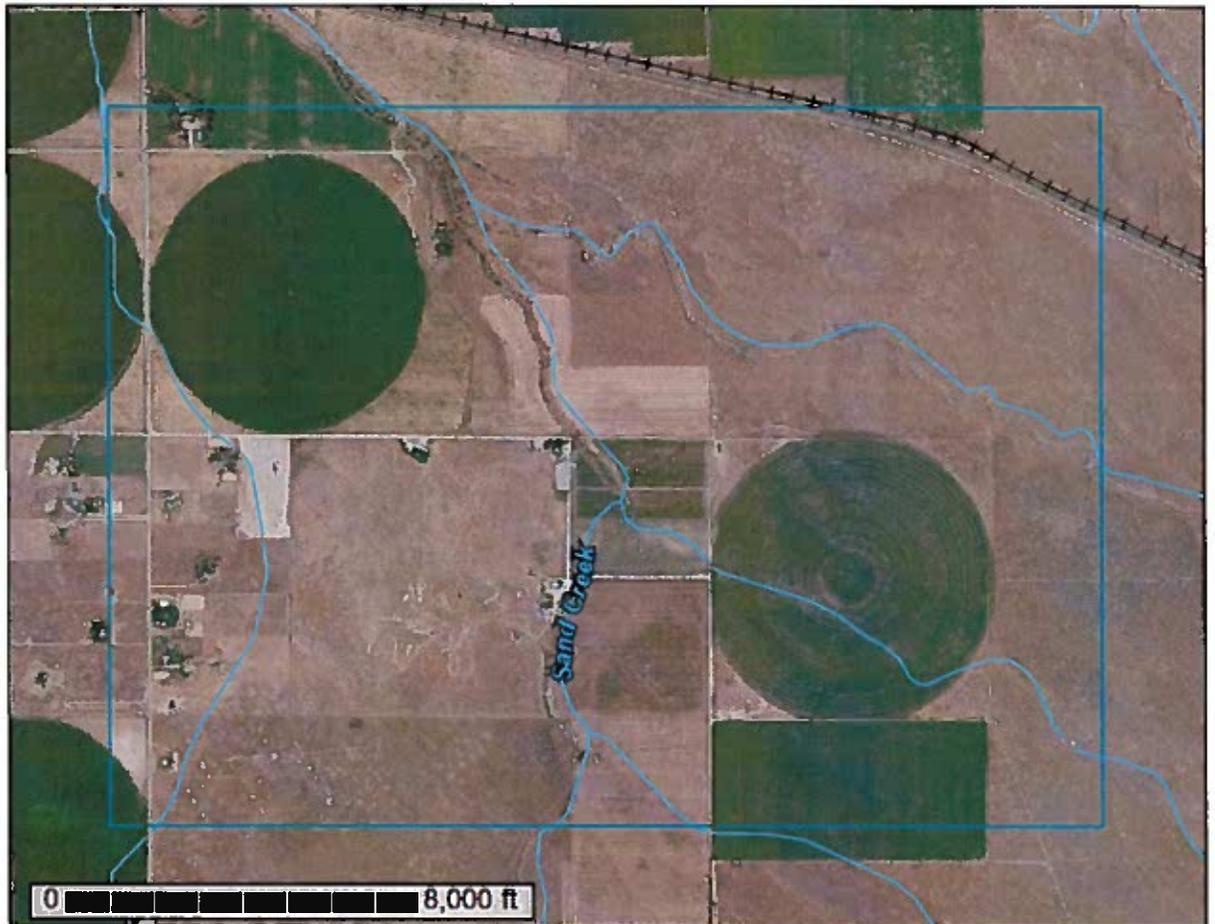


EXHIBIT 10
201501245 CU-MSP-PR-V-FP
ID SOLAR I LLC

July 8, 2015

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<http://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means

for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

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131—Power silt loam, 4 to 8 percent slopes.....	26
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139—Power-McCain complex, 4 to 8 percent slopes.....	31
141—Purdam silt loam, 0 to 2 percent slopes.....	33
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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the

Custom Soil Resource Report

individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Custom Soil Resource Report

MAP LEGEND

Area of Interest (AOI)		 Spoil Area
 Area of Interest (AOI)		 Stony Spot
Soils		 Very Stony Spot
 Soil Map Unit Polygons		 Wet Spot
 Soil Map Unit Lines		 Other
 Soil Map Unit Points		 Special Line Features
Special Point Features		Water Features
 Blowout		 Streams and Canals
 Borrow Pit		Transportation
 Clay Spot		 Rails
 Closed Depression		 Interstate Highways
 Gravel Pit		 US Routes
 Gravelly Spot		 Major Roads
 Landfill		 Local Roads
 Lava Flow		Background
 Marsh or swamp		 Aerial Photography
 Mine or Quarry		
 Miscellaneous Water		
 Perennial Water		
 Rock Outcrop		
 Saline Spot		
 Sandy Spot		
 Severely Eroded Spot		
 Sinkhole		
 Slide or Slip		
 Sodic Spot		

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Ada County, Idaho
 Survey Area Data: Version 3, Sep 8, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 10, 2011—Aug 23, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Custom Soil Resource Report

Map Unit Legend

Ada County, Idaho (ID001)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
34	Chilcott-Sebree complex, 0 to 2 percent slopes	82.2	5.6%
35	Chilcott-Sebree complex, 2 to 4 percent slopes	11.1	0.8%
43	Colthorp cobbly loam, 2 to 4 percent slopes	108.3	7.4%
51	Elijah silt loam, bedrock substratum, 0 to 2 percent slopes	368.5	25.2%
52	Elijah silt loam, bedrock substratum, 2 to 4 percent slopes	119.5	8.2%
53	Elijah silt loam, bedrock substratum, 4 to 8 percent slopes	39.3	2.7%
57	Feltham loamy sand, 0 to 3 percent slopes	59.4	4.1%
58	Feltham loamy sand, 3 to 12 percent slopes	40.8	2.8%
71	Jenness fine sandy loam, 0 to 2 percent slopes	220.8	15.1%
72	Jenness fine sandy loam, 2 to 4 percent slopes	25.7	1.8%
105	McCain stony silt loam, 0 to 2 percent slopes, extremely stony	2.7	0.2%
130	Power silt loam, 2 to 4 percent slopes	72.2	4.9%
131	Power silt loam, 4 to 8 percent slopes	2.9	0.2%
134	Power-McCain silt loams, 2 to 4 percent slopes	11.1	0.8%
135	Power-McCain silt loams, 4 to 8 percent slopes	5.8	0.4%
138	Power-McCain complex, 2 to 4 percent slopes	13.4	0.9%
139	Power-McCain complex, 4 to 8 percent slopes	16.3	1.1%
141	Purdam silt loam, 0 to 2 percent slopes	108.7	7.4%
142	Purdam silt loam, 2 to 4 percent slopes	87.1	6.0%
143	Purdam silt loam, 4 to 8 percent slopes	35.9	2.5%

Custom Soil Resource Report

Ada County, Idaho (ID001)			
Map Unit Symbol	Map Unit Name	Acres In AOI	Percent of AOI
181	Tindahay gravelly loam, 8 to 12 percent slopes	29.9	2.0%
Totals for Area of Interest		1,461.5	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Custom Soil Resource Report

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Ada County, Idaho

34—Chilcott-Sebree complex, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2q9l

Elevation: 2,000 to 5,300 feet

Mean annual precipitation: 8 to 13 inches

Mean annual air temperature: 45 to 54 degrees F

Frost-free period: 90 to 160 days

Farmland classification: Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium

Map Unit Composition

Chilcott, low elevation, and similar soils: 60 percent

Sebree and similar soils: 30 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Chilcott, Low Elevation

Setting

Landform: Stream terraces

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Volcanic ash and/or mixed alluvium and/or loess

Typical profile

E - 0 to 9 inches: silt loam

Bt - 9 to 15 inches: silty clay

Bk - 15 to 26 inches: loam

Bkqm - 26 to 35 inches: cemented material

C - 35 to 65 inches: sandy loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: 20 to 40 inches to duripan

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 30 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 5.0

Available water storage in profile: Low (about 5.0 inches)

Interpretive groups

Land capability classification (irrigated): 3s

Land capability classification (nonirrigated): 6c

Hydrologic Soil Group: D

Ecological site: LOAMY 8-12 - Provisional (R011XY001ID)

Custom Soil Resource Report

Description of Sebree

Setting

Landform: Stream terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Silty alluvium and/or loess

Typical profile

Bt - 0 to 5 inches: silty clay loam
Btk - 5 to 34 inches: silty clay loam
Bkqm - 34 to 42 inches: cemented material
C - 42 to 60 inches: very gravelly sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 20 to 40 inches to duripan
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Salinity, maximum in profile: Moderately saline to strongly saline (8.0 to 16.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 20.0
Available water storage in profile: Moderate (about 6.8 inches)

Interpretive groups

Land capability classification (irrigated): 6s
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: D

35—Chilcote-Sebree complex, 2 to 4 percent slopes

Map Unit Setting

National map unit symbol: 2q9m
Elevation: 2,000 to 5,300 feet
Mean annual precipitation: 8 to 13 inches
Mean annual air temperature: 45 to 54 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium

Map Unit Composition

Chilcote, low elevation, and similar soils: 55 percent
Sebree and similar soils: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Custom Soil Resource Report

Description of Chilcott, Low Elevation

Setting

Landform: Stream terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Volcanic ash and/or mixed alluvium and/or loess

Typical profile

E - 0 to 9 inches: silt loam
Bt - 9 to 15 inches: silty clay
Bk - 15 to 26 inches: loam
Bkqm - 26 to 35 inches: cemented material
C - 35 to 65 inches: sandy loam

Properties and qualities

Slope: 2 to 4 percent
Depth to restrictive feature: 20 to 40 inches to duripan
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 30 percent
Gypsum, maximum in profile: 5 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 5.0
Available water storage in profile: Low (about 5.0 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 6c
Hydrologic Soil Group: D
Ecological site: LOAMY 8-12 - Provisional (R011XY001ID)

Description of Sebree

Setting

Landform: Stream terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Silty alluvium and/or loess

Typical profile

Bt - 0 to 5 inches: silty clay loam
Btk - 5 to 34 inches: silty clay loam
Bkqm - 34 to 42 inches: cemented material
C - 42 to 60 inches: very gravelly sand

Properties and qualities

Slope: 2 to 4 percent
Depth to restrictive feature: 20 to 40 inches to duripan
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches

Custom Soil Resource Report

Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Salinity, maximum in profile: Moderately saline to strongly saline (8.0 to 16.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 20.0
Available water storage in profile: Moderate (about 6.8 inches)

Interpretive groups

Land capability classification (irrigated): 6s
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: D

43—Colthorp cobbly loam, 2 to 4 percent slopes

Map Unit Setting

National map unit symbol: 2q9x
Elevation: 2,600 to 4,500 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 48 to 54 degrees F
Frost-free period: 110 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Colthorp, cobbly surface, and similar soils: 90 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Colthorp, Cobbly Surface

Setting

Landform: Lava plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium and/or loess over bedrock derived from basalt

Typical profile

A - 0 to 4 inches: cobbly loam
Bt - 4 to 8 inches: silty clay loam
Bk - 8 to 19 inches: silt loam
Bkqm - 19 to 28 inches: cemented material
R - 28 to 38 inches: bedrock

Properties and qualities

Slope: 2 to 4 percent
Depth to restrictive feature: 11 to 20 inches to duripan; 20 to 30 inches to lithic bedrock
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None

Custom Soil Resource Report

Frequency of ponding: None
Calcium carbonate, maximum in profile: 25 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): 4s
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: D
Ecological site: SHALLOW LOAMY 8-12 - Provisional (R011XY004ID)

51—Elijah silt loam, bedrock substratum, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2qb6
Elevation: 2,300 to 4,500 feet
Mean annual precipitation: 8 to 11 inches
Mean annual air temperature: 45 to 54 degrees F
Frost-free period: 100 to 160 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Elijah, bedrock substratum, and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Elijah, Bedrock Substratum

Setting

Landform: Lava plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Lacustrine deposits and/or loess and/or alluvium over bedrock derived from basalt

Typical profile

A - 0 to 11 inches: silt loam
Bt - 11 to 26 inches: silty clay loam
Bk - 26 to 31 inches: loam
Bkqm - 31 to 43 inches: cemented material
R - 43 to 53 inches: bedrock

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 20 to 40 inches to duripan; 40 to 50 inches to lithic bedrock
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 40 percent

Custom Soil Resource Report

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 5.0

Available water storage in profile: Moderate (about 6.2 inches)

Interpretive groups

Land capability classification (irrigated): 3s

Land capability classification (nonirrigated): 6c

Hydrologic Soil Group: C

Ecological site: LOAMY 8-12 - Provisional (R011XY001ID)

52—Elijah silt loam, bedrock substratum, 2 to 4 percent slopes

Map Unit Setting

National map unit symbol: 2qb7

Elevation: 2,300 to 4,500 feet

Mean annual precipitation: 8 to 11 inches

Mean annual air temperature: 45 to 54 degrees F

Frost-free period: 100 to 160 days

Farmland classification: Prime farmland if irrigated

Map Unit Composition

Elijah, bedrock substratum, and similar soils: 85 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Elijah, Bedrock Substratum

Setting

Landform: Lava plains

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Lacustrine deposits and/or loess and/or alluvium over bedrock derived from basalt

Typical profile

A - 0 to 11 inches: silt loam

Bt - 11 to 26 inches: silty clay loam

Bk - 26 to 31 inches: loam

Bkqm - 31 to 43 inches: cemented material

R - 43 to 53 inches: bedrock

Properties and qualities

Slope: 2 to 4 percent

Depth to restrictive feature: 20 to 40 inches to duripan; 40 to 50 inches to lithic bedrock

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 40 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Custom Soil Resource Report

Sodium adsorption ratio, maximum in profile: 5.0

Available water storage in profile: Moderate (about 6.2 inches)

Interpretive groups

Land capability classification (irrigated): 3e

Land capability classification (nonirrigated): 6c

Hydrologic Soil Group: C

Ecological site: LOAMY 8-12 - Provisional (R011XY001ID)

53—Elijah silt loam, bedrock substratum, 4 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2qb8

Elevation: 2,300 to 4,500 feet

Mean annual precipitation: 8 to 11 inches

Mean annual air temperature: 45 to 54 degrees F

Frost-free period: 100 to 160 days

Farmland classification: Farmland of statewide importance, if irrigated

Map Unit Composition

Elijah, bedrock substratum, and similar soils: 85 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Elijah, Bedrock Substratum

Setting

Landform: Lava plains

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Lacustrine deposits and/or loess and/or alluvium over bedrock derived from basalt

Typical profile

A - 0 to 11 inches: silt loam

Bt - 11 to 26 inches: silty clay loam

Bk - 26 to 31 inches: loam

Bkqm - 31 to 43 inches: cemented material

R - 43 to 53 inches: bedrock

Properties and qualities

Slope: 4 to 8 percent

Depth to restrictive feature: 20 to 40 inches to duripan; 40 to 50 inches to lithic bedrock

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 40 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 5.0

Custom Soil Resource Report

Available water storage in profile: Moderate (about 6.2 inches)

Interpretive groups

Land capability classification (irrigated): 4e

Land capability classification (nonirrigated): 6c

Hydrologic Soil Group: C

Ecological site: LOAMY 8-12 - Provisional (R011XY001ID)

57—Feltham loamy sand, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2qbd

Elevation: 2,000 to 4,500 feet

Mean annual precipitation: 7 to 12 inches

Mean annual air temperature: 45 to 52 degrees F

Frost-free period: 125 to 170 days

Farmland classification: Prime farmland if irrigated

Map Unit Composition

Feltham and similar soils: 85 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Feltham

Setting

Landform: Fan remnants, terraces

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Mixed alluvium

Typical profile

AC - 0 to 15 inches: loamy sand

Ck1 - 15 to 20 inches: sandy loam

Ck2 - 20 to 34 inches: fine sand

C - 34 to 60 inches: fine sandy loam

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Somewhat excessively drained

Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 20 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water storage in profile: Moderate (about 6.5 inches)

Interpretive groups

Land capability classification (irrigated): 4e

Land capability classification (nonirrigated): 6s

Hydrologic Soil Group: A

Ecological site: SANDY LOAM 8-12 ARTRW8/ACHY-HECOC8 (R011XY014ID)

58—Feltham loamy sand, 3 to 12 percent slopes

Map Unit Setting

National map unit symbol: 2qbf
Elevation: 2,000 to 4,500 feet
Mean annual precipitation: 7 to 12 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 125 to 170 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Feltham and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Feltham

Setting

Landform: Fan remnants, terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium

Typical profile

AC - 0 to 15 inches: loamy sand
Ck1 - 15 to 20 inches: sandy loam
Ck2 - 20 to 34 inches: fine sand
C - 34 to 60 inches: fine sandy loam

Properties and qualities

Slope: 3 to 12 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 20 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 6.5 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A
Ecological site: SANDY LOAM 8-12 ARTRW8/ACHY-HECOC8 (R011XY014ID)

Custom Soil Resource Report

71—Jenness fine sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2qbx
Elevation: 2,460 to 3,330 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 130 to 155 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Jenness and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Jenness

Setting

Landform: Stream terraces, fan remnants
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from igneous rock

Typical profile

A - 0 to 9 inches: fine sandy loam
AC - 9 to 22 inches: fine sandy loam
C1 - 22 to 32 inches: loam
C2 - 32 to 40 inches: loam
C3 - 40 to 53 inches: sandy loam
2C4 - 53 to 72 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.20 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 7.6 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 6c
Hydrologic Soil Group: B
Ecological site: LOAMY 8-12 - Provisional (R011XY001ID)

Custom Soil Resource Report

72—Jenness fine sandy loam, 2 to 4 percent slopes

Map Unit Setting

National map unit symbol: 2qby
Elevation: 2,480 to 3,100 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 135 to 155 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Jenness and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Jenness

Setting

Landform: Stream terraces, fan remnants
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from igneous rock

Typical profile

A - 0 to 9 inches: fine sandy loam
AC - 9 to 22 inches: fine sandy loam
C1 - 22 to 32 inches: loam
C2 - 32 to 40 inches: loam
C3 - 40 to 53 inches: sandy loam
2C4 - 53 to 72 inches: silt loam

Properties and qualities

Slope: 2 to 4 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.20 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 7.6 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 6c
Hydrologic Soil Group: B
Ecological site: LOAMY 8-12 - Provisional (R011XY001ID)

Custom Soil Resource Report

105—McCain stony silt loam, 0 to 2 percent slopes, extremely stony

Map Unit Setting

National map unit symbol: 2q5q
Elevation: 2,500 to 3,300 feet
Mean annual precipitation: 8 to 12 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 110 to 160 days
Farmland classification: Farmland of statewide importance, if irrigated

Map Unit Composition

Mccain, extremely stony surface, and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of McCain, Extremely Stony Surface

Setting

Landform: Lava plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Silty alluvium and/or loess over bedrock derived from basalt

Typical profile

A - 0 to 7 inches: stony silt loam
Bt - 7 to 16 inches: stony silty clay loam
Bk - 16 to 33 inches: stony silt loam
R - 33 to 43 inches: bedrock

Properties and qualities

Slope: 0 to 2 percent
Percent of area covered with surface fragments: 9.0 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 30 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): 7s
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: C
Ecological site: STONY 10-12 ARTRW8/PSSPS (R011XY005ID)

Custom Soil Resource Report

130—Power silt loam, 2 to 4 percent slopes

Map Unit Setting

National map unit symbol: 2q6m
Elevation: 2,000 to 4,600 feet
Mean annual precipitation: 8 to 12 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 100 to 160 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Power, plowed, and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Power, Plowed

Setting

Landform: Lava plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium and/or loess

Typical profile

Ap1 - 0 to 6 inches: silt loam
Ap2 - 6 to 9 inches: silt loam
Bt - 9 to 12 inches: silty clay loam
Btk - 12 to 17 inches: silt loam
Bk1 - 17 to 21 inches: silt loam
Bkq1 - 21 to 38 inches: paragravelly silt loam
Bkq2 - 38 to 50 inches: paragravelly silt loam
2Bk2 - 50 to 60 inches: very fine sandy loam

Properties and qualities

Slope: 2 to 4 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 25 percent
Gypsum, maximum in profile: 2 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 5.0
Available water storage in profile: High (about 10.4 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 6c
Hydrologic Soil Group: C

Custom Soil Resource Report

Ecological site: LOAMY 8-12 - Provisional (R011XY0011D)

131—Power silt loam, 4 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2q6n

Elevation: 2,000 to 4,600 feet

Mean annual precipitation: 8 to 12 inches

Mean annual air temperature: 45 to 52 degrees F

Frost-free period: 100 to 160 days

Farmland classification: Farmland of statewide importance, if irrigated

Map Unit Composition

Power, plowed, and similar soils: 85 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Power, Plowed

Setting

Landform: Lava plains

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Mixed alluvium and/or loess

Typical profile

Ap1 - 0 to 6 inches: silt loam

Ap2 - 6 to 9 inches: silt loam

Bt - 9 to 12 inches: silty clay loam

Btk - 12 to 17 inches: silt loam

Bk1 - 17 to 21 inches: silt loam

Bkq1 - 21 to 38 inches: paragravelly silt loam

Bkq2 - 38 to 50 inches: paragravelly silt loam

2Bk2 - 50 to 60 inches: very fine sandy loam

Properties and qualities

Slope: 4 to 8 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 25 percent

Gypsum, maximum in profile: 2 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 5.0

Available water storage in profile: High (about 10.4 inches)

Interpretive groups

Land capability classification (irrigated): 4e

Land capability classification (nonirrigated): 6c

Custom Soil Resource Report

Hydrologic Soil Group: C

Ecological site: LOAMY 8-12 - Provisional (R011XY001ID)

134—Power-McCain silt loams, 2 to 4 percent slopes

Map Unit Setting

National map unit symbol: 2q6r

Elevation: 2,500 to 3,100 feet

Mean annual precipitation: 8 to 12 inches

Mean annual air temperature: 45 to 52 degrees F

Frost-free period: 100 to 160 days

Farmland classification: Prime farmland if irrigated

Map Unit Composition

Power, dry, and similar soils: 60 percent

Mccain and similar soils: 30 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Power, Dry

Setting

Landform: Lava plains

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Mixed alluvium and/or loess

Typical profile

A - 0 to 9 inches: silt loam

Btk - 9 to 27 inches: silty clay loam

Bk - 27 to 63 inches: loam

Properties and qualities

Slope: 2 to 4 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 30 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 5.0

Available water storage in profile: High (about 10.8 inches)

Interpretive groups

Land capability classification (irrigated): 3e

Land capability classification (nonirrigated): 6c

Hydrologic Soil Group: C

Ecological site: LOAMY 7-10 ARTRW8/STTH2 (R011XY003ID)

Custom Soil Resource Report

Description of McCain

Setting

Landform: Lava plains, stream terraces

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Silty alluvium and/or loess over bedrock derived from basalt

Typical profile

A - 0 to 7 inches: silt loam

Bt - 7 to 16 inches: silt loam

Bk - 16 to 33 inches: loam

R - 33 to 43 inches: bedrock

Properties and qualities

Slope: 2 to 4 percent

Depth to restrictive feature: 20 to 40 inches to lithic bedrock

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 30 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water storage in profile: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): 3e

Land capability classification (nonirrigated): 6c

Hydrologic Soil Group: C

Ecological site: LOAMY 8-12 - Provisional (R011XY001ID)

135—Power-McCain silt loams, 4 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2q6s

Elevation: 2,500 to 3,200 feet

Mean annual precipitation: 8 to 12 inches

Mean annual air temperature: 45 to 52 degrees F

Frost-free period: 100 to 160 days

Farmland classification: Farmland of statewide importance, if irrigated

Map Unit Composition

Power, dry, and similar soils: 60 percent

McCain and similar soils: 30 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Custom Soil Resource Report

Description of Power, Dry

Setting

Landform: Lava plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium and/or loess

Typical profile

A - 0 to 9 inches: silt loam
Btk - 9 to 27 inches: silty clay loam
Bk - 27 to 63 inches: loam

Properties and qualities

Slope: 4 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 30 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 5.0
Available water storage in profile: High (about 10.8 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 6c
Hydrologic Soil Group: C
Ecological site: LOAMY 7-10 ARTRW8/STTH2 (R011XY003ID)

Description of McCain

Setting

Landform: Lava plains, stream terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Silty alluvium and/or loess over bedrock derived from basalt

Typical profile

A - 0 to 7 inches: silt loam
Bt - 7 to 16 inches: silt loam
Bk - 16 to 33 inches: loam
R - 33 to 43 inches: bedrock

Properties and qualities

Slope: 4 to 8 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 30 percent

Custom Soil Resource Report

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water storage in profile: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): 4e

Land capability classification (nonirrigated): 6c

Hydrologic Soil Group: C

Ecological site: LOAMY 8-12 - Provisional (R011XY001ID)

138—Power-McCain complex, 2 to 4 percent slopes

Map Unit Setting

National map unit symbol: 2q6w

Elevation: 2,500 to 3,120 feet

Mean annual precipitation: 8 to 12 inches

Mean annual air temperature: 45 to 52 degrees F

Frost-free period: 100 to 160 days

Farmland classification: Farmland of statewide importance, if irrigated

Map Unit Composition

Power, dry, and similar soils: 60 percent

Mccain, very stony surface, and similar soils: 30 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Power, Dry

Setting

Landform: Lava plains

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Mixed alluvium and/or loess

Typical profile

A - 0 to 9 inches: silt loam

Btk - 9 to 27 inches: silty clay loam

Bk - 27 to 63 inches: loam

Properties and qualities

Slope: 2 to 4 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 30 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 5.0

Available water storage in profile: High (about 10.8 inches)

Custom Soil Resource Report

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 6c
Hydrologic Soil Group: C
Ecological site: LOAMY 7-10 ARTRW8/STTH2 (R011XY003ID)

Description of McCain, Very Stony Surface

Setting

Landform: Lava plains, stream terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Silty alluvium and/or loess over bedrock derived from basalt

Typical profile

A - 0 to 7 inches: stony silt loam
Bt - 7 to 16 inches: stony silty clay loam
Bk - 16 to 33 inches: stony silt loam
R - 33 to 43 inches: bedrock

Properties and qualities

Slope: 2 to 4 percent
Percent of area covered with surface fragments: 1.5 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 30 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): 6s
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C
Ecological site: LOAMY 8-12 - Provisional (R011XY001ID)

139—Power-McCain complex, 4 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2q6x
Elevation: 2,500 to 3,140 feet
Mean annual precipitation: 8 to 12 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 100 to 160 days
Farmland classification: Farmland of statewide importance, if irrigated

Custom Soil Resource Report

Map Unit Composition

Power, dry, and similar soils: 60 percent

Mccain, very stony surface, and similar soils: 30 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Power, Dry

Setting

Landform: Lava plains

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Mixed alluvium and/or loess

Typical profile

A - 0 to 9 inches: silt loam

Btk - 9 to 27 inches: silty clay loam

Bk - 27 to 63 inches: loam

Properties and qualities

Slope: 4 to 8 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 30 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 5.0

Available water storage in profile: High (about 10.8 inches)

Interpretive groups

Land capability classification (irrigated): 4e

Land capability classification (nonirrigated): 6c

Hydrologic Soil Group: C

Ecological site: LOAMY 7-10 ARTRW8/STTH2 (R011XY003ID)

Description of Mccain, Very Stony Surface

Setting

Landform: Lava plains, stream terraces

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Silty alluvium and/or loess over bedrock derived from basalt

Typical profile

A - 0 to 7 inches: stony silt loam

Bt - 7 to 16 inches: stony silty clay loam

Bk - 16 to 33 inches: stony silt loam

R - 33 to 43 inches: bedrock

Properties and qualities

Slope: 4 to 8 percent

Percent of area covered with surface fragments: 1.5 percent

Depth to restrictive feature: 20 to 40 inches to lithic bedrock

Natural drainage class: Well drained

Custom Soil Resource Report

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 30 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): 6s
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C
Ecological site: LOAMY 8-12 - Provisional (R011XY001ID)

141—Purdam silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2q70
Elevation: 2,000 to 5,000 feet
Mean annual precipitation: 8 to 12 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 110 to 160 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Purdam, plowed, and similar soils: 90 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Purdam, Plowed

Setting

Landform: Stream terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium and/or lacustrine deposits and/or loess

Typical profile

Ap1 - 0 to 4 inches: silt loam
Ap2 - 4 to 10 inches: silt loam
Bt1 - 10 to 13 inches: silty clay loam
Bt2 - 13 to 19 inches: silt loam
Bkq - 19 to 24 inches: silt loam
Bkqm - 24 to 38 inches: cemented material
2C - 38 to 60 inches: stratified sand to loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 20 to 40 inches to duripan
Natural drainage class: Well drained

Custom Soil Resource Report

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 25 percent

Salinity, maximum in profile: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 10.0

Available water storage in profile: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): 3s

Land capability classification (nonirrigated): 6c

Hydrologic Soil Group: C

142—Purdam silt loam, 2 to 4 percent slopes

Map Unit Setting

National map unit symbol: 2q71

Elevation: 2,000 to 5,000 feet

Mean annual precipitation: 8 to 12 inches

Mean annual air temperature: 45 to 52 degrees F

Frost-free period: 110 to 160 days

Farmland classification: Prime farmland if irrigated

Map Unit Composition

Purdam, plowed, and similar soils: 90 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Purdam, Plowed

Setting

Landform: Stream terraces

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Mixed alluvium and/or lacustrine deposits and/or loess

Typical profile

Ap1 - 0 to 4 inches: silt loam

Ap2 - 4 to 10 inches: silt loam

Bt1 - 10 to 13 inches: silty clay loam

Bt2 - 13 to 19 inches: silt loam

Bkq - 19 to 24 inches: silt loam

Bkqm - 24 to 38 inches: cemented material

2C - 38 to 60 inches: stratified sand to loam

Properties and qualities

Slope: 2 to 4 percent

Depth to restrictive feature: 20 to 40 inches to duripan

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)

Custom Soil Resource Report

Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 25 percent
Salinity, maximum in profile: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 10.0
Available water storage in profile: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 6c
Hydrologic Soil Group: C

143—Purdam silt loam, 4 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2q72
Elevation: 2,000 to 5,000 feet
Mean annual precipitation: 8 to 12 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 110 to 160 days
Farmland classification: Farmland of statewide importance, if irrigated

Map Unit Composition

Purdam, plowed, and similar soils: 90 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Purdam, Plowed

Setting

Landform: Stream terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium and/or lacustrine deposits and/or loess

Typical profile

Ap1 - 0 to 4 inches: silt loam
Ap2 - 4 to 10 inches: silt loam
Bt1 - 10 to 13 inches: silty clay loam
Bt2 - 13 to 19 inches: silt loam
Bkq - 19 to 24 inches: silt loam
Bkqm - 24 to 38 inches: cemented material
2C - 38 to 60 inches: stratified sand to loam

Properties and qualities

Slope: 4 to 8 percent
Depth to restrictive feature: 20 to 40 inches to duripan
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None

Custom Soil Resource Report

Frequency of ponding: None
Calcium carbonate, maximum in profile: 25 percent
Salinity, maximum in profile: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 10.0
Available water storage in profile: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 6c
Hydrologic Soil Group: C

181—Tindahay gravelly loam, 8 to 12 percent slopes

Map Unit Setting

National map unit symbol: 2q8f
Elevation: 2,000 to 4,700 feet
Mean annual precipitation: 8 to 12 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 105 to 160 days
Farmland classification: Farmland of statewide importance, if irrigated

Map Unit Composition

Tindahay, warm, gravelly surface, and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tindahay, Warm, Gravelly Surface

Setting

Landform: Fan remnants, stream terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium and/or eolian deposits

Typical profile

A - 0 to 8 inches: gravelly loam
C1 - 8 to 23 inches: sandy loam
2C2 - 23 to 60 inches: fine gravelly loamy coarse sand

Properties and qualities

Slope: 8 to 12 percent
Depth to restrictive feature: 7 to 25 inches to strongly contrasting textural stratification
Natural drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 6c

Custom Soil Resource Report

Hydrologic Soil Group: B

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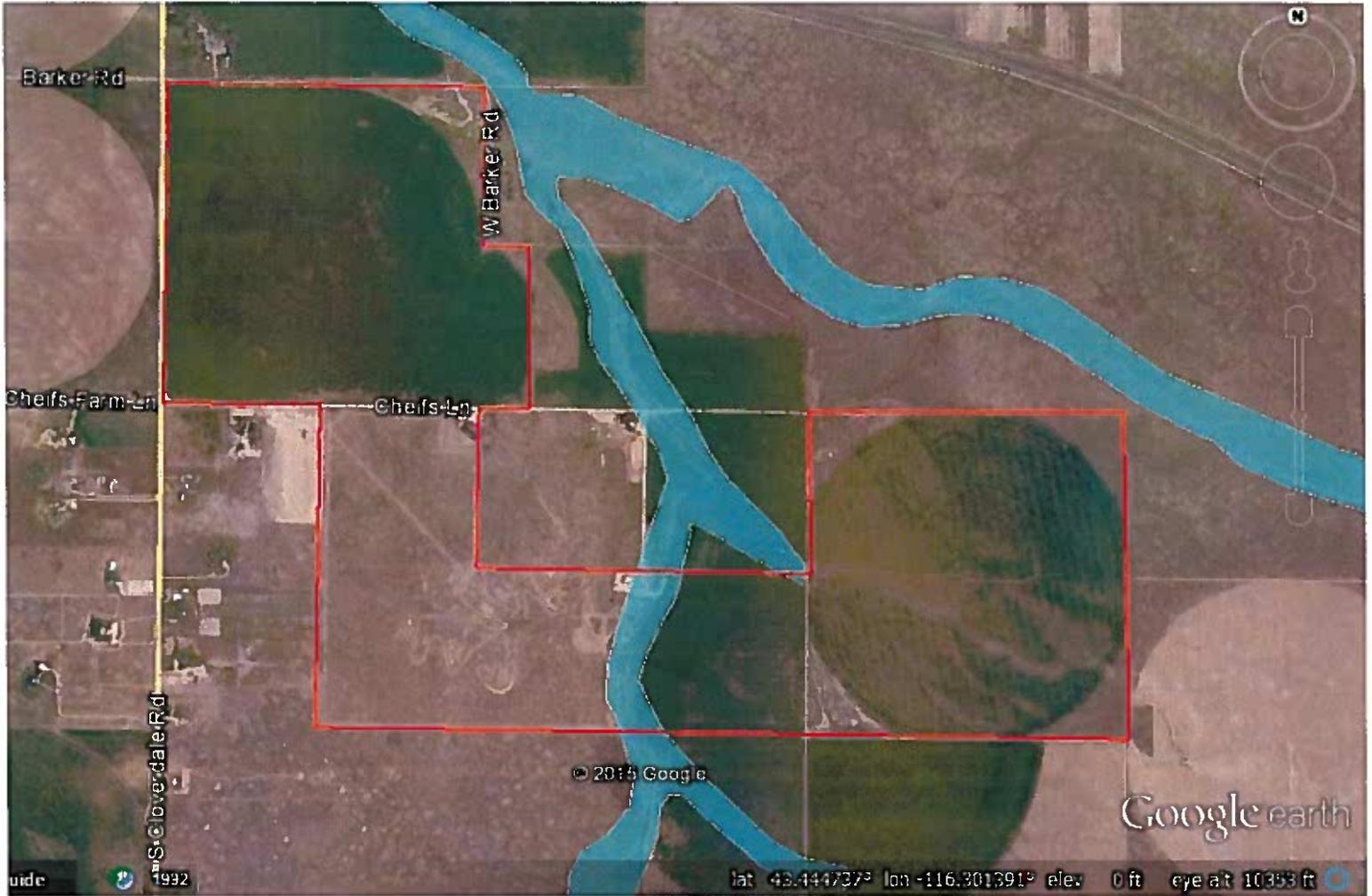
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IDAHO DEPARTMENT OF FISH AND GAME

SOUTHWEST REGION
3101 South Powerline Road
Nampa, Idaho 83686

C.L. "Butch" Otter / Governor
Virgil Moore / Director

August 7, 2015

Diana Sanders
Ada County Development Services
200 W Front Street
Boise ID 83702
dsanders@adaweb.net

RE: 201501245-CU / FP / MSP / PR / V – Boise City Solar Project

Dear Ms. Sanders,

The Idaho Department of Fish and Game (Department) has reviewed the Master Site Plan Application for the Boise City Solar Project, which proposes the construction and operation of a 40 megawatt solar photovoltaic (PV) project on approximately 362 acres of private land in central Ada County. The solar array site and associated substation are generally located in Sections 10 and 11, T1N, R1E, Boise Meridian.

The purpose of these comments is to assist the decision-making authority by providing technical information addressing potential effects to fish, wildlife, and habitats and how any adverse effects might be mitigated. It is not the purpose of the Department to support or oppose this proposal. Resident species of fish and wildlife are property of all Idaho citizens, and the Department and the Idaho Fish and Game Commission are expressly charged with statutory responsibility to preserve, protect, perpetuate and manage all fish and wildlife in Idaho (Idaho Code 36-103(a)). In fulfillment of our statutory charge and direction as provided by the Idaho Legislature, we offer the following general and specific comments.

The current understanding of the effects to wildlife and habitat from the construction and operation of PV solar projects is incomplete. Habitat loss and fragmentation are similar to other land use projects and are quantifiable. Other potential effects are less well understood, such as direct collision with PV panels by birds and resulting mortality and increased predation. Such impacts to birds have been demonstrated for existing projects in the southwest U.S. (Kagan et al. 2014, Walston et al. 2015). In addition, it has been suggested that water-dependent species (loons, grebes, rails, coots, shorebirds, waterbirds, and waterfowl) may be vulnerable to fatality at PV facilities because of the potential for them to confuse arrays for bodies of water (Kagan et al. 2014).

Limited survey results suggest effects to birds is somewhat correlated with the quality and quantity of surrounding habitat, with higher quality habitats attracting more wildlife that may then be vulnerable to the effects of the solar project. The property proposed for the Boise City Solar Project and much of the land to the north has been heavily manipulated in the past and is primarily in irrigated agricultural production. However, the project area is immediately adjacent to the Birds of Prey National Conservation Area (NCA), an area of Bureau of Land Management lands where protection and enhancement of raptors

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EXHIBIT 12
201501245 CU-MSP-PR-V-FP
ID SOLAR 1 LLC

ADA COUNTY
AUG - 7 2015
DEVELOPMENT SERVICES

is the primary management objective. Nesting densities of raptors in the NCA is relatively high. Irrigated agriculture, including the proposed project area, is used to some degree as foraging areas for birds, particularly raptors seeking small mammals attracted to irrigated cropland.

The Department recommends as a condition of approval, the development of a monitoring program to assess the effects to wildlife resulting from project construction and operation. The monitoring program should include pre- and post-construction surveys of the project area to include bird and bat carcass surveys and be designed such that bird and bat mortality estimates can be calculated. An additional important component is a mitigation plan to be implemented if surveys results indicate substantial wildlife impacts. We recommend the monitoring protocol and mitigation measures be developed in cooperation with the Department and the U.S. Fish and Wildlife Service, who has primary jurisdiction over migratory birds. Several local consulting firms have experience designing similar plans for wind power facilities. The Department can provide a list of consultants on request.

Thank you. Please contact Rick Ward in the Southwest Region office at (208)475-2763 or rick.ward@idfg.idaho.gov if you have any questions.

Sincerely,



Scott Reinecker
Southwest Regional Supervisor

SR/rw

ecc: S. Kiefer/ HQ
J. Chatburn/OER
M. Chestone/Origis Energy
M. Robertson/USFWS
cc: Gold file

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IDAHO DEPARTMENT OF FISH AND GAME

SOUTHWEST REGION
3101 South Powerline Road
Nampa, Idaho 83686

C.L. "Butch" Otter / Governor
Virgil Moore / Director

June 26, 2015

Michael Chestone
Origis Energy USA, Inc.
1200 Brickell Ave. Suite 1800
Miami, FL 33131
michael.chestone@origisenergy.com

RE: Ada County Conditional Use Permit Application – Boise City Solar Project

Dear Mr. Chestone,

The Idaho Department of Fish and Game (Department) has reviewed your request for the identification of potential impacts to plant and wildlife resources resulting from the construction and operation of a solar array on approximately 537 acres in central Ada County. The solar array site and associated substation are generally located in Sections 10 and 11, T1N, R1E, Boise Meridian. The proposed location for the solar array has recently changed to this location. Please consider this letter an update to the Department's previous project letter dated June 3, 2015.

Department staff are unable to conduct a thorough environmental review and provide appropriate recommendations at this time due to the compressed timeframe for application to Ada County, the relatively large scale of the project, and staff unfamiliarity with solar energy projects and potential effects to wildlife.

Department staff have met with Origis Energy staff to discuss the project and have made it known that we may request, dependent on our findings, site surveys, avoidance areas, and monitoring of effects to plant and wildlife resources. However, the site has been heavily disturbed by past and current human activities and the Department does not expect significant plant and wildlife resources to be present. Therefore, we recommend the application process proceed with the understanding that the Department will provide comments and recommendations to the applicant and Ada County throughout the process.

Thank you. Please contact Rick Ward in the Southwest Region office at (208)475-2763 or rick.ward@idfg.idaho.gov if you have any questions.

Sincerely,

A handwritten signature in black ink that reads "Scott Reinecker".

Scott Reinecker
Southwest Regional Supervisor

SR/rw
ecc: Kiefer/ HQ
OER
cc: Gold file

Keeping Idaho's Wildlife Heritage



IDAHO DEPARTMENT OF FISH AND GAME

SOUTHWEST REGION
3101 South Powerline Road
Nampa, Idaho 83686

C.L. "Butch" Otter / Governor
Virgil Moore / Director

August 27, 2015

Diana Sanders
Ada County Development Services
200 W Front Street
Boise ID 83702
dsanders@adaweb.net

RE: 201501245-CU / FP / MSP / PR / V – Boise City Solar Project

Dear Ms. Sanders,

As a follow-up to the Idaho Department of Fish and Game public agency response letter dated August 7, 2015, our agency would like to provide Ada County staff with an update. Representatives from ID Solar 1, including their contracted outside consultant (Power Engineers), have subsequently met with IDFG staff as well as the U.S. Fish and Wildlife Service in a joint meeting for an initial planning discussion for the development of an avian and bat monitoring program for the project. All parties have committed to working collaboratively to develop a plan for avian and bat monitoring for the Boise City Solar project. Further, the applicant has demonstrated a willingness to fully share such monitoring data with both agencies in order to help develop policy for any future projects of this type.

We look forward to working with the applicant and their third-party consultants on this project.

Thank you. Please contact Rick Ward in the Southwest Region office at (208)475-2763 or rick.ward@idfg.idaho.gov if you have any questions.

Sincerely,

A handwritten signature in black ink that reads "Scott Reinecker".

Scott Reinecker
Southwest Regional Supervisor

SR/rw

ecc: S. Kiefer/ HQ
J. Chatburn/OER
M. Chestone/Origis Energy
M. Stuber/USFWS
cc: Gold file

Keeping Idaho's Wildlife Heritage

Diana Sanders

From: Diana Sanders
Sent: Friday, July 24, 2015 8:52 AM
To: chornsby@idahopower.com; amurray@idahopower.com; lbishop@idahopower.com; terry_humphrey@blm.gov; Amy Aaron; mreno@cdhd.idaho.gov; lbadigia@cdhd.idaho.gov; wendy@cityofkuna.com; cmiller@compassidaho.org; tlaws@compassidaho.org; scott.eaton@faa.gov; jamie.huff@dhs.gov; neal.murphy@ang.af.mil; james.heuring@bgab.afcent.af.mil; alan.clarke@ang.af.mil; ryan.odneal@ang.af.mil; mark.lessor@itd.idaho.gov; rward@idfg.idaho.gov; danielle.robbins@deq.idaho.gov; westerninfo@idwr.idaho.gov; aaron.golart@idwr.idaho.gov; jtillman@kunafire.com; lsaxton@kunaschools.org; annh_1@yahoo.com; greg.j.martinez@usace.army.mil; greg.j.martinez@usace.army.mil; bob_kibler@fws.gov; fromm.carla@epa.gov; Darby Weston; Darby Weston; clittle@achdidaho.org; syarrington@achdidaho.org; Ryan Strain; Ryan Strain; kyle.e.carpenter.mil@mail.mil; lee.d.rubel.mil@mail.mil; farin.d.schwartz.mil@mail.mil; Brian Wilbur; cherylwright@cwidaho.cc; gordon@cityofkuna.com; Mark Fern; Angela Gilman; Jean Schaffer; Dale Ann Barton; richard.hedrick.1@us.af.mil; richard.hedrick.1@us.af.mil; kimberly.bose@ferc.gov; brandon.w.hobbs@usace.army.mil; Diana Sanders
Cc: Brent Danielson
Subject: Ada County Application Transmittal Notice.

	Ada County Development Services Planning & Zoning Division Transmittal
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File Number: 201501245-CU / FP / MSP / PR / V	X-Reference: NONE
Description: A Conditional use/Master site plan for a Centralized Power Facility , which consists of a 40 Mvac solar photovoltaic and a transmission line along with a floodplain application. A private road application to extend W. Chief's Farm Lane and add gates for security. A Variance for the facility to exceed 5% property coverage for the solar units.	
Reviewing Body: BOCC	Hearing Date: 9/9/2015
Applicant: ID SOLAR I LLC	P&Z Recommendation:
Property: The property contains 362.130 acres and is located at 18100 S CLOVERDALE RD KUNA 83634. Section 10 IN 1E / 11 IN 1E.	

Ada County Development Services is requesting comments and recommendations on the application referenced above. To review detailed information about the request please either click on the file number identified above, or visit the Ada County Development Service's Application Tracking System (ATS) web site at gisx.adaweb.net/acdsv2/ and search by file number. Hover over the pushpin that appears on the map with your mouse and select "Additional Info" from the pop-up box. You will then be able to review individual documents, drawings and other information detailing the request.

We request that you submit your comments or recommendations by 8/8/2015. When responding, please reference the file number identified above. If responding by email,

please send comments to dsanders@adaweb.net.

To request a hard copy of materials associated with this application, for additional information, or to provide comment on Ada County's Development Services ATS, please call me at the number listed below.

Sincerely yours,
DIANA SANDERS, ASSOCIATE PLANNER
200 W Front Street
Boise ID 83702
dsanders@adaweb.net
(208) 287-7905

ADA COUNTY DEVELOPMENT SERVICES
200 W FRONT ST BOISE ID 83702



July 28, 2015

Dear Property Owner:

LEGAL NOTICE IS HEREBY GIVEN THAT the Board will hold a public hearing on **September 9, 2015** at 6:00 p.m. in the Commissioners Main Hearing Room #1235, on the first floor, 200 W. Front Street, Boise, ID, to hear the following:

201501245 CU-MSP-PR-V-FP, A Conditional use/Master site plan for a Centralized Power Facility , which consists of a 40 Mvac solar photovoltaic and a transmission line along with a floodplain application. A private road application to extend W. Chief's Farm Lane and add gates for security. A Variance for the facility to exceed 5% property coverage for the solar units. The property contains 362.13 acres and is located on W. Chiefs Farm Lane, east of Cloverdale in Section 10 &11, T. 1N, R. 1E, Kuna, ID.

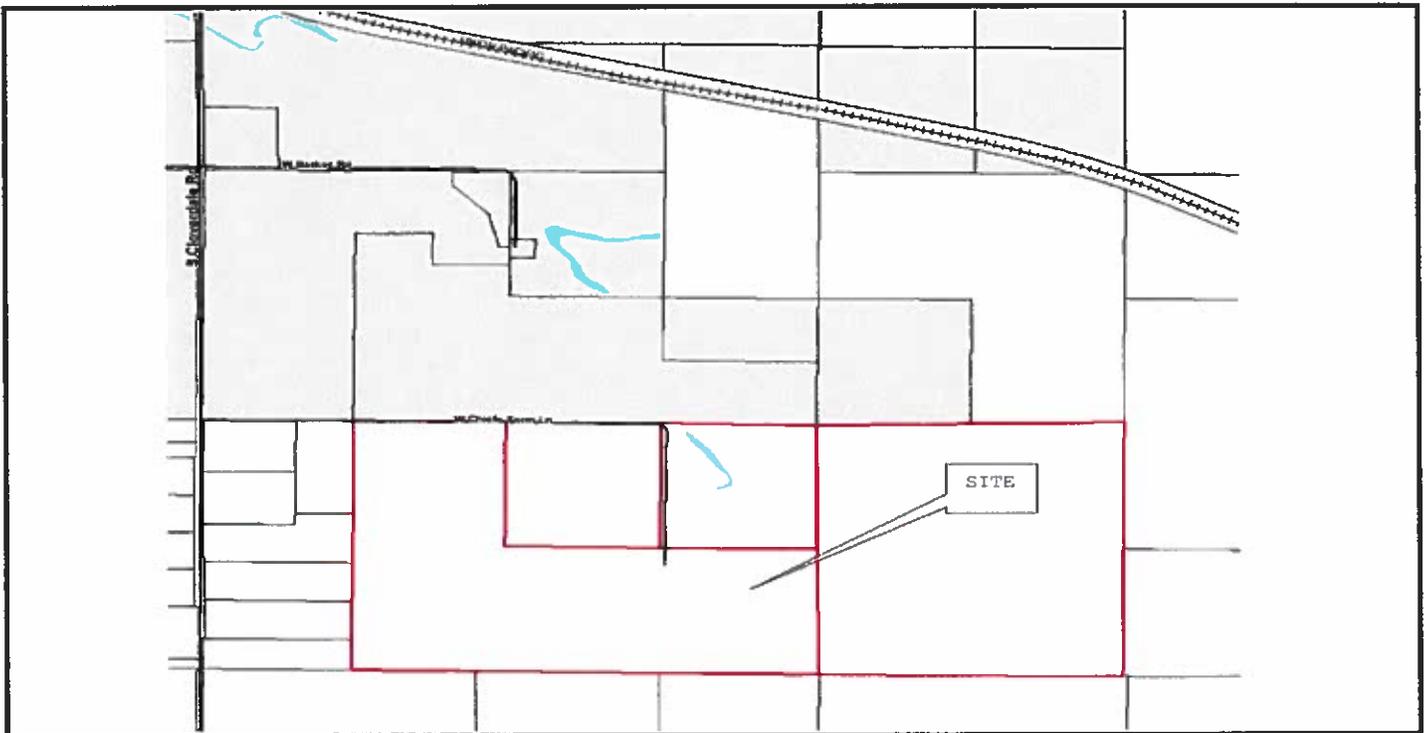
Contact, Diana Sanders, Associate Planner, at 287-7905 for more information.

This is an Official Notice of Public Hearing regarding the use of a property near your own. You have been notified because records indicated that you own property near or within **2640'** of the applicant's project boundary. You are invited to attend the public hearing and offer your comments for consideration. If you are unable to attend, you may send comments to our office before the hearing date, and they will be entered in the public hearing record.

This application can be viewed by completing the following:

- 1 Type <http://gisx.adaweb.net/acdsv2>
- 2 Enter "**201501245-CU**" in search application by file number.
- 3 Click on 'Application Information'.
- 4 Review documents by clicking on 'Supporting Documents'.

5 days prior to the hearing you can go to <https://adacounty.id.gov> to view the agenda or staff report.



NOTES:

- This item may not be heard at the scheduled time of 6:00 p.m. , as multiple items may be considered during the hearing.
- Video, audio, PowerPoint, or other computer-generated visuals used to present testimony, must be provided to the Planner ½ hour prior to the start of the hearing: file format compatibility cannot be guaranteed.
- Auxiliary aids or services for persons with disabilities are available upon request. Please call 287-7900 or 287-7979 (TDD) three days prior to this public hearing to make arrangements.

EXHIBIT 14
201501245 CU-MSP-PR-V-FP
ID SOLAR LLC

Diana Sanders

From: Gary.Gates@faa.gov
Sent: Friday, July 24, 2015 9:09 AM
To: Diana Sanders
Cc: Scott.Eaton@faa.gov; Jason.Garwood@faa.gov; Diane.Stilson@faa.gov
Subject: RE: Ada County Application Transmittal Notice (proposed solar farm).

Hi, following is FAA website that provides guidance to proponents considering development near airports, including solar farms with respect to potential aeronautical impacts.

At the public website, <https://oeaaa.faa.gov> there is a Notice Criteria Tool. Have the proponent put in the coordinates of the closest corner of the solar farm to the Boise runway into the NCT along with the site elevation and structure height. The NCT will inform the proponent if e-filing with the FAA is required or not.

Site elevation can be obtained from project surveyed blueprints or google earth data will work. Site elevation will be in feet, Mean Sea Level units. The structure height is the structure height, including all appurtenances, above the ground – please do not add the site elevation into this height, program will do the math.

Link: <https://oeaaa.faa.gov/oeaaa/external/gisTools/gisAction.jsp?action=showNoNoticeRequiredToolForm>

The requirements for filing with the Federal Aviation Administration for proposed structures vary based on a number of factors: height, proximity to an airport, location, and frequencies emitted from the structure, etc. For more details, please reference [CFR Title 14 Part 77.9](#).

You must file with the FAA at least 45 days prior to construction if:

- your structure will exceed 200ft above ground level
- your structure will be in proximity to an airport and will exceed the slope ratio
- your structure involves construction of a traverseway (i.e. highway, railroad, waterway etc..) and once adjusted upward with the appropriate vertical distance would exceed a standard of 77.9(a) or (b)
- your structure will emit frequencies, and does not meet the conditions of the [FAA Co-location Policy](#)
- your structure will be in an instrument approach area and might exceed part 77 Subpart C
- your proposed structure will be in proximity to a navigation facility and may impact the assurance of navigation signal reception
- your structure will be on an airport or heliport
- filing has been requested by the FAA

If you require additional information regarding the filing requirements for your structure, please identify and contact the appropriate FAA representative using the [Air Traffic Areas of Responsibility map](#) for Off Airport construction, or contact the [FAA Airports Region / District Office](#) for On Airport construction.

The tool below will assist in applying Part 77 Notice Criteria.

Latitude:	<input type="text"/> Deg <input type="text"/> M <input type="text"/> S <input type="text" value="N"/>
Longitude:	<input type="text"/> Deg <input type="text"/> M <input type="text"/> S <input type="text" value="W"/>
Horizontal Datum:	<input type="text" value="NAD83"/>
Site Elevation (SE):	<input type="text"/> (nearest foot)
Structure Height (AGL):	<input type="text"/> (nearest foot)
Traverseway:	<input type="text" value="No Traverseway"/> (Additional height is added to certain structures under 77.9(c))
Is structure on airport:	<input checked="" type="radio"/> No <input type="radio"/> Yes
<input type="button" value="Submit"/>	

Thanks,

Gary M. Gates, P.E.
Airport Engineer
FAA, Helena Airports District Office
2725 Skyway Drive, Suite 2
Helena, MT 59602
Ph: (406) 449-5230
Fax: (406) 449-5274

From: Eaton, Scott (FAA)
Sent: Friday, July 24, 2015 8:54 AM
To: Gates, Gary (FAA)
Subject: FW: Ada County Application Transmittal Notice.

Another solar farm near Boise?

From: Diana Sanders [[mailto:](#)]
Sent: Friday, July 24, 2015 8:52 AM
To: chornsby@idahopower.com; amurray@idahopower.com; lbishop@idahopower.com; terry_humphrey@blm.gov; Amy Aaron; mreno@cdhd.idaho.gov; lbadigia@cdhd.idaho.gov; wendy@cityofkuna.com; cmiller@compassidaho.org; tjaws@compassidaho.org; Eaton, Scott (FAA); jamie.huff@dhs.gov; neal.murphy@ang.af.mil; james.heuring@bgab.afcent.af.mil; alan.clarke@ang.af.mil; ryan.odneal@ang.af.mil; mark.lessor@itd.idaho.gov; rward@idfg.idaho.gov; danielle.robbs@deg.idaho.gov; westerninfo@idwr.idaho.gov; aaron.golart@idwr.idaho.gov; jtillman@kunafire.com; lsaxton@kunaschools.org; annh_1@yahoo.com; greg.j.martinez@usace.army.mil; greg.j.martinez@usace.army.mil; bob.kibler@fws.gov; fromm.carla@epa.gov; Darby Weston; Darby Weston; clittle@achdidaho.org; svarrington@achdidaho.org; Ryan Strain; Ryan Strain; kyle.e.carpenter.mil@mail.mil; lee.d.rubel.mil@mail.mil; farin.d.schwartz.mil@mail.mil; Brian Wilbur; cherylwright@cwidaho.cc; gordon@cityofkuna.com; Mark Ferm; Angela Gilman; Jean Schaffer; Dale Ann Barton; richard.hedrick.1@us.af.mil; richard.hedrick.1@us.af.mil; kimberly.bose@ferc.gov; brandon.w.hobbs@usace.army.mil; Diana Sanders
Cc: Brent Danielson
Subject: Ada County Application Transmittal Notice.



Ada County Development Services Planning & Zoning Division Transmittal

File Number: 201501245-CU / FP / MSP / PR / V	X-Reference: NONE
Description: A Conditional use/Master site plan for a Centralized Power Facility , which consists of a 40 Mvac solar photovoltaic and a transmission line along with a floodplain application. A private road application to extend W. Chief's Farm Lane and add gates for security. A Variance for the facility to exceed 5% property coverage for the solar units.	
Reviewing Body: BOCC	Hearing Date: 9/9/2015
Applicant: ID SOLAR 1 LLC	P&Z Recommendation:
Property: The property contains 362.130 acres and is located at 18100 S CLOVERDALE RD KUNA 83634, Section 10 1N 1E / 11 1N 1E.	

Ada County Development Services is requesting comments and recommendations on the application referenced above. To review detailed information about the request please either click on the file number identified above, or visit the Ada County Development

Service's Application Tracking System (ATS) web site at gisx.adaweb.net/acdsv2/ and search by file number. Hover over the pushpin that appears on the map with your mouse and select "Additional Info" from the pop-up box. You will then be able to review individual documents, drawings and other information detailing the request.

We request that you submit your comments or recommendations by 8/8/2015. When responding, please reference the file number identified above. If responding by email, please send comments to dsanders@adaweb.net.

To request a hard copy of materials associated with this application, for additional information, or to provide comment on Ada County's Development Services ATS, please call me at the number listed below.

Sincerely yours,
DIANA SANDERS, ASSOCIATE PLANNER
200 W Front Street
Boise ID 83702
dsanders@adaweb.net
(208) 287-7905

Diana Sanders

From: Dishner Clarence <cdishner@imd.idaho.gov>
Sent: Friday, July 24, 2015 3:04 PM
To: Brent Danielson
Cc: Diana Sanders; Call Ben
Subject: RE: Ada County Application Transmittal Notice.

Brent,

The State of Idaho- Public Safety Communications does not have any microwave paths that pass over that property. Public Safety Communications is good with the project on a Radio Frequency perspective.

Clarence Dishner
Technical Coordinator Region 2
State of Idaho-Military Division
cdishner@imd.idaho.gov
(208)288-4002 Desk
(208)867-0223 Cell

From: Brent Danielson [mailto:bdanielson@adaweb.net]
Sent: Friday, July 24, 2015 1:51 PM
To: Dishner Clarence
Cc: Diana Sanders
Subject: FW: Ada County Application Transmittal Notice.

Clarence,

Here is the transmittal for the solar facility application that we have.



Brent Danielson, AICP
Associate Planner
Ada County Development Services
200 W. Front St., Boise, ID 83702
(208) 287-7913 office
(208) 287-7909 fax

From: Diana Sanders
Sent: Friday, July 24, 2015 8:52 AM
To: chornsby@idahopower.com; amurray@idahopower.com; lbishop@idahopower.com; terry_humphrey@blm.gov; Amy

Aaron; mreno@cdhd.idaho.gov; lbadigia@cdhd.idaho.gov; wendy@cityofkuna.com; cmiller@compassidaho.org; tlaws@compassidaho.org; scott.eaton@faa.gov; jamie.huff@dhs.gov; neal.murphy@ang.af.mil; james.heuring@bgab.afcent.af.mil; alan.clarke@ang.af.mil; ryan.odneal@ang.af.mil; mark.lessor@itd.idaho.gov; ward@idfg.idaho.gov; danielle.robbins@deg.idaho.gov; westerninfo@idwr.idaho.gov; aaron.golart@idwr.idaho.gov; itillman@kunafire.com; lsaxton@kunaschools.org; annh_1@yahoo.com; greg.i.martinez@usace.army.mil; greg.i.martinez@usace.army.mil; bob.kibler@fws.gov; fromm.carla@epa.gov; Darby Weston; Darby Weston; clittle@achdidaho.org; syarrington@achdidaho.org; Ryan Strain; Ryan Strain; kyle.e.carpenter@mail.mil; lee.d.rubel@mail.mil; farin.d.schwartz@mail.mil; Brian Wilbur; cherylwright@cwidaho.cc; gordon@cityofkuna.com; Mark Fern; Angela Gilman; Jean Schaffer; Dale Ann Barton; richard.hedrick.1@us.af.mil; richard.hedrick.1@us.af.mil; kimberly.bose@ferc.gov; brandon.w.hobbs@usace.army.mil; Diana Sanders

Cc: Brent Danielson

Subject: Ada County Application Transmittal Notice.



File Number: 201501245-CU / FP / MSP / PR / V	X-Reference: NONE
Description: A Conditional use/Master site plan for a Centralized Power Facility , which consists of a 40 Mvac solar photovoltaic and a transmission line along with a floodplain application. A private road application to extend W. Chief's Farm Lane and add gates for security. A Variance for the facility to exceed 5% property coverage for the solar units.	
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Ada County Development Services is requesting comments and recommendations on the application referenced above. To review detailed information about the request please either click on the file number identified above, or visit the Ada County Development Service's Application Tracking System (ATS) web site at gisx.adaweb.net/acdsv2/ and search by file number. Hover over the pushpin that appears on the map with your mouse and select "Additional Info" from the pop-up box. You will then be able to review individual documents, drawings and other information detailing the request.

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To request a hard copy of materials associated with this application, for additional information, or to provide comment on Ada County's Development Services ATS, please call me at the number listed below.

Sincerely yours,
 DIANA SANDERS, ASSOCIATE PLANNER
 200 W Front Street
 Boise ID 83702
dsanders@adaweb.net
 (208) 287-7905

Diana Sanders

From: Carpenter, Kyle E Lt Col USAF NG IDANG (US) <kyle.e.carpenter.mil@mail.mil>
Sent: Tuesday, July 28, 2015 11:59 AM
To: Michael Chestone
Cc: Brent Danielson; Diana Sanders
Subject: RE: Application # 2015 01245-CU/FP/MSP/PR/V

Mike,

Thanks for your quick and detailed response. I think that answers my questions from the Idaho Army National Guard's perspective. Good luck with the solar array.

Diana,

I consider this question resolved. Thanks!

Lt Col Kyle Carpenter, P.E.
Deputy Chief Environmental Management Office
(208)272-4170
(208)571-6414 (c)

From: Michael Chestone [<mailto:michael.chestone@origisenergy.com>]
Sent: Tuesday, July 28, 2015 10:21 AM
To: Carpenter, Kyle E Lt Col USAF NG IDANG (US)
Cc: Brent Danielson; Diana Sanders
Subject: RE: Application # 2015 01245-CU/FP/MSP/PR/V

Dear Lt Col Carpenter-

I received the email below from Diana at Ada County Planning and Zoning and I am pleased to provide additional insight to your question. First, thank you for your inquiry about the project and initial words of support from OCTC. We always welcome these types of inquiries and seek to be as compatible with our neighbors as possible.

To your question about reflectivity of panels, the answer is "Yes, all of these panels have an anti-reflective coating on them". The modules (panels) have a single sheet of anti-reflective tempered glass that encapsulates the materials inside. These types of panels are specially designed to absorb all possible light and not reflect it. The more light that is captured, the more electricity the unit can generate, so this is a particularly sensitive issue in terms of the manufacturers race for efficiency.

There are several examples of photovoltaic sites working in quiet cooperation with both military and civilian airports around the world. Most notably in this situation is perhaps the 14 Megawatt system that is installed at Nellis Air Force Base just northeast of Las Vegas, NV. This marquee system is often referenced as success story of the compatibility of these systems within the sphere of an airport or flight operations. As you probably know, Nellis is one of the largest fighter bases in the world and it has enjoyed uninterrupted operations since this system was installed in 2007.

Please let me know if you have any further questions or would like additional references or detail. There are several other instances of these types of projects being co-located with airports without incident (including Davis-Monthan AFB, Edwards AFB, Denver International, Fresno International and the list goes on).

Best Regards,

Michael Chestone

Director of Development

Origis Energy USA
1200 Brickell Ave, Suite 1800
Miami, FL 33131
Cell Phone +1 (305)560-7539

michael.chestone@origisenergy.com

www.origisenergy.com

This communication, and any attachment hereto is/are "Confidential". Further, if the reader of this message is not the intended recipient, or the employee or agent responsible to deliver it to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication, or any attachment is strictly prohibited. If you have received this message in error, please notify Michael Chestone immediately by telephone (305-560-7539) and by electronic mail to: michael.chestone@origisenergy.com and then delete this message and all copies and backups thereof.

From: Carpenter, Kyle E Lt Col USAF NG IDANG (US) [<mailto:kyle.e.carpenter.mil@mail.mil>]
Sent: Tuesday, July 28, 2015 9:46 AM
To: Diana Sanders
Subject: Application # 2015 01245-CU/FP/MSP/PR/V

Diana,

I am a representative for the Idaho Army National Guard and we operate the Orchard Combat Training Center (OCTC) near the proposed Solar Farm. I think that the solar farm is a great idea and a compatible use for the OCTC, but I have a question regarding reflectivity and the solar panels. We have low flying aircraft that operate in that vicinity and want to know if the developer intends to put an anti-reflection coating on the panel. My fear is for safety regarding the low flying aircraft and the reflective power of the solar farm during the day. Let me know if you need more information. Thanks!

Lt Col Kyle Carpenter, P.E.
Deputy Chief Environmental Management Office
(208)272-4170
(208)571-6414 (c)



Jim D. Hansen, President
Sara M. Baker, Vice President
Rebecca W. Arnold, Commissioner
Kent Goldthorpe, Commissioner
Paul Woods, Commissioner

August 3, 2015

To: Michael Chestone
Origis Energy USA, Inc.
1200 Brickell Ave. Ste. 1800
Miami, FL 33131

Subject: ADA15-0054 (201501245-CU) / KUNA15-0004 (15-04-SP)
SEC of Cloverdale Road and Barker Road.
Solar Facility

In response to your request for comment, the Ada County Highway District has reviewed the submitted application and site plan for the item referenced above. It has been determined that ACHD has site specific conditions of approval for this application.

A. Findings of Fact

1. Private Roads

- a. **Private Road Policy:** District policy 7212.1 states that the lead land use agencies in Ada County establish the requirements for private streets. The District retains authority and will review the proposed intersection of a private and public street for compliance with District intersection policies and standards. The private road should have the following requirements:
- Designed to discourage through traffic between two public streets,
 - Graded to drain away from the public street intersection, and
 - If a private road is gated, the gate or keypad (if applicable) shall be located a minimum of 50-feet from the near edge of the intersection and a turnaround shall be provided.
- b. **Applicant Proposal:** The applicant is proposing to construct a private road.
- c. **Staff Comments/Recommendations:** If Ada County approves the private road, the applicant shall be required to pave the private roadway a minimum of 20 to 24-feet wide and at least 30-feet into the site beyond the edge of pavement of all public streets and install pavement tapers with 15-foot curb radii abutting the existing roadway edge. If private roads are not approved by Ada County, the applicant will be required to revise and resubmit.

Street name and stop signs are required for the private road. The signs may be ordered through the District. Verification of the correct, approved name of the road is required.

ACHD does not make any assurances that the private road, which is a part of this application, will be accepted as a public road if such a request is made in the future. Substantial redesign and reconstruction costs may be necessary in order to qualify this road for public ownership and maintenance.

The following requirements must be met if the applicant wishes to dedicate the roadway to ACHD:

- Dedicate a minimum of 50-feet of right-of-way for the road.
- Construct the roadway to the minimum ACHD requirements.
- Construct a stub street to the surrounding parcels.

B. Site Specific Conditions of Approval

1. Pave the private roadway and driveways a minimum of 20 to 24-feet wide and at least 30-feet into the site beyond the edge of pavement of all public streets.
2. A Traffic Impact Fee will be assessed by ACHD and will be due prior to issuance of a building permit.
3. Plans shall be submitted to the ACHD Development Review Department for plans acceptance, and impact fee assessment (if an assessment is applicable).
4. Comply with the Standard Conditions of Approval as noted below.

C. Traffic Information

Trip Generation

Condition of Area Roadways: *Traffic Count is based on Vehicles per hour (VPH)*

Roadway	Frontage	Functional Classification	PM Peak Hour Traffic Count	PM Peak Hour Level of Service
Cloverdale Rd.	2,625-feet	Local	66	N/A

Average Daily Traffic Count (VDT): *Average daily traffic counts are based on ACHD's most current traffic counts*

- The average daily traffic count for Cloverdale Road south of Kuna Mora Road was 1,133 on June 14, 2007.

If you have any questions, please feel free to contact me at (208) 387-6335.

Sincerely,



Austin Miller
Planner I
Development Services

cc: City of Kuna
Ada County

Standard Conditions of Approval

1. All proposed irrigation facilities shall be located outside of the ACHD right-of-way (including all easements). Any existing irrigation facilities shall be relocated outside of the ACHD right-of-way (including all easements).
2. Private Utilities including sewer or water systems are prohibited from being located within the ACHD right-of-way.
3. In accordance with District policy, 7203.6, the applicant may be required to update any existing non-compliant pedestrian improvements abutting the site to meet current Americans with Disabilities Act (ADA) requirements. The applicant's engineer should provide documentation of ADA compliance to District Development Review staff for review.
4. Replace any existing damaged curb, gutter and sidewalk and any that may be damaged during the construction of the proposed development. Contact Construction Services at 387-6280 (with file number) for details.
5. A license agreement and compliance with the District's Tree Planter policy is required for all landscaping proposed within ACHD right-of-way or easement areas.
6. All utility relocation costs associated with improving street frontages abutting the site shall be borne by the developer.
7. It is the responsibility of the applicant to verify all existing utilities within the right-of-way. The applicant at no cost to ACHD shall repair existing utilities damaged by the applicant. The applicant shall be required to call DIGLINE (1-811-342-1585) at least two full business days prior to breaking ground within ACHD right-of-way. The applicant shall contact ACHD Traffic Operations 387-6190 in the event any ACHD conduits (spare or filled) are compromised during any phase of construction.
8. Utility street cuts in pavement less than five years old are not allowed unless approved in writing by the District. Contact the District's Utility Coordinator at 387-6258 (with file numbers) for details.
9. All design and construction shall be in accordance with the ACHD Policy Manual, ISPWC Standards and approved supplements, Construction Services procedures and all applicable ACHD Standards unless specifically waived herein. An engineer registered in the State of Idaho shall prepare and certify all improvement plans.
10. Construction, use and property development shall be in conformance with all applicable requirements of ACHD prior to District approval for occupancy.
11. No change in the terms and conditions of this approval shall be valid unless they are in writing and signed by the applicant or the applicant's authorized representative and an authorized representative of ACHD. The burden shall be upon the applicant to obtain written confirmation of any change from ACHD.
12. If the site plan or use should change in the future, ACHD Planning Review will review the site plan and may require additional improvements to the transportation system at that time. Any change in the planned use of the property which is the subject of this application, shall require the applicant to comply with ACHD Policy and Standard Conditions of Approval in place at that time unless a waiver/variance of the requirements or other legal relief is granted by the ACHD Commission.

Request for Appeal of Staff Decision

1. **Appeal of Staff Decision:** The Commission shall hear and decide appeals by an applicant of the final decision made by the Development Services Manager when it is alleged that the Development Services Manager did not properly apply this section 7101.6, did not consider all of the relevant facts presented, made an error of fact or law, abused discretion or acted arbitrarily and capriciously in the interpretation or enforcement of the ACHD Policy Manual.
 - a. **Filing Fee:** The Commission may, from time to time, set reasonable fees to be charged the applicant for the processing of appeals, to cover administrative costs.
 - b. **Initiation:** An appeal is initiated by the filing of a written notice of appeal with the Secretary of Highway Systems, which must be filed within ten (10) working days from the date of the decision that is the subject of the appeal. The notice of appeal shall refer to the decision being appealed, identify the appellant by name, address and telephone number and state the grounds for the appeal. The grounds shall include a written summary of the provisions of the policy relevant to the appeal and/or the facts and law relied upon and shall include a written argument in support of the appeal. The Commission shall not consider a notice of appeal that does not comply with the provisions of this subsection.
 - c. **Time to Reply:** The Development Services Manager shall have ten (10) working days from the date of the filing of the notice of appeal to reply to the notice of the appeal, and may during such time meet with the appellant to discuss the matter, and may also consider and/or modify the decision that is being appealed. A copy of the reply and any modifications to the decision being appealed will be provided to the appellant prior to the Commission hearing on the appeal.
 - d. **Notice of Hearing:** Unless otherwise agreed to by the appellant, the hearing of the appeal will be noticed and scheduled on the Commission agenda at a regular meeting to be held within thirty (30) days following the delivery to the appellant of the Development Services Manager's reply to the notice of appeal. A copy of the decision being appealed, the notice of appeal and the reply shall be delivered to the Commission at least one (1) week prior to the hearing.
 - e. **Action by Commission:** Following the hearing, the Commission shall either affirm or reverse, in whole or part, or otherwise modify, amend or supplement the decision being appealed, as such action is adequately supported by the law and evidence presented at the hearing.

Diana Sanders

From: Terry Gammel <tgammel@kunafire.com>
Sent: Wednesday, August 05, 2015 12:25 PM
To: Diana Sanders
Cc: jtilman@kunafire.com
Subject: 201501245-CU/FP/MSP/PR /V review comments

Comments and Recommendations on application file number [201501245-CU/FP/MSP/PR /V](#)

The Kuna Rural Fire District after considerable review has recommendations for this project which are listed below.

1. Place Knox Box at gate access points for gate and site access.
2. Assure access roads and all turn around points meet or exceeds Recommendations of IFC

2012

Terry D Gammel
Assistant Fire Chief
Kuna Fire District
150 West Boise Street
Kuna, Idaho 83634
cell: 208-870-3057
office: 208-922-1144
tgammel@kunafire.com



STATE OF IDAHO
DEPARTMENT OF ENVIRONMENTAL QUALITY
BOISE REGIONAL OFFICE
1445 North Orchard Street • Boise, ID 83706-2239 • (208) 373-0550

DEQ Response to Request for Environmental Comment

Date: 08/06/2015
Agency Requesting Comments: Ada County Development Services
Date Request Received: 07/24/2015
Applicant/Description: Centralized Power Facility

Thank you for the opportunity to respond to your request for comment. While DEQ does not review projects on a project-specific basis, we attempt to provide the best review of the information provided. DEQ encourages agencies to review and utilize the Idaho Environmental Guide to assist in addressing project-specific conditions that may apply. This guide can be found at <http://www.deq.idaho.gov/ieg/>.

The following information does not cover every aspect of this project; however, we have the following general comments to use as appropriate:

1. Air Quality

- *Please review IDAPA 58.01.01 for all rules on Air Quality, especially those regarding fugitive dust (58.01.01.651), trade waste burning (58.01.01.600-617), and odor control plans (58.01.01.776).*

For questions, contact David Luft, Air Quality Manager, at 373-0550.

- *IDAPA 58.01.01.201 requires an owner or operator of a facility to obtain an air quality permit to construct prior to the commencement of construction or modification of any facility that will be a source of air pollution in quantities above established levels. DEQ asks that cities and counties require a proposed facility to contact DEQ for an applicability determination on their proposal to ensure they remain in compliance with the rules.*

For questions, contact the DEQ Air Quality Permitting Hotline at 1-877-573-7648.

2. Wastewater and Recycled Water

- *DEQ recommends verifying that there is adequate sewer to serve this project prior to approval. Please contact the sewer provider for a capacity statement, declining balance report, and willingness to serve this project.*
- *IDAPA 58.01.16 and IDAPA 58.01.17 are the sections of Idaho rules regarding wastewater and recycled water. Please review these rules to determine whether this or future projects will require DEQ approval. IDAPA 58.01.03 is the section of Idaho rules regarding subsurface disposal of wastewater. Please review this rule to determine whether this or future projects will require permitting by the district health department.*

All projects for construction or modification of wastewater systems require preconstruction approval. Recycled water projects and subsurface disposal projects require separate permits as well.

- *DEQ recommends that projects be served by existing approved wastewater collection systems or a centralized community wastewater system whenever possible. Please contact DEQ to discuss potential for development of a community treatment system along with best management practices for communities to protect ground water.*
- *DEQ recommends that cities and counties develop and use a comprehensive land use management plan, which includes the impacts of present and future wastewater management in this area. Please schedule a meeting with DEQ for further discussion and recommendations for plan development and implementation.*

For questions, contact Todd Crutcher, Engineering Manager, at 373-0550.

3. Drinking Water

- *DEQ recommends verifying that there is adequate water to serve this project prior to approval. Please contact the water provider for a capacity statement, declining balance report, and willingness to serve this project.*
- *IDAPA 58.01.08 is the section of Idaho rules regarding public drinking water systems. Please review these rules to determine whether this or future projects will require DEQ approval.*

All projects for construction or modification of public drinking water systems require preconstruction approval.

- *DEQ recommends verifying if the current and/or proposed drinking water system is a regulated public drinking water system (refer to the DEQ website at <http://www.deq.idaho.gov/water-quality/drinking-water.aspx>). For non-regulated systems, DEQ recommends annual testing for total coliform bacteria, nitrate, and nitrite.*
- *If any private wells will be included in this project, we recommend that they be tested for total coliform bacteria, nitrate, and nitrite prior to use and retested annually thereafter.*
- *DEQ recommends using an existing drinking water system whenever possible or construction of a new community drinking water system. Please contact DEQ to discuss this project and to explore options to both best serve the future residents of this development and provide for protection of ground water resources.*
- *DEQ recommends cities and counties develop and use a comprehensive land use management plan which addresses the present and future needs of this area for adequate, safe, and sustainable drinking water. Please schedule a meeting with DEQ for further discussion and recommendations for plan development and implementation.*

For questions, contact Todd Crutcher, Engineering Manager at 373-0550.

4. Surface Water

- *A DEQ short-term activity exemption (STAE) from this office is required if the project will involve de-watering of ground water during excavation and discharge back into surface water, including a description of the water treatment from this process to prevent excessive sediment and turbidity from entering surface water.*

- *Please contact DEQ to determine whether this project will require a National Pollution Discharge Elimination System (NPDES) Permit. If this project disturbs more than one acre, a stormwater permit from EPA may be required.*
- *If this project is near a source of surface water, DEQ requests that projects incorporate construction best management practices (BMPs) to assist in the protection of Idaho's water resources. Additionally, please contact DEQ to identify BMP alternatives and to determine whether this project is in an area with Total Maximum Daily Load stormwater permit conditions.*
- *The Idaho Stream Channel Protection Act requires a permit for most stream channel alterations. Please contact the Idaho Department of Water Resources (IDWR), Western Regional Office, at 2735 Airport Way, Boise, or call 208-334-2190 for more information. Information is also available on the IDWR website at:
<http://www.idwr.idaho.gov/WaterManagement/StreamsDams/Streams/AlterationPermit/AlterationPermit.htm>*
- *The Federal Clean Water Act requires a permit for filling or dredging in waters of the United States. Please contact the US Army Corps of Engineers, Boise Field Office, at 10095 Emerald Street, Boise, or call 208-345-2155 for more information regarding permits.*

For questions, contact Lance Holloway, Surface Water Manager, at 373-0550.

5. Hazardous Waste And Ground Water Contamination

- ***Hazardous Waste.*** *The types and number of requirements that must be complied with under the federal Resource Conservation and Recovery Act (RCRA) and the Idaho Rules and Standards for Hazardous Waste (IDAPA 58.01.05) are based on the quantity and type of waste generated. Every business in Idaho is required to track the volume of waste generated, determine whether each type of waste is hazardous, and ensure that all wastes are properly disposed of according to federal, state, and local requirements.*
- *No trash or other solid waste shall be buried, burned, or otherwise disposed of at the project site. These disposal methods are regulated by various state regulations including Idaho's Solid Waste Management Regulations and Standards, Rules and Regulations for Hazardous Waste, and Rules and Regulations for the Prevention of Air Pollution.*
- ***Water Quality Standards.*** *Site activities must comply with the Idaho Water Quality Standards (IDAPA 58.01.02) regarding hazardous and deleterious-materials storage, disposal, or accumulation adjacent to or in the immediate vicinity of state waters (IDAPA 58.01.02.800); and the cleanup and reporting of oil-filled electrical equipment (IDAPA 58.01.02.849); hazardous materials (IDAPA 58.01.02.850); and used-oil and petroleum releases (IDAPA 58.01.02.851 and 852).*

Petroleum releases must be reported to DEQ in accordance with IDAPA 58.01.02.851.01 and 04. Hazardous material releases to state waters, or to land such that there is likelihood that it will enter state waters, must be reported to DEQ in accordance with IDAPA 58.01.02.850.

- **Ground Water Contamination.** DEQ requests that this project comply with Idaho's Ground Water Quality Rules (IDAPA 58.01.11), which states that "No person shall cause or allow the release, spilling, leaking, emission, discharge, escape, leaching, or disposal of a contaminant into the environment in a manner that causes a ground water quality standard to be exceeded, injures a beneficial use of ground water, or is not in accordance with a permit, consent order or applicable best management practice, best available method or best practical method."

For questions, contact Dean Ehlert, Waste & Remediation Manager, at 373-0550.

6. Additional Notes

- If an underground storage tank (UST) or an aboveground storage tank (AST) is identified at the site, the site should be evaluated to determine whether the UST is regulated by DEQ. EPA regulates ASTs. UST and AST sites should be assessed to determine whether there is potential soil and ground water contamination. Please call DEQ at 373-0550, or visit the DEQ website (<http://www.deq.idaho.gov/waste-mgmt-remediation/storage-tanks.aspx>) for assistance.
- If applicable to this project, DEQ recommends that BMPs be implemented for any of the following conditions: wash water from cleaning vehicles, fertilizers and pesticides, animal facilities, composted waste, and ponds. Please contact DEQ for more information on any of these conditions.

We look forward to working with you in a proactive manner to address potential environmental impacts that may be within our regulatory authority. If you have any questions, please contact me, or any of our technical staff at 208-373-0550.

Sincerely,

Danielle Robbins

Danielle Robbins
danielle.robbs@deq.idaho.gov
Boise Regional Office
Idaho Department of Environmental Quality

C: File # 2077

MEMORANDUM



DATE: 8/7/2015

RE: 201500634-CU/FP/MSP/PR/V ID Solar

TO: Diana Sanders, Associate Planner

FROM: Mark Ferm, Ada County Building Official

Summary of Project:

A Conditional use/Master site plan for a Centralized Power Facility , which consists of a 40 Mwac solar photovoltaic and a transmission line along with a floodplain application. A private road application to extend W. Chief's Farm Lane and add gates for security. A Variance for the facility to exceed 5% property coverage for the solar units. This project is located on 362 acres addressed as 18100 S Cloverdale.

Findings and Conditions:

The building division has no objection to the proposed construction however the applicant should be aware a building permit will be required for the structures racking and inverter skids. The permits will be divided by the inverter/transformer skids and the solar arrays assiated with each one. The applicant should also be aware that the property is not located in a fire prevention district and as described in Idaho Statute 41-256 #1 the County Sheriff shall be assistant to the State Fire Marshal who will review the fire suppression system and fire flows required for these structures.

Conclusion:

Approved with condition listed above

Mark Ferm
Ada County Building Official
200 W Front Suite 2125
Boise Idaho 83702
Phone 287-7910

markf@adaweb.net



MEMORANDUM

DATE: August 24, 2015

RE: Recommendation Regarding File 201501245 CU/FP/MSP/PR/V, Centralized Solar Power Facility, 18100 S. Cloverdale Rd, Kuna, ID

TO: Diana Sanders, Associate Planner

FROM: Angela Gilman, Ada County Engineer

CC:

Diana,

Per your request I have reviewed the project referenced above. The documents reviewed include the document titled Permitting Package which contains, among other things, sections that include:

- Master Application
- Detailed Letter/Project Overview
- Site Plan (C-01)
- Private Road Typical Section

My comments and Conditions of Approval are as follows:

Drainage

A Drainage Study/Plan need to be submitted in accordance with Ada County Code 8-4A-11.

Private Road

Private road plans need to be submitted in accordance with Ada County Code 8-4D-4.

The applicant/engineer of record shall schedule a final inspection with me, the County Engineer, upon completion of the project.

At the conclusion of the approved work, the engineer of record shall submit a report to the director stating that the work has been executed in compliance with the approved plans.

Private Road

Private road plans need to be submitted in accordance with Ada County Code 8-4D-4. If the applicant intends to use an alternative to the private road construction standards, the proposed alternative must be approved by the County Engineer.

The applicant/engineer of record shall schedule a final inspection with me, the County Engineer, upon completion of the project.

At the conclusion of the approved work, the engineer of record shall submit a report to the director stating that the work has been executed in compliance with the approved plans.

Easement Description

Correct the bearing listed on the first call leaving the Point of Beginning. As submitted, bearing N 89°16'07" W from the W1/4 Corner of Section 10 would place a portion of the easement in Section 9.

Revise the wording of the second call to read "...marking the southeast corner of said SW1/4 of the NE1/4 of Section 10.", to match the wording in the 3rd call.

Revise the wording of the last call to read "... marking the end of the centerline of the 50-foot wide strip, ~~easement~~ also being the radius point ...", to match the wording at the beginning of the description. Also clarify if the circular portion of the easement begins perpendicular to the described centerline End point, creating a half circle, or extends back to meet the side lines "25-feet on each side" of said described centerline.



MEMORANDUM

DATE: August 27, 2015

RE: Recommendation Regarding File 201501245 CU/FP/MSP/PR/V, Centralized Solar Power Facility, 18100 S. Cloverdale Rd, Kuna, ID

TO: Diana Sanders, Associate Planner

FROM: Angela Gilman, Ada County Engineer

CC:

Diana,

Per your request I have reviewed the project referenced above. The documents reviewed include the document titled Permitting Package which contains, among other things, sections that include:

- Master Application
- Detailed Letter/Project Overview
- Site Plan (C-01)
- Private Road Typical Section

My comments and Conditions of Approval are as follows:

Drainage

A Drainage Study/Plan need to be submitted in accordance with Ada County Code 8-4A-11.

Floodplain

The applicant may proceed with work on the project prior to LOMR approval on the condition that no work is done within the existing unnumbered A zone. Upon FEMA approval of the LOMR, work may proceed in accordance with the Flood Hazard Overlay District for the new floodplain configuration. The existing culvert(s) within the floodplain may be replaced at that time in accordance with the approved LOMR.

ADA COUNTY

AUG 27 2015

DEVELOPMENT SERVICES

Diana Sanders

From: Bishop, Laura <LBishop@idahopower.com>
Sent: Thursday, August 27, 2015 2:40 PM
To: Diana Sanders
Subject: RE: Ada County Application Transmittal Notice.

Hi, Diana,

Idaho Power Company is working cooperatively with Boise City Solar to ensure the solar farm project can proceed as planned. Generally speaking, Idaho Power will require that Boise City Solar accommodate existing power line and miscellaneous facilities if users require any such facilities to remain in place. Idaho Power will be developing a substation to support the interconnection of the solar farm project but this portion of the project will be located within Kuna City limits.

Idaho Power appreciates the opportunity to respond to this application and is available to discuss the application in further detail should you have questions regarding the response presented herein or other information to relay.

Best regards,

Laura

Laura A. Bishop
Real Estate Portfolio Manager
Idaho Power | Corporate Real Estate | Land Acquisition
PO Box 70 (83707) | 1221 W. Idaho Street | Boise, ID | 83702

Ofc: (208) 388-5272
Fax: (208) 433-2842
Email: lbishop@idahopower.com

From: Diana Sanders [mailto:dsanders@adaweb.net]
Sent: Thursday, August 27, 2015 1:48 PM
To: Bishop, Laura
Subject: FW: Ada County Application Transmittal Notice.

Here is the transmittal.
Thank you



Diana Sanders
Associate Planner
Ada County Development Services
200 W. Front St., Boise, ID 83702
(208) 287-7905 office
(208) 287-7909 fax

ADA COUNTY
AUG 27 2015
DEVELOPMENT SERVICES

1 EXHIBIT 23
201501245 CU-MSP-PR-V-FP
UD.SOLAR 1 LLC

From: Diana Sanders

Sent: Friday, July 24, 2015 8:52 AM

To: chornsby@idahopower.com; amurray@idahopower.com; lbishop@idahopower.com; terry_humphrey@blm.gov; Amy Aaron; mreno@cdhd.idaho.gov; lbadihia@cdhd.idaho.gov; wendy@cityofkuna.com; cmiller@compassidaho.org; tjaws@compassidaho.org; scott.eaton@faa.gov; jamie.huff@dhs.gov; neal.murphy@ang.af.mil; james.heuring@bgab.afcent.af.mil; alan.clarke@ang.af.mil; ryan.odneal@ang.af.mil; mark.lessor@itd.idaho.gov; rward@idfg.idaho.gov; danielle.robbs@deg.idaho.gov; westeminfo@idwr.idaho.gov; aaron.golart@idwr.idaho.gov; jtillman@kunafire.com; lsaxton@kunaschools.org; annh_1@yahoo.com; greg.j.martinez@usace.army.mil; greg.j.martinez@usace.army.mil; bob.kibler@fws.gov; fromm.carla@epa.gov; Darby Weston; Darby Weston; clittle@achdidaho.org; svarrington@achdidaho.org; Ryan Strain; Ryan Strain; kyle.e.carpenter.mil@mail.mil; lee.d.rubel.mil@mail.mil; farin.d.schwartz.mil@mail.mil; Brian Wilbur; cherylwright@cwidaho.cc; gordon@cityofkuna.com; Mark Ferm; Angela Gilman; Jean Schaffer; Dale Ann Barton; richard.hedrick.1@us.af.mil; richard.hedrick.1@us.af.mil; kimberly.bose@ferc.gov; brandon.w.hobbs@usace.army.mil; Diana Sanders

Cc: Brent Danielson

Subject: Ada County Application Transmittal Notice.



Ada County Development Services Planning & Zoning Division Transmittal

File Number: [201501245-CU / FP / MSP / PR / V](#)

X-Reference: NONE

Description: A Conditional use/Master site plan for a Centralized Power Facility , which consists of a 40 Mwac solar photovoltaic and a transmission line along with a floodplain application. A private road application to extend W. Chief's Farm Lane and add gates for security. A Variance for the facility to exceed 5% property coverage for the solar units.

Reviewing Body: BOCC

Hearing Date: 9/9/2015

Applicant: ID SOLAR 1 LLC

P&Z Recommendation:

Property: The property contains 362.130 acres and is located at 18100 S CLOVERDALE RD KUNA 83634, Section 10 IN 1E / 11 IN 1E.

Ada County Development Services is requesting comments and recommendations on the application referenced above. To review detailed information about the request please either click on the file number identified above, or visit the Ada County Development Service's Application Tracking System (ATS) web site at gisx.adaweb.net/acdsv2/ and search by file number. Hover over the pushpin that appears on the map with your mouse and select "Additional Info" from the pop-up box. You will then be able to review individual documents, drawings and other information detailing the request.

We request that you submit your comments or recommendations by 8/8/2015. When responding, please reference the file number identified above. If responding by email, please send comments to dsanders@adaweb.net.

To request a hard copy of materials associated with this application, for additional information, or to provide comment on Ada County's Development Services ATS, please call me at the number listed below.

Sincerely yours,
DIANA SANDERS, ASSOCIATE PLANNER
200 W Front Street
Boise ID 83702

dsanders@adaweb.net

(208) 287-7905



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Memo

Re: Fire Considerations for Boise City Solar project

Date: August 18th, 2015

Roughly 90% of the makeup of solar modules (panels) consists of non-flammable materials (glass, silicon and aluminum). The balance of the materials are highly fire resistant and would melt, rather than ignite if exposed to an open flame. The modules used will be poly-silicon based and do not contain hazardous materials. All of the modules used will be certified by Underwriter Laboratories, using their 1703 Standard for Flat-Plate Photovoltaic (PV) Modules and Panels. This rigorous level of testing ensures that these same modules used in our ground-mount configuration would be safe for use on residential homes and commercial buildings. All inverters, wiring and other electrical equipment will meet or exceed National Electric Code. It is widely accepted that these products do not pose a threat of releasing hazardous or toxic fumes during a fire. Further, the risk of fire at ground-mounted installations is remote because of the precautions taken during the site preparation including the removal of fuels and the lack of combustible materials contained in a solar panel (mostly glass and aluminum).

Origis develops and maintains a comprehensive vegetation management/ abatement program as well as a safety program at all of our projects to ensure that our facilities are operated using the highest standards of care. An operating safety plan will be developed specifically for this site upon final commissioning. All on-site employees will be trained in emergency shutdown procedures and no visitors are allowed without strict supervision. Our properties will have a much lower potential for fire than they would be if left in their natural state and could even be considered a buffer zone, providing defensible space between the neighboring houses and the vast shrub lands to the east and south. Our business plan provides for a generous budget to ensure that this vegetation management and safety program will continue in full effect throughout the lifecycle of the project. The entire project will also maintain insurance throughout the life of the plant to repair or replace any damage due to fire to ensure the continued operation of the plant for the planned term.

In order to ensure the safety of any employees, visitors and/or first responders in the rare event that there was an on-site emergency, Origis has taken certain precautionary measures in designing our system. First and foremost, the entire system (or sections of the facility) can be shut down using readily accessible on-site controls or using remote control features that allow Origis operations specialist to instantly turn the plant off. All access gates will provide access for emergency responders and all internal roads will accommodate fire trucks and equipment with ample turning radii as well as turn-around features. Origis has consulted with Kuna Rural Fire District to introduce the project on several occasions and has not received any objections or additional requirements. We will continue to work closely with them throughout the engineering, construction and operation of the facility. This will include access to any available water for their use in fighting any on-site or nearby fires.

Lastly, it is worth mentioning that a portion of our property is not currently within a fire district. As a precaution, Origis has voluntarily begun the process of annexing our entire property into the Kuna Rural Fire District. This will provide further assurances that if an emergency were to occur, the entire plant area and property can be protected (if needed). We expect this process to be completed prior to the start of construction this fall.



From the Desk of Marri Champie



Friday, August 28, 2015

Ada County Planning & Zoning
Diana Sanders, Associate Planner
Et al Board Members

Dear Ada County Board Members & Ms. Sanders:

My name is Marri Champie. My residence is at 18802 S. Cloverdale Road, Kuna, Idaho 83634, and my property shares a fenceline/propertyline with the proposed Boise Solar Project on South Cloverdale Road. I hope I can be at the public meeting on September 9th, 2015, but I am on a Wildland Firefighting assignment in the Payette National Forest and do not know if I will be released from work in order to attend the meeting. I am submitting this letter for your consideration regarding the planned solar project.

I had a long conversation with Brad Bowlin, Communications Specialist with Idaho Power to interpret some of the finer points of this project. I would like to share some of that information with you. I worked as a technical writer, personal assistant to and office manager for the two state BPA reps for the local Bonneville Power Administration (BPA) office, in Boise, Idaho (until that office was relocated to Portland), and I am somewhat familiar with how the Power Grid works and with some general information on regulations that govern Qualifying Facility (QF) cogeneration and small power producers within the Idaho Power portion of the BPA power grid.

The PUC had ruled that Idaho Power was required to purchase power from these small QFs and negotiate 20 year contracts to purchase the power produced. Because of the ruling, Idaho Power is legally obligated to purchase power from these QFs, regardless of the benefit to the power grid. Power to the BPA grid is generated mainly from the Jim Bridger coalfired plant, with about 20% generated by the dams on the Snake and Columbia River systems. Power gain from the QFs into the grid is less than 1%. There is no STORAGE system for power, so when peak power times use all the power then the grid is generating to capacity, and less than 1% of that is from QFs. When there is extra power, it isn't stored, but it is sold to other power cooperatives in the west, southwest, or Midwest.

As with the Wind Project east of Boise, the solar project will have integration issues, and line load loss so generally there is an efficiency rate of 14-20% —the amount of the power generated that reaches the grid. Also, solar energy is not generated at night, and very little during the winter. The company behind Boise City Solar, now operating as Origis Energy Inc. is a Belgium company with a Florida headquarters. They are in the business to make money by using the PUC ruling as a loophole to put up facilities that Idaho Power must pay for. These costs for buying power from the QFs are passed on to the consumer, so any

18802 SOUTH CLOVERDALE ROAD KUNA IDAHO 83634 ☎ 208-362-8438

Fax 208-362-8677 email: WriteldahoWriter@msn.com

ADA COUNTY

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DEVELOPMENT SERVICES

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201501245 CU-MSP-PR-V-FP
ID SOLAR LLC

power gained to the system, is offset by the (raised rate) cost to the consumer. The consumer does not benefit directly from this additional power, and must foot the cost. Nor is this a new age, humanitarian company with interest in saving the planet or significantly changing the power/energy delivery of the world, Idaho or the Treasure Valley. The power from the QFs goes into the traditional grid and is used as a very negligible part of the overall traditional grid power production. For your reading pleasure, I am attaching a copy of the agreement between Idaho Power and Boise City Solar, as well as the request by Idaho Power to let them out of this costly agreement. Idaho Power was not allowed to reject this contract with Boise City Solar, but a new ruling was made by the PUC on August 20th, 2015, that reduced the future contract duration between Idaho Power and QFs to two years. This was because of Boise City Solar, and the Wind Farm that this adjustment has been made to the regulations. Once the 20 year contracts have expired for these (existing) projects, the QFs will not be able to renew their contracts with Idaho Power except on two year intervals. The cost of repair and replacement of the degenerating solar panels will negate the advantage of the QF companies to continue to generate power for Idaho Power. The probability is that the projects will then be abandoned.

All this will be done at the expense of the lifestyle and neighborhood of the thirteen residents of Wednesday Subdivision, and severe loss of property value for every home in the preestablished residential subdivision on South Cloverdale that abuts and shares a property line with Boise City Solar project, now known as Origis Energy, Inc. Originally this project was to be built four miles south of this subdivision, but concerns from citizens and the Birds of Prey experts forced the project to be relocated. This is NOT a FARM. This is a commercial power generating facility with multiple structures that will be built within sight and sound of a residential neighborhood. At this time these things have still not been addressed:

1. No impact study has been done on the long term affects to the adjacent Birds of Prey and the wildlife therein.
2. No impact study defines what the impact might be from soil erosion or long term drainage of this property onto the lower ground of the properties that abut the Ada County portion of the project.
3. No impact study defines what the impact might be from soil erosion or long term drainage of the Kuna City portion of the project into Indian Creek.
4. No consideration has been given to the loss of property value of the adjoining residential properties, nor any proposal for mitigation to property owners.
5. No study showing how noise, light, heat, and/or frequencies resulting from the solar facility might affect people, animals, livestock, and etc, living adjacent to this solar facility.
6. No provision has been made to compensate for property loss, or mitigate for any other problems that will effect and drastically reduce the quality of life for the homeowners over the next 20 years.

Since I am 65, and hoped to sell my property soon, and retire, this will severely affect the rest of my life. I will be 85 when the terms of the contract are done, and way past the point of recovery from such a serious setback to the quality of my remaining life or loss of my single investment asset.

With this in mind, we the property owners of Wednesday Subdivision, petition Ada County to consider and implement the following:

FIRST AND FOREMOST, REQUIRE THAT BOISE CITY SOLAR, AND ORIGIS ENERGY MOVE THE LOCATION OF THIS FACILITY TO A MORE APPROPRIATELY ISOLATED LOCATION THAT DOES NOT IMPACT A PREEXISTING SUBDIVISION OR RR PROPERTY.

If this is not possible, we ask that the following provisions be integrated into the terms of the Special Use Permit issued to Origis Energy, Inc for the Boise City Solar facility. (It is NOT a FARM):

1. The fencing for all the project that borders, or is within line of sight of a residential subdivision or RR property, or Birds of Prey area comply 100% with subdivision code and Birds of Prey regulations. NO VISIBLE metal, chainlink, or razor wire should be used.
2. That there be a significant set back of all equipment from all shared common property borders.
3. That there be NO CONSTRUCTION between the hours of 6 PM and 6 AM pursuant with Ada Co. construction code for residential neighborhoods.
4. That Cloverdale Road and all side streets be kept free of mud and debris incidental to construction traffic for the duration of the project.
5. That no toxins or hazardous material be used on the ground or in the facility.
6. That all Wildland Urban Interface Overlay fire zone requirements be rigidly enforced.
7. That no exterior lighting, or other visible or audible electronics be used.
8. That all heat or glare incidental to the panels be completely shielded from visibility or impact on any and all existing adjacent residences.
9. That if any of these requests cannot be complied with, that provision be made by Origis Energy, Inc, operating as Boise City Solar, to compensate or buy out the neighboring residences at values commiserate with like properties in other Ada county locations unaffected by the solar facility.

Thank you for your consideration of our health and livelihoods.
I remain yours, sincerely,

Marri Champie





BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF IDAHO POWER)	
COMPANY'S PETITION TO MODIFY)	CASE NO. IPC-E-15-01
TERMS AND CONDITIONS OF PURPA)	
PURCHASE AGREEMENTS)	
)	
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IN THE MATTER OF AVISTA)	
CORPORATION'S PETITION TO MODIFY)	CASE NO. AVU-E-15-01
TERMS AND CONDITIONS OF PURPA)	
PURCHASE AGREEMENTS)	
)	
<hr/>		
IN THE MATTER OF ROCKY MOUNTAIN)	CASE NO. PAC-E-15-03
POWER COMPANY'S PETITION TO)	
MODIFY TERMS AND CONDITIONS OF)	
PURPA PURCHASE AGREEMENTS)	ORDER NO. 33357
)	

On January 30, 2015, Idaho Power Company filed a Petition asking the Commission to modify the length of prospective contracts under the Public Utility Regulatory Policies Act (PURPA). Specifically, the Company asked that the length of its new PURPA contracts for projects that exceed the published rate eligibility cap¹ be reduced from 20 years to two years. Avista Corporation and Rocky Mountain Power filed similar petitions and the three cases were consolidated into a single proceeding. Order No. 33250. The Commission granted temporary relief to the three petitioning utilities by reducing the length of PURPA contracts to five years while the Commission investigated the issue of contract length. Order Nos. 33222, 33250, 33253 (clarifying that interim relief applies only to new PURPA contracts that exceed the published rate eligibility cap), 33286 (denying petition to limit interim relief to only wind and solar PURPA contracts).

The Commission received almost 200 written comments from the public. The Commission held two public hearings and a two-day technical hearing. *See* Order No. 33253. After the record closed, the Commission received four timely petitions for intervenor funding. The matter being fully submitted, the Commission issues this Order reducing the length of IRP-based contracts from 20 years to two years.

¹ The "published rate" and published rate eligibility cap are explained *infra* in the Background Section I. B.

I. BACKGROUND

A. *The Parties*

The following parties petitioned for and were granted intervention:

J.R. Simplot Company
Idaho Conservation League
Intermountain Energy Partners (IEP)
Snake River Alliance (SRA)
Twin Falls Canal Company, North Side Canal Company, and
American Falls Reservoir District No. 2 (collectively, the Canals)
Idaho Irrigation Pumpers Association, Inc. (IIPA)
Clearwater Paper Corporation
Renewable Energy Coalition (REC)
Amalgamated Sugar Company
Micron Technology, Inc.
Sierra Club
AgPower DCD, LLC and AgPower Jerome, LLC
Ecoplexus, Inc.²

B. *PURPA*

Congress enacted PURPA in 1978 in response to a national energy crisis. “Its purpose was to lessen the country’s dependence on foreign oil and to encourage the promotion and development of renewable energy technologies as alternatives to fossil fuels.” Order No. 32580 at 3, *citing FERC v. Mississippi*, 456 U.S. 742, 745-46 (1982). Under the Act, the Federal Energy Regulatory Commission (FERC) prescribes rules for PURPA’s implementation. 16 U.S.C. § 824a-3(a), (b). State regulatory authorities such as the Idaho Public Utilities Commission implement FERC regulations, but have “discretion in determining the manner in which the rules will be implemented.” *Idaho Power Co. v. Idaho PUC*, 155 Idaho 780, 782, 316 P.3d 1278, 1280 (2013), *citing FERC v. Mississippi*, 456 U.S. at 751.

To encourage the development of renewable facilities, PURPA requires that electric utilities purchase the power produced by designated qualifying facilities (QFs). “This mandatory purchase requirement is often referred to as the ‘must purchase’ provision of PURPA.” Order No. 32697 at 7; 16 U.S.C. § 824a-3(b); 18 C.F.R. § 292.303(a) (exceptions to the “must purchase” provision inapplicable in this case). Electric utilities are required to purchase power from QFs at rates equivalent to a utility’s avoided cost and approved by this Commission. 16

² Ecoplexus filed its Petition to Intervene a month and a half after the deadline for intervention. The Commission granted Ecoplexus limited intervention in Order No. 33311.

from 1,302 MW to 1,161 MW but the amount of new solar projects in the queue had increased from 885 MW to 1,326 MW. Exh. 11, p. 4 of 4.

Given the possibility for large amounts of additional PURPA generation, Idaho Power contended that it is reaching a point at which the capacity of the proposed PURPA projects will exceed the Company's operational needs. *Id.* at 20. It asserted that this influx of PURPA generation is unnecessary given the Company's current surplus of generating capacity (aka capacity surplus) to 2021.³ The Company maintained that continuation of 20-year PURPA contracts "places undue risk on customers at a time when Idaho Power has sufficient resources to meet customer demands." *Id.* at 2. According to Idaho Power, if it continues to acquire large amounts of unneeded, intermittent PURPA generation, it will increase its power supply costs and degrade its system reliability. *Id.* at 20-27.

The Company asserted that its must-take PURPA generation of 461 MW of solar and must-run hydro would exceed its total system load by about 33% of all hours. *Id.* at 26. Adding the proposed 885 MW of additional solar would exceed load by about 40% in all hours. *Id.* Idaho Power concluded that its continued obligation to acquire large amounts of PURPA generation under PURPA's must purchase provision without considering the Company's need for additional supply is unreasonable and contrary to the public interest. *Id.* at 27-34.

2. Rocky Mountain. On March 2, 2015, Rocky Mountain filed its Petition seeking a reduction in the length of its PURPA contracts. Rocky Mountain requested a permanent reduction in its PURPA contracts from 20 years to three years "to be consistent with the Company's hedging and trading policies and practices for non-PURPA energy contracts and [to be] more aligned with the [two-year] Integrated Resource Plan ("IRP") cycle." *Id.* at 3-4. Rocky Mountain asserted that it experienced a significant increase in proposed PURPA projects in the wake of Idaho Power's Petition. Petition at 2. These new requests combined with the large number of already executed contracts and proposed contracts prompted Rocky Mountain to file its Petition. Like Idaho Power, Rocky Mountain asserted that it has no need for generating resources in the next decade. *Id.* at 3.

Rocky Mountain claimed that within five days of the Commission granting interim relief to Idaho Power, Rocky Mountain received four requests for PURPA pricing totaling 130

³ At the hearing, the Company extended its capacity surplus estimate to 2024 based upon its 2015 Integrated Resource Plan (IRP). Tr. at 281; *see also* Case No. IPC-E-15-19.

MW “from QF developers who are located in Idaho Power’s service territory but are now planning to obtain a transmission wheel to PacifiCorp in order to secure a more favorable 20-year contract with [PacifiCorp].” *Id.* at 4-5. With the addition of the four new projects, Rocky Mountain reported that it has 275.5 MW in proposed PURPA projects seeking Idaho contracts, in addition to the 189.6 MW of projects already approved by this Commission in Idaho. Thus, the Company has a total of 465.1 MW of existing and proposed PURPA contracts in Idaho. “This amount, at full nameplate capacity, would be enough to supply 108% of PacifiCorp’s average Idaho retail load in 2014, and 275% of PacifiCorp’s minimum Idaho retail load in 2014.” *Id.* at 5.⁴ Idaho’s allocated share of PacifiCorp’s executed PURPA contracts over the next ten years is \$156 million, or about \$15.6 million per year. *Id.* at 21.

In addition to reducing the length of its PURPA contracts, Rocky Mountain requested authority to modify its indicative (or incremental) pricing practice to reflect “all active QF projects in the pricing queue ahead of any newly proposed QF project that requests indicative avoided cost rates.” *Id.* at 4. More specifically, the Company seeks relief from a prior Commission Order that required indicative rates be updated based upon “*signed QF contracts.*” *Id.* at 32, 35 (emphasis original), *citing* Order No. 32697 at 22. Rocky Mountain asserted that this requirement and the dramatic increase in the number of proposed QF projects results in indicative pricing that does not reflect the most accurate and up-to-date avoided cost rates. If its indicative pricing were more robust, the Company maintained that its avoided cost rates would be \$18 per MW hour (MWh) less on a 20-year levelized basis. *Id.* at 37.

3. Avista. Avista filed its Petition seeking relief on February 27, 2015, requesting the same interim and final relief that the Commission provides to Idaho Power or Rocky Mountain. Petition at 1. Avista observed that the Commission granted Idaho Power interim relief by limiting new PURPA contracts to five years during the pendency of its investigation. Order No. 33222. Avista expressed concern that without being afforded similar relief to the other two utilities, PURPA developers “may seek to sell such output to Avista.” Petition at 3.

D. Granting Interim Relief

After reviewing Idaho Power’s Petition, the Commission found that there was substantial evidence to grant the Company interim relief while the Commission initiated a formal

⁴ PacifiCorp maintained that its average Idaho retail load in 2014 was 432 MW and the minimum Idaho retail load was 169 MW. Petition at 5 n.6.

investigation into the issue of contract length. Order No. 33222 at 4. More specifically, the Commission directed that IRP-based contracts be limited to five years in length until the Commission completes its formal investigation. Even before Idaho Power filed its Petition, the Commission expressed concern that in “less than four months’ time, 13 QFs have contracted with Idaho Power for nearly 400 MW of solar generation – all expected to be on-line and producing power by the end of 2016.”⁵ Order No. 33222 at 3, *quoting* Order No. 33209 at 7. The Commission also noted within seven days of Idaho Power’s Petition, the Commission had received four petitions to intervene and one of the prospective intervenors had already filed discovery. Order No. 33222 at 4. The Commission found that the influx of numerous “PURPA contracts could significantly and detrimentally impact customer rates and system reliability before this matter is fully resolved.” *Id.* Consequently, the Commission found that interim relief limiting the length of IRP-based contracts pending resolution of the investigation is warranted. “[T]his interim measure will enable the Commission to address the PURPA implementation issues raised in this case, without having to simultaneously manage a continued tide of new PURPA cases.” *Id.*

After Rocky Mountain and Avista filed their Petitions, the Commission also granted interim relief to the two utilities. Consistent with its prior Order Nos. 33222 and 33250, the Commission found there was substantial evidence to grant interim relief to the utilities for all IRP-based projects while the Commission investigated the issue of contract length. Order No. 33253. The Commission ordered that the three Petitions be consolidated into a single proceeding and set a deadline for intervention of March 27, 2015. Order No. 33250 at 8. The informal prehearing conference in the consolidated case was held on March 10, 2015. At the prehearing conference, the parties developed a schedule for processing the consolidated proceeding and discussed two petitions to clarify the scope of the case (see next Section). In Order No. 33253, the Commission adopted the procedural schedule recommended by the parties and set the technical hearing for June 29, 2015.

E. The Two Petitions to Clarify the Scope of the Case

1. SAR vs. IRP Contracts. In February 2015, Intermountain Energy Partners (IEP) and Renewable Energy Coalition (REC) each filed petitions seeking clarification regarding the scope of this docket. Briefly, IEP and REC sought to clarify whether the proposed reduction in

⁵ The 13 projects were proposed by just three developers.

contract length is limited to those new QF projects that exceed the published rate eligibility cap (i.e., IRP-based methodology projects). At the prehearing conference on March 10, 2015, the parties to the case generally agreed the Commission should clarify its Order No. 33222 to indicate that interim relief of the five-year contract should apply only to new PURPA IRP-based contracts not SAR-based published rate contracts. In Order No. 33253, the Commission agreed and clarified that the scope of this proceeding addressed only the length of IRP-based PURPA contracts. Order No. 33253 at 4.

2. Limitation to Wind/Solar Contracts. On February 25, 2015, Clearwater Paper and J.R. Simplot Company filed a joint petition to also clarify the scope of interim relief granted to Idaho Power in Order No. 33222, and to limit the scope of the requested permanent relief. In their petition, Clearwater and Simplot sought to limit the interim relief of five-year PURPA contracts to only new “intermittent (solar and wind powered) projects.” Joint Petition at 4. Idaho Power, Rocky Mountain and Commission Staff opposed the clarification proposed by Clearwater and Simplot.

In Order No. 33286, the Commission found no basis at this early stage of the proceeding to restrict the interim relief granted to the three utilities to “only wind and solar intermittent” resources. The Commission observed that the procedural schedule for the investigation is “expeditious enough” and that Clearwater and Simplot agreed to the expedited schedule. Order No. 33286 at 5.

II. PUBLIC COMMENTS

The Commission received nearly 200 written comments in this consolidated case. Of those, roughly 30 comments supported the petitions to shorten the PURPA contract length, and the rest opposed. At the public hearings, the Commission heard from 21 witnesses, all of whom opposed the petitions. These comments are discussed below.

A. Support for Petitions

Those commenting in favor of shortened PURPA contracts included a number of companies that are large consumers of electric power. Those companies cited an interest in keeping power costs low and fair, and ensuring reliable service. Several of the companies commented that the utility should not “be required to buy electricity it does not need.” A number of Idaho school districts and community colleges also supported the petitions, noting the

importance of “maintaining low operational costs,” and supporting “a balanced approach” to encouraging wind and solar power.

Several large and small municipalities and Boise County also supported the petitions. These entities noted the importance of power reliability and affordability; some expressed that the utilities’ requested relief was reasonable and balanced. These comments were echoed by a number of business development organizations and local chambers of commerce, which also expressed that the requested relief was good for development.

Finally, a handful of individuals supported the petitions. These individuals listed concerns for power reliability and maintaining low consumer electricity rates. Some expressed that the requested relief was “best for ratepayers” or in the “best interests of Idaho.”

B. Opposition to Petitions

The City of Ketchum, the League of Women Voters, and a number of organizations filed comments opposing the petitions. These entities cited the need to promote renewable energy and distributed generation, and claimed that the requested permanent relief would eliminate solar development in Idaho. Ketchum also expressed concern that shortening PURPA contracts would eliminate community solar projects. Zahren Financial commented that shortening PURPA contracts as proposed by the utilities would impact its ability to invest in Idaho. Idaho Smart Growth asked that the utilities be required “to do all they can to continue to shift their power purchasing to renewable sources, and . . . to encourage them to embrace new models of clean energy production and distributed power.”

A number of renewable energy developers also commented that shortening PURPA contracts would make it extremely difficult, if not impossible, for them to obtain the financing needed to develop their projects. Two developers proposed adopting an alternative to shortening 20-year PURPA contracts. They suggested the Commission maintain 20-year contracts, but allow the energy rate component of the contract to be adjusted annually after the first ten years of the contract. Pristine Sun and Renewable Northwest Comments.

Finally, more than 130 individuals sent written comments opposing the petitions, and 21 individuals opposed the petitions at public hearing. Most of those comments and public witnesses expressed the need to foster solar power development or “keep solar [development] viable.” Many comments expressed the need to move away from coal and other fossil fuels toward clean energy. Several public witnesses noted that ratepayers were required to pay for the

costs of transmission lines for 20 or more years, so requiring 20-year contracts for solar power is “only fair.” A number of comments asked that the Commission “do what’s right” for the future. And some comments expressed that utilities have not shown the need for their requested relief except to ensure the utilities increasing profits.

Commission Discussion: The Commission appreciates the considerable time and expense that participants dedicated to testifying in the public hearings, and the thoughtfulness evident in so many of the oral and written comments. The Commission recognizes that a large number of the public commenters encouraged the development of more solar and other renewable energy resources. Many of these same individuals also wanted the use of coal to be phased out. Finally, there were many concerns about retaining low and reasonable customer rates.

In direct response to the public concerns, we note that PURPA is not the only avenue to develop renewable resources. As Dr. Don Reading testified at our technical hearing, utilities have and will probably continue to develop non-PURPA renewable resources in the future through a variety of means. Tr. at 868-70. Indeed, as several witnesses pointed out in our hearing, the utilities have developed or purchased hundreds of MW of non-PURPA renewable as part of their generation portfolio. Tr. at 931, 111, 177-78. Moreover, acquiring more renewables while maintaining low rates is consistent with the State’s 2012 Energy Plan.⁶

III. CONTRACT LENGTH

A. Do FERC Regulations Dictate the Length of Contracts?

The Commission first addresses whether the proposals to reduce the IRP-based PURPA contracts from 20 years are inconsistent with PURPA or FERC’s regulations. ICL and Sierra Club’s witness Adam Wenner testified that Idaho Power’s proposal to reduce the length of contracts to two years is inconsistent with either FERC regulations or Idaho precedence for three reasons. First, he maintained that QF contracts were intended to provide both energy and capacity to the utility. PURPA and FERC’s implementing regulations require that QFs be paid for capacity when a QF contract “enables the utility to replace new capacity with QF purchases.” Tr. at 583. If contracts are limited to two years, he insisted that the capacity a QF could provide under its contract to the utility could not be “counted on to be available after two years. . . .” Tr.

⁶ The Plan states that Idaho’s “utilities need to have access to a broad variety of resources, both conventional and renewable, and nothing in this Energy Plan should be read as precluding a utility from investing in a particular resource.” Section 6.2.2 at 115 (emphasis added).

at 587. In other words, a utility could not cancel or displace planned generation based on such a short two-year commitment.

Second, he maintained that short-term contracts impede a QF's ability to perfect a legally enforceable obligation (LEO). Under either a negotiated contract or a LEO,⁷ a QF has an option to receive avoided cost rates either calculated at the time of delivery or at the time the obligation is incurred. 18 C.F.R. § 292.304(d)(2). He noted that in Order No. 69, FERC mentions that a QF may desire levelized payments (where a QF may wish to receive a greater percentage of the total purchase price during the beginning of the obligation than at the end of the contract term), if it enters into a "long term contract to provide energy or capacity to a utility." Tr. at 591, *citing* 45 Fed.Reg. 12,224 (Feb. 25, 1980).

Finally, Mr. Wenner also relied upon a 1984 Idaho Supreme Court case to support his opinion that QFs are entitled to a long-term contract. Tr. at 591-93, *citing Afton Energy v. Idaho Power Co. ("Afton I/III")*, 107 Idaho 781, 786, 693 P.2d 427, 432 (1984). In *Afton I/III*, he noted that the Supreme Court affirmed an Order of the Commission requiring Idaho Power to enter into a 35-year contract with a QF.

Clearwater and Simplot's witness Dr. Reading supported Mr. Wenner's opinion about the FERC regulations from an economic point of view. He testified that shortening the contracts to two, three, or five years will inhibit the QF from receiving future capacity payments due to the shortness of the contract. Tr. at 777-79. ICL/Sierra Club witness R. Thomas Beach and Snake River Alliance witness Ken Miller both opposed shortening IRP contracts. Tr. at 630; 734.

The three utilities and Commission Staff disputed Mr. Wenner's opinion that FERC regulations dictate a long-term PURPA contract. In particular, they point to his testimony where he acknowledged that FERC rules do not specify a number of years or other time period for PURPA contracts. Allphin, Tr. at 215-16; Clements, Tr. at 440-41, 513-15; Kalich, Tr. at 410-12; Wenner, Tr. at 589. Micron also argued in closing that PURPA does not mandate contract length. Tr. at 988-89. Rocky Mountain Power's witness Paul Clements explained that PURPA

⁷ There are two general methods by which a QF can provide power to a utility: (1) by entering into a signed contract with a utility; or (2) pursuant to a LEO. Order No. 32974 at 13, *citing* 18 C.F.R. § 292.304(d); *Power Resources Group v. PUC of Texas*, 422 F.3d 231, 237 (5th Cir. 2005); *Idaho Power*, 155 Idaho at 785, 316 P.3d at 1283. "FERC specifically adopted the concept of [a LEO] to prevent utilities from circumventing the 'must purchase' PURPA provision 'merely by refusing to enter into a contract with' a QF." Order No. 32974 at 13, *quoting Power Resources*, 422 F.3d at 238, *quoting* 45 Fed.Reg. 12,214, 12,224 (Feb. 25, 1980).

gives state regulatory agencies the discretion to establish the key terms and conditions of PURPA contracts. Tr. at 439-441.

Staff witness Rick Sterling testified that FERC regulations “are silent on [the issue of] contract length.” Tr. at 902. He further maintained that FERC regulations only require utilities to provide five years of data to calculate the energy component of a utility’s avoided cost rates and only ten years of data to calculate the capacity component of the avoided cost rates. *Id.* at 902-03. These forecasts “are much less than the 20-year contract.” *Id.* at 903.

Mr. Clements and several other witnesses also noted that the length of PURPA contracts in Idaho has not been static. The Commission initially set contract terms for 35 years “to match the amortization period allowed for similar utility-owned facilities”; later shortened the contract length to 20 years; and shortened the contract length to five years in 1996 and 1997 “to align the QF contract timeframe with the utilities’ acquisition strategies.” Tr. at 441-43 (footnotes omitted); Grow, Tr. at 124-26. In 2002, the Commission raised the contract length back to 20 years. Tr. at 443; Sterling, Tr. at 897-98. Mr. Clements also noted that the Washington Commission sets standard avoided cost PURPA contracts in Washington for up to five years. *Id.* at 513.

Although Rocky Mountain recommended that the length of QF contracts be reduced to three years to coincide with the Company’s hedging and planning process, Mr. Clements explained that limiting contracts to a three-year term

does not mean that the [QF] project will only have a three-year life. Rocky Mountain Power will be required to purchase the power produced by the project as long as PURPA requirements exist and the project qualifies as a QF under PURPA. Limiting the term of the contract to three years simply means that the price Rocky Mountain Power and its customers will be required to pay to the QF will be subject to adjustment every three years and be more closely aligned with Rocky Mountain Power’s current avoided cost.

Tr. at 511-12.

Commission Findings: As several parties observed, this Commission has set different contract lengths for PURPA contracts over the years. When PURPA was first implemented in Idaho, this Commission established a maximum contract term of 35 years, which it shortened to 20 years in 1987. Order Nos. 21018, 21630. The term was reduced to five years in 1996, and raised back to 20 years in 2002. Order Nos. 26576, 29029. Over the years the Commission has considered many factors (price risk, forecasting uncertainty, financing needs,

amortization, plant durability) when establishing contract length. Order No. 32125. In February 2015, we granted interim and temporary relief in this matter, reducing the length for PURPA contracts from 20 years to five years, pending this final Order. Order No. 33222 at 4, 6.

As the Idaho Supreme Court recently stated in *Idaho Power Co. v. Idaho PUC*, a state commission “has discretion in determining the manner in which the [PURPA] rules will be implemented, and may comply by issuing regulations, by resolving disputes on a case-by-case basis, or by other actions reasonably designed to give effect to FERC’s rules.” 155 Idaho at 782, 316 P.3d at 1280, citing *FERC v. Mississippi*, 456 U.S. at 751. It “is up to the States, not [FERC] to determine the specific parameters of individual QF power purchase agreements. . . .” *Id.* at 786, 316 P.3d at 1284, quoting *Power Resources Group v. PUC of Texas*, 422 F.3d 231, 238 (5th Cir. 2005).

Based upon our review of federal court and state Supreme Court precedent, the testimony of the parties, PURPA, and FERC’s implementing regulations, we find that PURPA and FERC regulations do not specify a mandatory length for PURPA contracts. As noted above, when PURPA was enacted, it was intended to encourage the development of renewable resources. Order Nos. 32697, 33250, 32125. PURPA “establishes a program of cooperative federalism that allows the States, within limits established by federal minimum standards, to enact and administer their own regulatory programs, structured to meet their own particular needs.” *Idaho Power*, 155 Idaho at 782, 316 P.3d at 1280, citing *FERC v. Mississippi*, 456 U.S. at 767. Even Mr. Wenner acknowledged that FERC regulations do not dictate a specific number of years or establish a time period for PURPA contracts. Tr. at 589. It is not contested that PURPA, and its implementing regulations, are silent as to a specific contract length. Mr. Wenner’s reliance on the *Afton I/III* case is misplaced. As our Supreme Court noted in the first sentence of its opinion, the basic issue presented in *Afton I/III* is whether the Commission “has authority to order an electric utility to purchase power from a [QF] for a fixed term according to avoided cost rates previously approved by the Commission.” *Afton I/III*, 107 Idaho at 782, 693 P.2d at 428. Consequently, we find the issue of contract length is left to this Commission’s discretion. See *Afton I/III*, 107 Idaho at 785-86, 693 P.2d at 431-32; *Idaho Power*, 155 Idaho at 782, 316 P.3d at 1280.

B. Are 20-Year Contracts Reasonable?

The three utilities and Commission Staff generally assert that 20-year contracts are no longer appropriate and should be shortened. Their witnesses offer several reasons to discontinue the 20-year contracts. Clearwater, Simplot, ICL, SRA and other parties urge the Commission to retain 20-year contracts. As an alternative to reducing the length of the 20-year contract, Clearwater/Simplot and ICL recommend the Commission consider “modifying” the 20-year IRP-based, fixed-rate contract by adjusting the energy component of the avoided cost rates after the first ten years. We explore those issues in greater detail below.

1. Idaho Power. Idaho Power’s Senior Vice President, Lisa Grow, laid out several reasons why the Company believes that 20-year fixed-rate contracts are no longer reasonable. First, she asserted it was unreasonable for the Company to enter into long-term, fixed-rate contracts when the Company does not need additional generation. Tr. at 117, 119. She reported that the Company’s peak-load for its system in 2014 was about 3,184 MW, while its minimum load was approximately 1,073 MW. Tr. at 107-08. In comparison, she noted that the Company’s Exhibit 2 showed that Idaho Power had 1,297⁸ MW of renewable, nameplate energy (both PURPA and non-PURPA) on its system or under contract, excluding the Company’s 17 hydroelectric facilities.⁹ Tr. at 109. This renewable generation consists of:

728 MW of wind (including 101 of non-PURPA wind)
320 MW of solar under contract ¹⁰
35 MW of non-PURPA geothermal
<u>214 MW</u> of PURPA hydro and other renewable
1,297 MW renewable (nameplate capacity)

Tr. at 111, 177; Exh. 11, p. 2. Thus, Idaho Power’s PURPA and non-PURPA renewable resources can be used to meet about 40% of its 2014 system peak-load and used to meet about 120% of its 2014 minimum system load.

Idaho Power witness Randy Allphin asserted that the Company has no need for additional generation “in the near term.” Tr. at 206. He initially testified that the Company’s recently released draft of its 2015 Integrated Resource Plan shows that the Company has a

⁸ This figure is corrected to show the removal of 141 MW of approved solar contracts that were subsequently terminated for failing to post their required security deposits. Tr. at 376; *see* Exh. 11, p. 2.

⁹ The Company’s hydroelectric facilities total more than 1,700 MW of nameplate capacity.

¹⁰ *Id.*

capacity surplus for 10 years, until 2025. *Id.* In his rebuttal testimony, he noted that the loss of the 141 MW of contracted solar generation caused the Company to refine its capacity deficiency estimate to July 2024.¹¹ Tr. at 281; Order No. 33343 at 2 (Case No. IPC-E-15-20).

When the Company has surplus capacity, it reduces the overall avoided cost rates paid to QFs. Avoided cost rates are typically comprised of a capacity component and an energy component. Ms. Grow explained that if a utility has surplus capacity at the time it enters into an IRP-based contract with a QF, then the QF does not receive capacity payments until the utility experiences a capacity deficiency. Tr. at 137. A utility's capacity status (e.g., surplus or deficient) is determined in each utility's Integrated Resource Plan.

In addition to the operating PURPA projects and those under contract, both Idaho Power witnesses observed at the time they filed their direct testimony, that the Company had received proposals for an additional 885 MW from solar developers. Tr. at 120, 177; Exh. 1-2. At hearing, the Company subsequently increased this amount of proposed solar projects from 885 to 1,326 MW. Exh. 11, p. 4 of 4. Ms. Grow repeated the concerns voiced by the Commission when it recently approved 400 MW of new solar projects. After recognizing the "must purchase" provision of PURPA, she quoted from the Order:

Idaho Power's 2013 Integrated Resource Plan does not reflect that the utility is in need of energy to reliably serve its customers. And yet, in less than four months time, 13 QFs have contracted with Idaho Power for nearly 400 MW of solar generation – all expected to be on-line and producing power by the end of 2016. The combined 20-year obligation of these 13 projects is approximately \$1.2 billion. . . . 100% of the costs of QF generation are passed onto ratepayers. . . .

. . . QFs continue to request contracts with Idaho Power in significant enough numbers that we remain concerned about the Company's ability to balance the substantial amount of must-take intermittent generation and still reliably serve customers.

Tr. at 121-22 (citations omitted) (emphasis added).

Second, Ms. Grow maintained it was unreasonable and no longer in the public interest to maintain long-term, fixed-priced 20-year contracts while PURPA avoided cost rates continue to decrease. Tr. at 119. On cross-examination, Mr. Allphin agreed that the avoided cost rate for each new QF will decrease as "older" QFs add capacity to the system. Tr. at 260-

¹¹ See *supra* note 8.

61; Exh. 207. Ms. Grow also noted that the Company's Exhibit 7 shows that from 2004 to 2024 the Company's power supply expense increased approximately 575%. Tr. at 129. Allowing QF developers to obtain fixed prices over the long term causes electric rates to increase. Ms. Grow pointed out that the Company's Exhibit 10 shows that Idaho Power's average cost for PURPA generation since 2001 has always exceeded the Mid-Columbia (Mid-C) index price and is projected to continue to exceed the Mid-C price through 2032. Tr. at 129. She and Mr. Allphin testified that the average cost for PURPA purchases at \$62.49 per MWh is greater than the average cost of coal (\$22.79/MWh), the cost of gas (\$33.57/MWh), non-PURPA purchases (\$50.64/MWh), and "significantly greater than what is being sold [by the Company] as surplus sales at \$22.41 per MWh." *Id.*; Allphin, Tr. at 191-92. This continued increase in net power supply costs adversely impacts ratepayers because these escalating costs are passed on to ratepayers.

Third, the Company's witnesses argued it makes little sense to require 20-year fixed-rate contracts for IRP-based PURPA projects when avoided cost rates are reset every two years under the IRP methodology. Ms. Grow noted that the IRP methodology is updated every two years to reflect current market conditions, customer growth, natural gas forecasts, and other conditions. Tr. at 127, 287. The IRP methodology is a good fit with the Company's risk management practices which limit power purchases and sales to 18-24 months. Tr. at 127-28, 287. She explained that before Idaho Power can acquire a long-term resource like a generating unit, there is a long and involved process for determining whether it is necessary and in the public interest for the Company to acquire a generating resource. *Id.* at 128. Typically, the Company assesses the need for such a resource; determines the type of resource necessary; examines how the operating characteristics of the resource fit into the Company's resource stack; requires that the resource be acquired through bidding and that the Company be able to dispatch the resource; seeks the approval of the Commission for a CPCN; and submits to a public process before the Commission. Then there is a subsequent case before the Commission permits a new generating plant to be placed into rate base. Tr. at 140; Allphin, Tr. at 196-200, 205. Purchasing the output of PURPA projects is not subject to these safeguards.

2. Rocky Mountain Power. Rocky Mountain Power's witness Paul Clements also recommended the Commission reduce the length of IRP-based contracts from 20 years. He maintained that PURPA was intended to encourage the development of renewable resources at

rates that: “(a) are just and reasonable to electric consumers, (b) do not discriminate against QFs, and (c) do not exceed ‘the incremental cost to the electric utility of alternative electric energy.’” Tr. at 435, *citing* 16 U.S.C. § 824a-3(b). He noted that both this Commission and FERC have indicated that the avoided cost price structure “was to make ratepayers indifferent as to whether the utility used more traditional sources of power or the newly-encouraged [QF] alternatives.” Tr. at 439, *quoting Southern California Edison Company*, 71 FERC ¶ 61,269 at p. 62,080 (1995), *overruled on other grounds, California PUC*, 133 FERC ¶ 61,059 (2010); Tr. at 435-37.

He requested that the Commission reduce Rocky Mountain’s IRP-based contracts from 20 years to three years for several reasons. Tr. at 433. First, like Idaho Power, Mr. Clements testified that Rocky Mountain/PacifiCorp has a capacity surplus until 2028, and has no need for additional generation until that time. Tr. at 429. If all the proposed contracts were to become operational, the existing and proposed PURPA contracts would be enough to supply 108% of PacifiCorp’s average retail load and 275% of its minimum retail load in Idaho in 2014. Tr. at 427.

Second, Mr. Clements insisted the 20-year, fixed-rate contracts violate the rate neutrality standard and act as a subsidy to the QF “because FERC generally requires a utility to lock in forecasted avoided cost rates for the entire contract term.” Tr. at 441, 445 (*Regulations Implementing Section 210 of PURPA*, 45 Fed.Reg. 12,214, 12,224 (1980)). A proposed 20-year project can obtain a “fixed-price energy contract at the Company’s projected avoided cost, without any economic considerations or pricing adjustment to account for the risk to utility customers from this unusual long-term transaction, or to the QF to account for the price certainty the QF enjoys from such a contract.” Tr. at 445. Granting a 20-year contract with no adjustment to the price is something no other market participant enjoys and subjects ratepayers to unreasonable price risk. Tr. at 446-47.

He explained that the Company treats QF contracts as “system resources” and allocates these resources to the six states served by PacifiCorp. Idaho’s share is approximately 6%. Tr. at 463. He stated that the expected system-wide payments to PURPA projects over the next ten years are \$2.6 billion. In 2015, this equates to QF payments of \$170.5 million, “with Idaho’s allocated share at \$10.2 million.” Tr. at 463. If the avoided cost rates for these projects are priced incorrectly by just 10%, that would create an additional impact for Idaho ratepayers in 2015 of \$1.0 million, and grow to a total of \$15.5 million over the next 10 years. Tr. at 463.

Consequently, he stated it was imperative that avoided costs accurately reflect the Company's actual avoided costs during the term of the contract. Tr. at 464.

Third, Mr. Clements explained that the Company's proposal to reduce the 20-year IRP-based contract is intended to match the Company's risk management and hedging policies – the Company is generally limited to power purchase contracts of 36 months or less. Tr. at 469. For non-PURPA contracts, the Company enters into purchase transactions that exceed three years “only when there is a clearly identified long-term resource need in its IRP. Long-term resource needs are typically identified in the IRP only after lower-cost, lower-risk, short-term resource opportunities are exhausted.” Tr. at 471. The Company avoids long-term, fixed-price energy contracts because they carry significant price risks. Tr. at 474-75. Shortening the contract term to three years will more closely align the IRP-based contract to the two-year IRP cycle, the three-year hedging plan, and the two to four year IRP action plan. Tr. at 479-80, 486.

Finally, Mr. Clements noted that PacifiCorp's cogeneration QFs (often referred to as combined heat and power – or CHP – QFs) do not need long-term contracts for financing purposes because these facilities are usually financed by their host businesses. Tr. at 476. He insisted that most cogeneration facilities “typically elect short-term contracts with PacifiCorp even when 20 year terms are available. In fact, most [cogeneration QFs] elect annual contracts that are renewed each year at the then-current avoided cost.” Tr. at 476-77. These QFs prefer to take the spot or near-term avoided cost price to eliminate the price risk that comes from long-term fixed-price contracts. Tr. at 477. On cross-examination he stated that all of PacifiCorp's cogeneration PURPA contracts are short-term, “typically one year or less.” Tr. at 541.

He concluded by observing that given the exponential increase in existing and proposed QF contracts for PacifiCorp,

it is critical to quickly adjust pricing and contracting procedures now that problems with those procedures have been identified. The current Commission-approved PURPA contract length puts retail customers at risk of harm due to significant and unnecessary exposure to long-term price risks, a level of risk the Commission would not accept in the context of a non-PURPA transaction. The Company has no control over this price risk; it must purchase essentially an unlimited quantity of QF power under terms and conditions the Commission controls. Under PURPA, only the Commission can mitigate this price risk to customers.

Tr. at 489-93 (emphasis added). The shorter contract term is necessary to rebalance the must purchase provision that favors QFs with the ratepayer indifference standard.

3. Avista. If the Commission decides to shorten the length of IRP-based contracts for Idaho Power or Rocky Mountain, Avista requested the Commission to provide it with the same relief. Tr. at 404, 408. Its witness Clint Kalich requested that the utility be afforded similar relief “to ensure a level playing field across the Commission-regulated utilities.” Tr. at 410. He asserted the Commission has the authority to shorten IRP-based contracts. Tr. at 412.

Mr. Kalich acknowledged that Avista has not received any proposed solar projects and that Avista has not been inundated with QF proposals like the other two utilities. Tr. at 414-15. He explained that different contract lengths among the utilities could cause an increase in filings at Avista if it had longer term contracts than the other two utilities. Tr. at 406-07. However, he did want Avista to maintain the option of having IRP-based contracts longer than five years if the terms of such contracts “are found by Avista and the [Commission] to be in the interest of utility customers. It is not possible to know every circumstance where a longer term agreement may be warranted.” *Id.* at 410.

4. Staff. Commission Staff urged the Commission to reduce the 20-year term for IRP-based contracts to five years. Staff witness Rick Sterling testified that long-term contracts “based on forecasted rates create greater risks for customers because the rates in the later years are not reflective of avoided costs.” Tr. at 902. He explained that one of the major factors in IRP-based contracts is the price of natural gas. “A long-term fixed price could possibly be accurate just once during its term – at the beginning of the contract when the rates are first established. The shorter the term of the contract, the more frequently prices can be adjusted to ensure they accurately represent the true value of the power. A shorter term contract helps to minimize the risk to ratepayers.” Tr. at 905, 903. Because PURPA costs are passed on to customers through the Power Cost Adjustment (PCA) mechanisms, ratepayers are fully exposed to the risks if PURPA rates prove to be too high. Tr. at 906. Conversely, fuel costs for utility-owned resources are tracked annually and the rates adjusted annually.

Mr. Sterling further testified there were legitimate reasons why utilities were permitted to develop or acquire long-term generating assets but IRP-based PURPA resources should be restricted to two, three, or five-year contracts. Tr. at 915-16. He explained that when a utility acquires a resource it is usually a result of the Company’s Integrated Resource Plan. As

such, the utility resource is picked from a range of alternatives, is procured through a competitive process, and is contingent upon Commission approval in a public process. *Id.* Moreover, utility generating facilities have fuel costs that are annually adjusted and these facilities are dispatchable based upon the Company's load and generation requirements. Tr. at 917. On the other hand, PURPA projects are entitled to long-term contracts at fixed rates, acquired without consideration of need, undergo no competitive bidding, and their avoided cost rates are not based upon cost-based pricing. Tr. at 917, 925. He also noted that PURPA projects entirely circumvent the IRP planning process. Tr. at 918.

He also testified that the utilities have developed non-PURPA renewable resources. For example, Palouse Wind and Clearwater sell their power to Avista, and Elkhorn Wind sells to Idaho Power. Tr. at 931.

5. Idaho Irrigation Pumpers Association. The Irrigators offered the testimony of their witness Anthony Yankel, who supported Idaho Power's initial request to limit new IRP contracts to two years. Tr. at 301. Mr. Yankel explained that the flood of projects presents Idaho Power with a balancing problem of having to choose between curtailing its own must-run facilities, or its must-take PURPA contracts. Tr. at 305. He recommended the Commission reduce IRP contracts to two years as a "stop gap measure" while the Commission further refines the Company's models and modeling assumptions with actual Company operations. Tr. at 305. He also supported limiting new solar and wind projects to two years because of their intermittent nature. Tr. at 307.

6. Intermountain Energy Partners. IEP presented the testimony of its president, Mark van Gulik. He testified that the downward trend in avoided cost rates in Idaho means that fewer projects will be able to obtain financing and come on-line. Consequently, there is not an urgency for the Commission to shorten contract lengths. Tr. at 372.

As the developer of the Clark 1 through 4 solar projects, he explained the four projects were terminated when they were unable to make their required security deposits. Tr. at 376-77. He did not indicate that contract length contributed to the termination of these four projects totaling 141 MW of nameplate capacity. Because Idaho does not have attractive state tax incentives, he foresaw little likelihood for IRP-based projects to be able to attract the necessary capital if their contract terms were less than 15 years. Tr. at 386.

7. ICL/Sierra Club. ICL's and Sierra Club's second witness was Thomas Beach who urged the Commission to retain the 20-year IRP-based contract. Tr. at 630-52. He indicated that current indicative pricing for levelized avoided cost rates continues to decline by "more than 50% below the \$60 to \$64 per MW range of avoided costs for the recently-approved 20-year solar contracts." Tr. at 630-31; Table 3 at Tr. 642 (footnote omitted). Reducing the length of 20-year long-term contracts as avoided cost rates continue to decline, "appears likely to make uneconomic QFs that could be developed at avoided cost prices with a long-term agreement." Tr. at 631. He noted that when the Commission reduced IRP-based contracts to five years between 1996 and 2001, only one PURPA contract was executed during that time with Idaho Power. Tr. at 632.

He maintained that Idaho Power's IRP methodology is generally working well as indicated in the decline in avoided cost rates for solar contracts as shown in Table 3 of his testimony. Tr. at 642. Of the 48 projects totaling 885 MW, only 14 have progressed far enough to receive indicative pricing, and of those, only one has requested a contract. Tr. at 644. "As more solar capacity has been added, the avoided cost price has fallen based on Idaho Power's capacity position and future needs." Tr. at 644. And, as "avoided cost prices fall, fewer projects will be built." *Id.*

8. Clearwater Paper and J.R. Simplot Company. Clearwater and Simplot presented the testimony of their witness Dr. Reading who opposed efforts to reduce the length of the IRP-based contracts from 20 years. Dr. Reading insisted that conditions have not changed since the Commission last decided to resume 20-year contracts in 2012. In particular, he argued that the only condition that may have changed since 2012 was that the utilities' avoided costs may have decreased but that does not mean the term of the contract should be reduced. Tr. at 785-86. He argued that reducing the contract length to five years or less will not encourage the development of renewable resources. Tr. at 778-79. He insisted that reducing the contract as proposed by the utilities and Staff will make it impossible for a QF to obtain financing for their projects. *Id.* He noted that the last time the Commission reduced PURPA contracts to five years, "only one PURPA contract was signed in Idaho with the shortened contract length." *Id.* at 780.

He maintained it would be unreasonable to limit IRP-based contracts to five years when the recovery of investment for utility-owned resources is much longer, and in some cases

up to 50 years. He argued that PURPA resources should be placed “on an equal footing with utility-owned resources . . . [and] should receive longer-term contracts.” Tr. at 781.

He next compared the cost of PURPA projects with the cost of Idaho Power’s generating resources. He determined that the price per MWh of Idaho Power’s PURPA projects compare favorably to the Company’s facilities. *See* Chart No. 1 at Tr. at 793. In preparing his chart and analysis, he acknowledged that he removed Idaho Power’s hydro facilities (“the Company’s lowest cost resource with the depreciated rate base and very low variable running cost”). Tr. at 794. He removed these lower cost facilities from his analysis because streamflow conditions vary from year-to-year and the cost of relicensing Idaho Power’s largest hydro complex (Hells Canyon) is not yet known. Tr. at 794-95.

He also testified that cogeneration projects are unique from other types of PURPA projects and are deserving of continued access to long-term IRP contracts. Tr. at 819-23. He argued that Idaho Power’s Petition primarily points to the problem of oversupply from “intermittent and relatively unpredictable PURPA output from wind and solar projects.” Tr. at 823. Consequently, he suggested that any reduction in the length of IRP contracts not apply to cogeneration projects.

9. Snake River Alliance. Ken Miller testified on behalf of SRA. He opposed reducing the 20-year IRP-based contract length and expressed concern that development of utility-scale solar will be impaired. Tr. at 734. As the Environmental Protection Agency (EPA) finishes its Clean Power Plan,¹² Idaho’s utilities will have greater need for solar as they reduce their reliance on their coal-fired generating facilities. Tr. at 735-36. Given the projected reductions in coal-fired generation, the shrinkage in the utility’s projected overcapacity will likely prompt utilities to need more solar generation. Tr. at 739-40.

Commission Findings: We recognize that PURPA was intended to encourage the development of renewable resources. Order Nos. 32580 at 3; 32697, *citing FERC v. Mississippi*, 456 U.S. at 745-46. Indeed, this Commission has a long history of encouraging PURPA projects and renewable energy development in Idaho. Order No. 32697 at 14. As shown in Idaho Power’s Exhibits 1 and 11, the growth of renewable generation started modestly. Idaho Power accumulated less than 200 MW in 25 years (roughly from 1982-2007). Since 2007, PURPA generation has increased dramatically, and for Idaho Power in particular, its PURPA generation

¹² EPA issued its Clean Power Plan on August 3, 2015.

under contract has grown to about 1,161 MW – nearly a six-fold increase. Exh. 11. In just three months (November 2014 through January 2015), the Commission approved 13 solar contracts totaling more than 400 MW.

To encourage the development of renewables, PURPA and FERC regulations lay out several standards, two of which are paramount in this case. First, PURPA requires that electric utilities “must purchase” the power produced by QFs. QFs are paid based on costs that the utility avoids. Order No. 32697 at 7; 16 U.S.C. § 824a-3(b); 18 C.F.R. § 292.303(a). A utility’s avoided cost represents the incremental cost to the purchasing utility of power which, but for the purchase of power from the QF, such utility would either generate itself or purchase from another source. Order No. 32580 at 3, *citing Rosebud*, 128 Idaho at 627, 917 P.2d at 784. PURPA and FERC regulations require that the avoided cost rate must be “just and reasonable to electric consumers of the utility and in the public interest, and shall not discriminate against [QFs].” Order No. 32697 at 16, *citing* 16 U.S.C. § 824a-3(b); 18 C.F.R. § 292.304(a)(1) (internal punctuation omitted).

Second, FERC regulations allow a QF to choose to have the avoided cost rates for the purchase of its power calculated in one of two ways: (1) at the time of delivery; or (2) at the time it enters into the contract/obligation for the delivery of power. 18 C.F.R. § 292.304(d); 45 Fed.Reg. at 12,224. In Idaho, most IRP projects choose to have the avoided cost rates calculated or “fixed” at the time the contract obligation is incurred with their actual operation/on-line dates one to two years later. Thus, the rates are fixed for the duration of the 20-year contract.

The Idaho Supreme Court has recognized that PURPA contracts represent a “special type of contract.” *Afton I/III*, 107 Idaho at 793, 693 P.2d at 439; *Afton Energy v. Idaho Power Co.* (“*Afton V*”), 114 Idaho 852, 854, 761 P.2d 1204, 1206 (1988); Order No. 32802 at 17. We have also said in prior Orders, PURPA contracts are special because “federal law compels utilities to purchase power without arms-length bargaining and without regard to whether the utility needs the power. . . . Even if QF power replaces power the utility would otherwise generate, ratepayers are ultimately paying for both the capital assets of the utility’s base load generating plant in rates and the QF power.” Order No. 32802 at 17-18.

Returning to this case, there seems to be general agreement among the parties that as more PURPA power is offered to the utility, the avoided cost rates for IRP projects will decline. Tr. at 260-61; 372; 630-31; 642. It is therefore axiomatic that long-term avoided cost rates

determined at the time parties enter into their contract will “overestimate” future avoided costs collected from the utilities’ ratepayers. Because of the 20-year term of the current IRP-based contracts, this “overestimation” will become more significant over the duration of the contract.

When FERC issued its initial PURPA regulations, it acknowledged that avoided costs calculated when the parties enter into the contract might result in future avoided costs over the term of the contract being greater than actual avoided costs at the time of delivery. FERC recognized that in such cases a utility “would subsidize the [QF] at the expense of the utility’s other ratepayers.” 45 Fed.Reg. at 12,224; Tr. at 775-77. In other cases, FERC postulated that the avoided costs calculated at the time of delivery “will turn out to be lower than the avoided cost at the time of [contract].” *Id.* Thus, FERC believed “that, in the long run, ‘overestimations’ and ‘underestimations’ of avoided costs will balance out.” *Id.*

Based upon our record, we find that 20-year contracts exacerbate overestimations to a point that avoided cost rates over the long-term period are unreasonable and inconsistent with the public interest. We find shorter contracts reasonable and consistent with federal and state law for multiple reasons. First, shorter contracts have the potential to benefit both the QF and the ratepayer. By adjusting avoided cost rates more frequently, avoided costs become a truer reflection of the actual costs avoided by the utility and allow QFs and ratepayers to benefit from normal fluctuations in the market.

Second, shorter contract lengths do not ultimately prevent a QF from selling energy to a utility over the course of 20 years – or longer. PURPA’s “must purchase” provision requires the utility to continue to purchase the QF’s power. As long as projects continue to offer power to utilities, utilities must continue to purchase such power under PURPA. A shorter contract length merely functions as a reset for calculation of the avoided costs in order to maintain a more accurate reflection of the actual costs avoided by the utility over the long term. Our approach is not dissimilar to that suggested by witnesses Reading and Beach discussed below.

As an alternative to discontinuing the 20-year contract, Dr. Reading and Mr. Beach suggested similar but different alternatives. Dr. Reading suggested that the Commission could retain the 20-year contract but adjust the energy component in each of the last 10 years of the contract. Tr. at 842. Mr. Beach suggested that the Commission could make a single adjustment in the 11th year of a 20-year contract. He explained that the 20-year contract could be “repriced

after the first 10 years . . . [but] the indicative energy price for Years 11-20 would continue to be fixed.” Tr. at 701-702.

While we appreciate the concessions evident in these proposed alternatives, we find the recommendations unpersuasive. An adjustable rate contract runs the risk of violating FERC regulations that mandate a “fixed rate” at the time of contracting. 18 C.F.R. § 292.304(d)(2)(ii); Tr. at 213-15. Moreover, the same result can be accomplished through successive short-term contracts. Tr. at 214; 515-17.

Third, we further find the arguments asking the Commission to treat QFs similarly with utility resources unavailing. As is evident upon review of the extensive record (explained by several witnesses), QFs differ from utility resources in several significant and material ways. A utility “cannot be compensated by its customers for energy produced from a generating facility until the utility establishes the need for such new generation” by requesting a Certificate of Public Convenience and Necessity (CPCN). *Idaho Code* §§ 61-526, 61-541. Order No. 32697 at 15-16. In contrast, PURPA requires the utility to purchase QF power whether the power is needed or not. Next, a utility-authorized resource is typically subject to competitive bidding, cost scrutiny, and oftentimes has dispatch characteristics different than most QFs. Moreover, the fuel component for utility generating plants is adjusted annually, but is fixed for the duration of fuel-based, long-term QF contracts. QFs are entitled to receive full avoided cost rates. However, the calculation of avoided costs is entirely unrelated to what it costs a PURPA project to be developed. Tr. at 290; *see also* Tr. at 196-200, 205, 507-510, 924-26. The utilities also demonstrated that avoided cost rates exceed the Mid-C index price and their average costs of either generating or purchasing power. Tr. at 129, 191-92, 477-80.

Finally, if the goal of PURPA was to “encourage” the development of renewable resources, Idaho has made significant advancements toward that goal. Both Idaho Power and PacifiCorp presented persuasive evidence of capacity surpluses. These two utilities have demonstrated that their supply of PURPA and non-PURPA power exceeds their current average loads. Tr. at 111, 117, 931. The abundance of PURPA generation extends the utilities’ capacity surpluses to 2024 for Idaho Power and 2028 for PacifiCorp.

A change in the length of IRP-based contracts is not intended to be punitive to QFs. For several years this Commission has been adjusting terms and conditions of PURPA contracts in order to establish avoided cost rates that are just and reasonable to electric consumers, in the

public interest, and not discriminatory against QFs. We find that a change in contract length aligns with the intent of PURPA, is consistent with FERC regulations and achieves an appropriate balance between the competing interests of protecting ratepayers and developing QF generation.

Based upon our review of the evidence, we find that the length of new IRP-based contracts should be set at two years for all three utilities. There are several reasons to support our finding. First, given the two-year planning cycle for the Integrated Resource Planning process, we find it is reasonable to set the length of IRP contracts at two years. Matching IRP contracts to the IRP planning cycle provides more accurate IRP avoided costs, reduces price risk, and provides more forecast certainty. Tr. at 486, 127-28, 287, 902-05, 915-17. Further, the two-year cycle better matches the utilities' hedging and risk management practices.

We are not persuaded that setting IRP-based contracts to two years will result in a substantial decline of renewable resources. The utilities all have ample amounts of PURPA power on their systems; additional renewable generation is in the queue; SAR-based contracts are still 20 years; and the "must purchase" provision will still require utilities to purchase all renewable generation offered by QFs. Moreover, PURPA is not the only means through which a utility can obtain and/or utilize renewable resources. All the utilities have acquired non-PURPA renewable resources and/or shorter term cogeneration projects. As PacifiCorp's Mr. Clements testified, all of PacifiCorp's cogeneration contracts are for a period of one year. Tr. at 476-77. And we note that over the years, neither Clearwater nor Simplot have chosen QF contracts of 20 years. Tr. at 858. In fact, Clearwater's most recent cogeneration agreement was not a PURPA contract.

In reducing IRP-based contracts to two years, we find that a clarification in calculating the capacity deficiency of the IRP-based projects is warranted. As we have said in previous Orders, a utility is to begin payments to a QF for capacity "at such time as the utility becomes capacity deficient. . . . By including a capacity payment only when the utility becomes capacity deficient, the utilities are paying rates that are a more accurate reflection of a true avoided cost for the QF power." Order No. 32697 at 21. We recognize that a new two-year contract would be unlikely to reach a capacity deficiency date. Therefore, we find it reasonable for utilities to establish capacity deficiency at the time the initial IRP-based contract is signed. As long as the QF renews its contract and continuously sells power to the utility, the QF is

entitled to capacity based on the capacity deficiency date established at the time of its initial contract. For example, if the QF comes on-line in 2017 and the utility is capacity deficient in 2020, the QF would be eligible for capacity payments in the second year of its second contract and thereafter if in continuous operation. This adjustment recognizes that in ensuing contract periods, the QF is considered part of the utility's resource stack and will be contributing to reducing the utility's need for capacity. This mitigates the concern that short-term contracts will not contribute to the avoidance of utility capacity/generation.

We further find that on a case-by-case basis, there may be justification for IRP-based contracts in excess of two years. This is consistent with our prior Orders. Order Nos. 27213; 26576 at 6-7; Order No. 32697 at 25. In those instances when the utility and the project developer believe that a longer term is justified, utilities are directed as part of their standard negotiation process to fairly evaluate such requests. The Commission will consider those contract terms when they are submitted for approval.

C. Indicative or Incremental Pricing

As part of its Petition, Rocky Mountain asked that the Commission allow it to change its "indicative" pricing practice in the IRP methodology so that it may provide more accurate avoided cost rates to proposed QF projects. Petition at 4. Indicative or "incremental" prices are the preliminary estimates of IRP-based avoided cost rates and are the incremental cost a utility would otherwise incur for the capacity and energy that the QF proposes to sell to the utility. Yin, Tr. at 876. Incremental prices serve as the starting point for negotiations between QFs and a utility. *Id.*

Rocky Mountain seeks relief from a prior Commission Order in Case No. GNR-E-11-03 that generally directed that incremental pricing be updated after "the QF and utility have entered into a signed contract for the sale and purchase of QF power." Order No. 32697 at 22 (emphasis added). In other words, the utility's calculation of an updated incremental price is based upon signed contracts, not all projects seeking to sell power to a utility.

1. Rocky Mountain's Proposal. In its Petition, Rocky Mountain asked for approval to arrange proposed QF projects in a queue and provide those QFs with incremental pricing as part of the IRP negotiation process. Rocky Mountain Petition at 37-38. The avoided cost prices/rates would be based on each QF's place in the queue, and would be calculated using that QF's proposed power and that of all earlier-queued projects. *Id.* Rocky Mountain asserted that

the “drastic increase in the number of QF requests received in both Idaho and over [Rocky Mountain/PacifiCorp’s] six-state system in recent years” results in “artificially inflated avoided cost pricing.” *Id.*

Rocky Mountain’s witness Brian Dickman explained:

Avoided costs for the first QF in [a] queue are based on displacement of the highest cost resources on [Rocky Mountain’s] system. Each successive QF should displace lower and lower cost resources, resulting in lower avoided costs.

Dickman, Tr. at 560. The price of proposed power from queued projects is “not captured if the recognition of new long-term commitments is limited to signed contracts.” *Id.* at 564. If a utility cannot update its avoided cost pricing to reflect the price for proposed power from the queue, the queued projects all receive avoided cost rates or prices that are not up-to-date and too high.

Mr. Dickman also testified that it would be “prohibitively time consuming and problematic from a contract negotiation standpoint,” to recalculate prices for new QF projects as other proposed QFs sign contracts. *Id.* at 572. He suggested the Commission should modify the incremental pricing practice in the IRP methodology “to account for proposed QF projects on [Rocky Mountain’s] system prior to the next Idaho QF requesting indicative prices.” *Id.* at 574.

Clearwater and Simplot’s witness Dr. Reading supported the proposal. Tr. at 831. No party opposed Rocky Mountain’s incremental pricing request.

2. Staff Support. Staff recommended the Commission adopt Rocky Mountain’s proposal to update its incremental avoided cost pricing. Staff witness Dr. Yao Yin testified that under the incremental pricing practice approved per Order No. 32697, “proposed projects are not placed in a queue but are instead treated for pricing purposes as if they are all the first project to receive the next [incremental price].” Tr. at 877. Although this practice “may result in accurate avoided cost rates,” Dr. Yin observed that “it can be very difficult to recalculate rates for proposed projects in a timely manner when there are many projects seeking indicative prices at the same time.” *Id.* at 877-78. “In addition, a QF may not want to renegotiate the new updated rates, because the new indicative prices may be lower than the original ones.” *Id.* at 878.

Dr. Yin noted that current “PURPA project sizes are much larger, both individually and cumulatively, and multiple projects frequently seek indicative prices at the same time.” *Id.* at 879. The pricing practice proposed by Rocky Mountain “would offer more accurate indicative

prices to QFs by putting all the proposed projects into a queue based on the times they request indicative prices.” *Id.*

She explained that Idaho Power and Avista have tariff schedules (Sch. 73 and 62, respectively) that “specify the information a project needs to submit before requesting indicative prices,” and that “specify timeline milestones for QFs to meet as projects and negotiations progress.” *Id.* at 876, 881. Dr. Yin recommended that Rocky Mountain be directed to file a similar schedule in Idaho “so that QF projects can have a better idea of the procedures for requesting indicative prices in Idaho,” and that would “lay out the PURPA negotiating process and prevent projects from prematurely requesting indicative pricing.” *Id.* at 876-77, 882. She further recommended that Rocky Mountain develop “specific criteria . . . for management of the queue, such as rules for QF entry, re-positioning, and removal from the queue.” *Id.* at 882. Finally, she recommended that the Commission “discontinue the ‘signed contract’ requirement in Order No. 32697 for purposes of giving indicative pricing to IRP-based projects.” *Id.* at 882-83.

Commission Findings: The Commission finds that the “signed contract” language in Order No. 32697 did not achieve its intended result. When developers flood the utilities with many proposed projects in a short period of time, the “signed contract” requirement yields inaccurate avoided costs. The result is artificially inflated pricing.

We find that creation of a queue to track the order in which QF projects have entered negotiations with a utility, so that incremental pricing can be calculated to reflect the actual impacts of each project is reasonable and appropriate. Consequently, we eliminate the “signed contract” requirement of Order No. 32697 and allow utilities to update their incremental pricing for QFs in their PURPA queue. *Idaho Code* § 61-624. Such a process will improve the accuracy of proposed prices, and improve the predictability of the process to both the utilities and the QFs. We also direct Rocky Mountain to file a tariff schedule, like those of Idaho Power and Avista, which outlines its PURPA negotiating process. The schedule should include specific criteria for management of the queue to eliminate uncertainty and to facilitate negotiations between Rocky Mountain and QFs.

IV. INTERVENOR FUNDING

A. Funding Standards

Intervenor funding is available pursuant to *Idaho Code* § 61-617A and Commission Rules 161 through 165. Section 61-617A(1) declares that it is “the policy of [Idaho] to

encourage participation at all stages of all proceedings before this commission so that all affected customers receive full and fair representation in those proceedings.” *Idaho Code* § 61-617A(2). The statute authorizes the Commission to order any regulated utility with intrastate annual revenues exceeding \$3.5 million to pay all or a portion of the costs of one or more parties. Intervenor funding costs include: legal fees, witness fees, transportation and other expenses so long as the total funding for all intervening parties does not exceed \$40,000 in any proceeding. *Idaho Code* § 61-617A(2). The Commission must consider the following factors when deciding whether to award intervenor funding:

- (1) That the participation of the intervenor has materially contributed to the Commission’s decision;
- (2) That the costs of intervention are reasonable in amount and would be a significant financial hardship for the intervenor;
- (3) The recommendation made by the intervenor differs materially from the testimony and exhibits of the Commission Staff; and
- (4) The testimony and participation of the intervenor addressed issues of concern to the general body of customers.

Idaho Code § 61-617A(2). To obtain an award of intervenor funding, an intervenor must comply with Commission Procedural Rules 161-165. The petition must contain an itemized list of expenses broken down into categories; a statement explaining why the costs constitute a significant financial hardship; and a statement showing the class of customer on whose behalf the intervenor participated. Rule 162, IDAPA 31.01.01.162.

B. The Intervenor Funding Requests

As set out in greater detail below, the Commission received four petitions for intervenor funding, requesting a total of about \$58,000. It is undisputed that each of the three electric utilities in this case has intrastate revenues that exceed \$3.5 million.

1. Idaho Conservation League. On July 1, 2015, ICL filed a Petition for Intervenor Funding seeking recovery of \$9,652.50 in expenses. ICL is a non-profit organization and claims that its members and supporters are ratepayers of all three electric utilities. Petition at 3. ICL maintained that it receives financial support solely through charitable donations from its members and foundations. *Id.* It asserted that it actively strived to reduce its expenditures by not seeking any travel costs, reproduction fees, and that the services of its witness, Mr. Wenner, were

provided pro bono. Moreover, ICL requested only 60% of its other witness's hourly rate. ICL submitted that its witnesses' testimony was materially different from that testimony offered by the Commission Staff. In particular, ICL argued that the Commission should maintain the 20-year fixed-price contracts for IRP-based projects. Petition at 5. In summary, ICL requested recovery of its legal fees in the amount of \$4,050 and witness fees in the amount of \$5,602.50.

2. Renewable Energy Coalition. On July 9, 2015, REC filed its Petition for Intervenor Funding seeking an award of \$8,751.50.¹³ REC members represent small hydro power producers that either have or may seek PURPA contracts with Idaho's electric utilities. Petition at 3. REC members imposed a special assessment against themselves to support their intervention in this case. Petition at 4. However, costs for intervenors in this proceeding exceeded the assessment. *Id.* In addition, REC has not sought recovery of all of its legal fees nor the costs of its primary witness, Mr. Lowe, in this case. REC declared that its testimony also differed from that offered by Commission Staff. It maintains that it is the only party that recommended the Commission should broadly investigate the issues raised by utilities when balancing the interest of ratepayers and small QFs. In summary, REC sought to recover its legal fees in the amount of \$7,936.50 and its travel expenses in the amount of \$815.

3. Snake River Alliance. On July 9, 2015, SRA filed its Petition for Intervenor Funding seeking \$5,800 "rounded down for convenience." Petition at 3. SRA characterizes itself as a small, non-profit organization "supported by charitable contributions from individuals, families, and foundations." *Id.* Its participation in this case was "necessary to provide a voice for its members and ratepayers that 'face significant economic and environmental risks associated with the utilities' coal fleet [by] pursuit of clean and renewable alternatives to coal and large hydropower." *Id.* SRA opposed the utilities' and Staff's proposals to reduce the length of 20-year PURPA contracts but supported adjusting the energy component of avoided cost rates at the 10-year mark. *Id.* at 2.

SRA only requested recovery of its legal fees and did not seek reimbursement for its witness and Energy Director, Ken Miller.

4. Irrigation Pumpers Association. On July 10, 2015, the Irrigators filed their Petition for Intervenor Funding seeking a total of \$33,733.72. The Irrigators sought recovery of

¹³ In its Petition, REC sought an award of \$8,800 (Petition at 2; Exh. A) but the expenses listed in its Exhibit A total \$8,751.50.

their legal fees (\$7,500), witness fees (\$24,450), and travel expenses (\$1,783.72). Petition at Exh. A. The Irrigators are a non-profit corporation representing farmers’ interests in electric utility matters in southern Idaho. Petition at 3. The Irrigators rely solely on dues and contributions voluntarily paid by its due-paying members. They only have one part-time paid contractor who shares office space in Boise. The Irrigators’ position was materially different than that addressed by Commission Staff or other parties. They maintained that Idaho Power was operating its system inconsistently with the assumptions in Idaho Power’s avoided cost models. *Id.* at 3. They urged the Commission to reduce the length of contracts while the Commission refines the avoided cost methodology.

Commission Findings: The Commission finds that the requests for intervenor funding satisfy the intervenor funding requirements. Each intervenor participated in the case and materially contributed to the examination of the issues and the Commission’s decision. As set out above, each intervenor’s petition materially differed from Staff’s position. We further find that the lack of intervenor funding would be a significant financial hardship to these intervenors and that their costs of intervention, for the most part, are reasonable. However, the total amount requested exceeds that which is available by statute. Therefore, we find it fair, just and reasonable to award the intervenors the following funding amounts totaling \$40,000.

<u>INTERVENOR</u>	<u>AWARD</u>
ICL	\$ 8,635
REC	\$ 8,314
SRA	\$ 5,266
IIPA	<u>\$17,785</u>
Total	\$40,000

The intervenor funding award shall be recovered from Avista, Idaho Power and Rocky Mountain Power based on a proportional share of the total number of Idaho customers served by each utility. *See* Order No. 32697. The funding awards to ICL, REC, and SRA shall be chargeable to the electric residential customer class. The Irrigators’ costs shall be chargeable to the irrigation customer class of the three utilities. *Idaho Code* § 61-617A(3).

ULTIMATE FINDINGS AND CONCLUSIONS

The Commission has jurisdiction over this matter pursuant to the authority and power granted it under Title 61 of the Idaho Code and the Public Utility Regulatory Policies Act (PURPA). The Commission has authority to set avoided cost rates, to order electric utilities to

enter into fixed-term obligation for the purchase of energy and capacity from QFs, and to set the term of PURPA contracts. The Commission is also empowered to resolve disputes between utilities and QFs and to approve PURPA contracts.

PURPA and FERC regulations direct not only that the rates for purchases not discriminate against QFs, but also that avoided cost rates be just and reasonable to the utility's ratepayers and in the public interest. 18 C.F.R. § 292.304(a)(1). This Order shortens the length of IRP-based PURPA contracts in order to maintain a more accurate avoided cost. However, the "must purchase" obligation of PURPA will allow QFs to continually renew their contracts. Moreover, QFs will continue to be compensated for capacity calculated at the time they initially enter their IRP-based contract. Also, proposed IRP-based contracts that are longer than two years will be evaluated on a case-by-case basis. This Order strikes a balance between just and reasonable rates for ratepayers, the public interest and the interests of QFs, as is mandated by PURPA and FERC regulations.

ORDER

IT IS HEREBY ORDERED that Idaho Power's Petition to reduce the length of its IRP-based PURPA contracts from 20 years to two years is granted.

IT IS FURTHER ORDERED that Rocky Mountain Power's Petition to reduce the length of its IRP-based PURPA contracts from 20 years to three years is granted in part and modified in part. Rocky Mountain shall reduce the length of its IRP-based PURPA contracts to two years.

IT IS FURTHER ORDERED that Avista's Petition to reduce the length of its IRP-based PURPA contracts to two years is granted as set out above.

IT IS FURTHER ORDERED that Rocky Mountain Power's request to change its indicative (incremental) pricing practices is granted as set out above. The requirement that utilities update their indicative pricing practices based on signed contracts is rescinded. *Idaho Code* § 61-624. PacifiCorp shall file a schedule setting out its PURPA negotiating practices and queue management.

IT IS FURTHER ORDERED that the capacity components for IRP-based QF contracts shall be calculated for all new IRP contracts to begin at the time the QF first enters its two-year contract provided such contract is continued in the future.

IT IS FURTHER ORDERED that Avista, Idaho Power, and Rocky Mountain Power may enter IRP-based QF contracts in excess of two years on a case-by-case basis with appropriate justification.

IT IS FURTHER ORDERED that the four Petitions for Intervenor Funding are granted as set out in greater detail above. The utilities are directed to remit their respective amounts to the four intervenors within 28 days of the date of this Order, as more specifically described above. IDAPA 31.01.01.165.02.

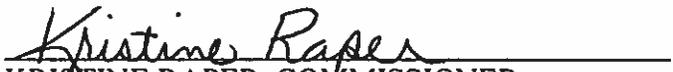
IT IS FURTHER ORDERED that this Order become effective on the service date shown on the front page.

THIS IS A FINAL ORDER. Any person interested in this Order (or in issues finally decided by this Order) or in interlocutory Orders previously issued in Case Nos. IPC-E-15-01, AVU-E-15-01, and PAC-E-15-03 may petition for reconsideration within twenty-one (21) days of the service date of this Order with regard to any matter decided in this Order or in interlocutory Orders previously issued in these cases. Within seven (7) days after any person has petitioned for reconsideration, any other person may cross-petition for reconsideration. See *Idaho Code* § 61-626.

DONE by Order of the Idaho Public Utilities Commission at Boise, Idaho this 20th
day of August 2015.


PAUL KJELLANDER, PRESIDENT

Commissioner Smith did not participate in this case
MARSHA H. SMITH, COMMISSIONER


KRISTINE RAPER, COMMISSIONER

ATTEST:


Jean D. Jewell
Commission Secretary

O:IPC-E-15-01_AVU-E-15-01_PAC-E-15-03_dh2_Final

Re: 201501245-CU Boise City Solar project

August 26, 2015

18710 S. Cloverdale Rd, Kuna, ID 83634

To the attention of the Ada County Planning and Zoning Commission,

Please enter these comments into the public hearing record for the Boise City Solar project.

I am a property owner on South Cloverdale Road, where my husband and I have lived in the Wednesday subdivision since 2000, with eleven neighbors in this development. Bordering our subdivision is agricultural land and BLM land. Our subdivision has nice homes and nice families. We have made many improvements to our property since we have lived here. Please see the photograph below for a view our home.



We enjoy our life in our quiet subdivision in this rural area, with great views and lots of wildlife, especially hawks, owls, and other raptors.

The proposed solar power generating facility will hit our neighborhood hard. We have many concerns about safety, impact to the birds and other wildlife, spoiled views, and large losses to our property

EXHIBIT 26
201501245 CU-MSP-PR-V-FP
TO SOLAR LLC

ADA COUNTY
AUG 27 2015
DEVELOPMENT SERVICES

values. We are not opposed to solar power, but this large commercial power generating facility is much better suited for an industrial or commercial area, not next to a residential neighborhood.

Here are a few photographs of the views from our eastern property line, which borders the proposed solar power facility.



If the project is allowed to proceed, all of the pastureland in these views will be covered with a dense array of solar panels, directly in full view of our neighborhood.

Please consider my requests to deal with my concerns:

1. Require an Impact Study be conducted to understand the impact to the hawks, owls, other birds, wildlife, and plant life,
2. Require a significant setback from the western property line of this project to create a buffer zone between the subdivision and the solar power generating facility. A buffer of approximately 1000 feet along this border, to a location beyond the natural ridgeline in this section of the project would greatly reduce the impacts to our neighborhood, without a significant impact to the total solar panel area of the entire project.

I appreciate your attention to my concerns, and those of my neighbors in our subdivision, as well as your consideration of my requests to address these concerns.

Sincerely,



Sherrie Derr

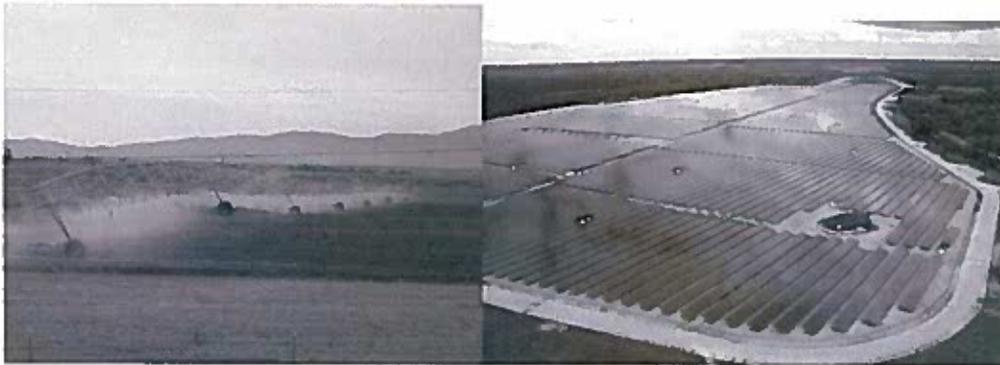
Attention: Ada County Development Services
Subject: Public hearing on 09/09/15 for Boise Solar Power

Dear Board Members,

The proposed solar farm by Origis Energy USA, Inc. will surround the Wednesday Subdivision on both the south and east sides and will also be highly visible from the properties on the west side of South Cloverdale Road. Though Origis claims that "the project will be of minimal impact to the neighboring community," the residents have many concerns that have not been forthrightly addressed.

Solar "farms" are rarely placed adjoining subdivision communities – they are usually in extremely rural areas that will have little impact on homes or people. Originally, this solar project was to be located 4 miles south of our subdivision, off of South Cloverdale Rd. This was an area where there were no houses, or through-traffic. Origis found that it was difficult to cross the BLM land with the power lines, as the BLM required wildlife and environmental impact studies that would have, at a minimum, delayed their project. It was easier for Origis to move this project to the land adjacent to the Wednesday Subdivision, as private land might not be subject to such scrutiny.

1. The residents of our subdivision expected the neighborhood to stay residential, or agricultural – we never imagined that it might be changed to industrial. As county residents, we were required to limit our building property coverage to 5%. The industrial coverage will completely change the look and feel of the neighborhood.



2. **Will wildlife be affected?** Our subdivision directly borders Birds of Prey land to the south and we get a lot of wildlife, including badgers, ground squirrels, fox, coyotes, chukkar, pheasant, quail, grouse, and more. Birds of prey include Swainsons Hawks, Red Tailed Hawks, Prairie Falcons, American Kestrel Falcons (which nest in our Kestrel box yearly), owls of many species, Coopers Hawks, Golden Eagles, and the occasional Peregrine Falcon. The habitat of these animals will definitely be affected by the solar project, which will cover over 500 acres of land where many of these species breed, hunt, and live.

EXHIBIT 27
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IDA SOLAR I LLC

ADA COUNTY
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Though Origis now plans to implement "avian monitoring" during the build-out of this project, the impact on future generations is definitely a concern. Can these animals live in close proximity to electric voltage of this sort? Will the solar panels affect their life patterns and health? If the BLM insists on studies that take these concerns into account, Ada County should, as well.

3. **What are the potential physical impacts to people?** Are there immediate effects on our health? Will I get headaches, such as when I pass under high-tension wires? Are there long-term effects, such as higher cancer rates? Origis says, "the variance is not detrimental to public health, safety, or welfare." However, Origis admits in their application packet (p. 30) that there have not been any long-term studies on living next to a solar facility, to their knowledge. Are we, the residents of the Wednesday Subdivision, to be the guinea pigs for the future?
4. **What will the impact on our daily lives be?** Origis claims that the panels are 'nearly silent', however, they will not give us an idea of what this really means. My house is the closest to the project – I live directly across West Chiefs Farm Lane from the Kuna city portion of the project. Will we be able to hear the panels as they track the sun? Will the presence of the panels increase the temperature in our neighborhood?

Certainly, this solar project will have a massive visual impact on our neighborhood. There is a big difference between looking at houses and verdant agricultural fields, verses a giant sea of blackness over hundreds of acres. If we had wanted to cover a far smaller portion of our properties with any sort of structure, we would have been prevented from doing so.

*Origis is a company that is concerned with making a profit –
It is not here to improve our neighborhood, community or Ada County.*

They may claim to be 'helping us with our energy resources', however, Idaho has over invested in alternative energy sources to the point where the energy will be wasted and the residents will have to pay significant additional costs for electricity. On June 24, 2015, the Public Utilities Commission reduced the length of contract with such companies from 20 years, to 2 years. They understand that this resource may not be as useful as profit-based companies, like Origis, would like us to believe.

5. Lastly, **will my property value and ability to sell be affected?** As an Idaho licensed Realtor, my professional answer to this is 'Yes'. My current property value is \$550,000 based on current comparable sales. The addition of thousands of solar panels around us will most likely inhibit potential buyers from even looking at my house.

Our neighborhood is a quiet and peaceful place, where many property owners enjoy their horses and other livestock. We purchased and developed our properties with the expectation that the county would protect our livelihood.

Please take the time to investigate the issues that we have brought to your attention. Origis is a foreign company that wants to make money. We are residents of Ada County that want to truly remain members of this community.

Thank you,

Crista Vesel, MSc.

18110 S Cloverdale Rd
Kuna, ID 83634

Ivan Pupulidy, Ph.D.
18110 South Cloverdale Road
Kuna, Idaho 83634

26 August 2015

I am an Iraq and Afghanistan veteran who has worked diligently most of my life. In recent years, I invested in my home in a community just outside the Kuna City Limits (18110 South Cloverdale Road, Kuna). This investment has improved the neighborhood and created a home that my wife and I are proud to return to each day. We are nestled in a small agricultural based neighborhood in the County, called the Wednesday Subdivision. We have had the expectation that growth would come our way some day. That expectation was commensurate with the growth that is typical of Cloverdale Road and includes subdivisions and small convenience stores.

We are also very proud to be part of the small town community of Kuna. Part of this pleasure comes from the way that the people of Kuna relate to each other and the overall sense of both community and friendship. Our pride extends to our home and my wife often says that she looks forward to the first view of the house as she drives home from town. She feels pride in what we have done (see image 1).



Figure 1: Our home

ADA COUNTY

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DEVELOPMENT SERVICES

EXHIBIT 28
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ID SOLAR I LLC

I have a number of concerns regarding the proposed solar 'Farm' development of the land in the vicinity of the Wednesday Subdivision.

First – The rushed nature of this development has prevented any serious studies related to the environment. Which is summarized in the Idaho Department of Fish and Game Letter (Page 53 of the Commissioner's Special Use package). In this letter to Origis Director of Development, Michael Chestone, Idaho Fish and Game says, **"The Department staff are unable to conduct a thorough environmental review and provide appropriate recommendations at this time due to the compressed timeline for application to Ada County, the relatively large scale of the project and staff unfamiliarity with solar energy projects and potential effects to wildlife."** There has not been enough time to fully understand the impact of the plan on the community, in terms of the proposed materials, potential water run-off and environmental impact assessment. Essentially, this project is going ahead without an environmental or threatened & endangered species impact assessment.

Second – The people of Idaho, including those of us who live in the Wednesday Subdivision (see Figure 2) have an expectation that we will be able to enjoy an esthetically pleasing environment and we look to the City and County Planners to protect that right, as well as our right to a healthy living environment. The proposed fencing around the solar farm is a chain-link fence, topped with barbed wire. Reason would not allow that to be the boundary for a subdivision and I would think that the potential eyesore would be something Kuna would want to avoid. The construction of solar farms in proximity to homes in Europe, for example, has esthetically pleasing, organic boundaries that surround the farms when these facilities are near houses. The planned construction will undoubtedly adversely affect land values in the subdivision.



Figure 2. Solar Power Installation in blue and orange, adjacent to the Wednesday Subdivision.

Bright blue dot indicates our home.

Third – There are a number of blogs, articles and serious research papers, which indicate that solar panels become hazardous waste once they are spent. The State of Oregon has recognized this issue and released a publically available paper (attached) highlighting concerns regarding solar power. Origis has represented the panels as safe; however, their plan does not include a bond to cover the cost of removal of spent panels. The paper issued by the State of Oregon titled, “Health and Safety Concerns of Photovoltaic Solar Panels (available at this web site <http://www.oregon.gov/ODOT/HWY/OIPP/docs/LifeCycleHealthandSafetyConcerns.pdf> and attached), clearly delineates the dangers associated with spent solar panels. The following are quotes from that paper

- “There are potential environmental, health and safety hazards associated with the full product life cycle of photovoltaics. Recent news accounts have raised public interest and concerns about those potential hazards. A substantial body of research has investigated the life cycle impacts of photovoltaics including raw material production, manufacture, use and disposal”
- “Improper disposal of solar panels at the end of their useful life also presents an environmental, health and safety concern.”
- “If not properly decommissioned, the greatest end of life health risk from crystalline solar modules arises from lead containing solders. Under the right conditions it is possible for the lead to leach into landfill soils and eventually into water bodies.”

The proposed solar farm includes and is adjacent to a riparian area that feeds Indian Creek. No study has been conducted to determine if the farm or the panels have the potential to contaminate this riparian area. The large number of panels in this project and the proximity to the riparian area suggests that a full environmental impact study be conducted.

In addition, there is no proposed plan for the removal of panels, once their life limit is reached or the restoration of the land, note a sizable portion of the land allocated to become the solar farm is currently agricultural. The Idaho Department of Environmental Quality has strict guidelines regarding what a company has to do to meet standards. The State of Oregon has more experience with solar farms and has recognized the issues with spent panels, as what is commonly referred to as electronic or “e-waste”. Several articles highlight the problem associated with getting solar panel companies to remove spent panels, one article succinctly qualified the issue”

“But getting solar panel manufacturers to take back their products after 25 years (the average lifespan of silicon-based panels) could prove difficult, especially since other electronics manufacturers that make products with much shorter lifespans can’t get their take-back programs off the ground.

<http://cleantechnica.com/2009/01/14/danger-solar-panels-can-be-hazardous-to-your-health/>

Fourth – Origis permit application states openly, “Question: Have there been any long-term studies on living next to a solar facility?” Answer: “Not to our knowledge.” This is mainly because these projects are not commonly constructed near homes, much less subdivisions. The Commissioners must reconcile this fact with the possibility that there may be health issues related to solar panel proximity to residences.

The love affair with solar energy may come with a high price. In order to make changes to most public land there is a requirement to complete and environmental impact study and to comply with the National Environmental Policy Act¹. This policy requires the federal government to use all practicable means to create and maintain conditions under which man and nature can exist in productive harmony. As this applies to federal land, it only loosely applies to this situation. The application to this situation may not be regulatory, but it is an ethical consideration for the safety and enjoyment of members of the community. The commission must wrestle with the location of this solar farm, its potential hazardous waste, its appeal in a residential community and its overall effect on the reputation of the commission.

Sincerely

Ivan Pupilidy, PhD

Attachment: <http://www.oregon.gov/ODOT/HWY/OIPP/docs/Life-CycleHealthandSafetyConcerns.pdf>

¹ Section 102 in Title I of the Act requires federal agencies to incorporate environmental considerations in their planning and decision-making through a systematic interdisciplinary approach. Specifically, all federal agencies are to prepare detailed statements assessing the environmental impact of and alternatives to major federal actions significantly affecting the environment. These statements are commonly referred to as Environmental Impact Statements (EIS) and Environmental Assessments (EA).

Health and Safety Concerns of Photovoltaic Solar Panels

Introduction

The generation of electricity from photovoltaic (PV) solar panels is safe and effective. Because PV systems do not burn fossil fuels they do not produce the toxic air or greenhouse gas emissions associated with conventional fossil fuel fired generation technologies. According to the U.S. Department of Energy, few power-generating technologies have as little environmental impact as photovoltaic solar panels.

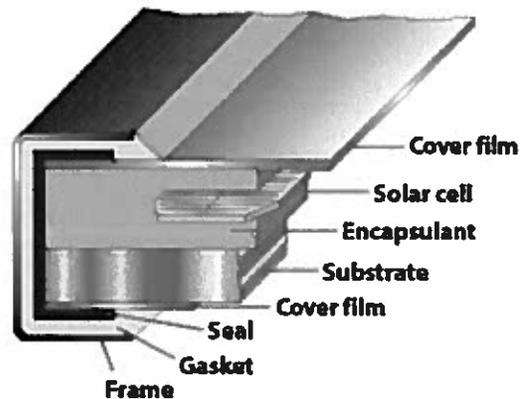
However, as with all energy sources, there are *potential* environmental, health and safety hazards associated with the full product life cycle of photovoltaics. Recent news accounts have raised public interest and concerns about those potential hazards.² A substantial body of research has investigated the life cycle impacts of photovoltaics including raw material production, manufacture, use and disposal. While some potentially hazardous materials are utilized in the life cycle of photovoltaic systems, none present a risk different or greater than the risks found routinely in modern society.

The most significant environmental, health and safety hazards are associated with the use of hazardous chemicals in the manufacturing phase of the solar cell. Improper disposal of solar panels at the end of their useful life also presents an environmental, health and safety concern. The extraction of raw material inputs, especially the mining of crystalline silica, can also pose an environmental, health and safety concern. The environmental, health and safety concerns for the life-cycle phase are minimal and limited to rare and infrequent events. With effective regulation, enforcement, and vigilance by manufacturers and operators, any danger to workers, the public and the environment can be minimized. Further, the benefits of photovoltaics tend to far outweigh risks especially when compared to conventional fossil fuel technologies. According to researchers at the Brookhaven National Laboratory, regardless of the specific technology, photovoltaics generate significantly fewer harmful air emissions (at least 89%) per kilowatt-hour (KWh) than conventional fossil fuel fired technologies.³

Materials used in photovoltaics solar panels

The basic building block of a photovoltaic solar system is the solar cell. Solar cells are solid state, semiconductor devices that convert sunlight into electricity. Typically a number of individual cells are connected together to form modules, or solar panels. In order to provide electrical insulation and protect against environmental corrosion, the solar cells are encased in a transparent material referred to as an encapsulant. To provide structural integrity the solar cells are mounted on top of a rigid flat surface or substrate. A transparent cover film, commonly glass, further protects these components from the elements.

Several types of semiconductor materials are used to manufacture solar cells but the most common material is crystalline silicon, typically from quartz or sand, capturing a 60% market share.⁴ Crystalline silicon semiconductors are also utilized in the manufacture of integrated circuits and microchips used in personal computers, cellular telephones and other modern electronics.



Courtesy of the U.S. Department of Energy

The outer glass cover constitutes the largest share of the total mass of a finished crystalline photovoltaic module (approximately 65%), followed by the aluminum frame (~20%), the ethylene vinyl acetate encapsulant (~7.5%), the polyvinyl fluoride substrate (~2.5%), and the junction box (1%). The solar cells themselves only represent about four percent (4%) of the mass of a finished module.⁵

Oregon Department of Transportation Solar Highway photovoltaic solar panel selection

The solar panels proposed for use in the Oregon Department of Transportation's Solar Highway program feature domestically manufactured and assembled monocrystalline silicon modules. The information presented below, therefore, focuses on the life cycle environmental, health and safety hazards generally associated with this technology.

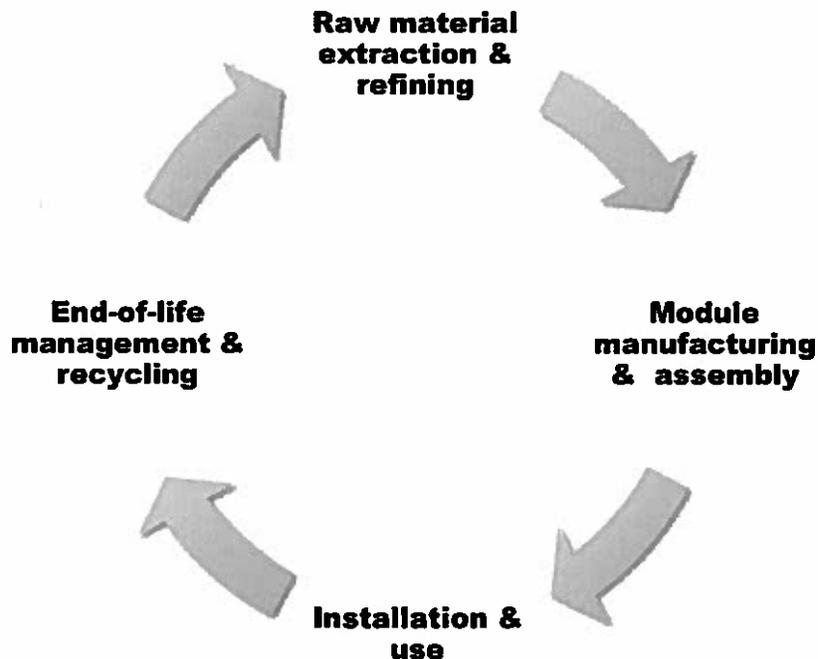
Life Cycle of Monocrystalline Silicon Solar Panels

The simplified process diagram below illustrates the basic life-cycle stages for the manufacturing of monocrystalline silicon (c-Si) solar panels.

The life cycle of a c-Si panel starts with mining of crystalline silica in the form of quartz or sand. The raw material is then refined in industrial furnaces to remove impurities to produce metallurgical grade silicon (~98% pure silicon). The metallurgical grade silicon is then further refined to produce high purity polysilicon for use in the solar and semiconductor industry. Next, the polysilicon is used to grow monocrystalline rods or ingots. These ingots are then shaped and sawn into very thin wafers. The wafers are then manufactured into solar cells and assembled into photovoltaic modules ready for installation. At the end of their useful life the materials in the panels can be recycled and used as feedstock material for new panels.

The potential environmental, health and safety hazards associated with each of these steps are described on the following pages.

Figure 1: Simplified Photovoltaic Solar Panel Life Cycle





Raw material extraction and refining for solar panels

The material inputs phase consists of the extraction and processing of raw materials that are then used in the production of solar panels.

Crystalline Silica Mining

Process

Crystalline silica is the primary raw material input for the manufacture of monocrystalline solar panels. Crystalline silica is found in the environment primarily as sand or quartz. The extraction process varies by location, but typically involves some combination of earth moving, crushing, milling, washing, and screening to separate the crystalline silica particles from other minerals and impurities and to achieve the desired grain size.⁶ The end product is variously referred to as silica sand, quartz silica or simply silica or quartz.

Health and Safety

A potentially harmful by-product associated with the mining and processing of silica sand is crystalline silica dust. Silica dust has been associated with silicosis, a lung disease where scar tissue forms in the lungs and reduces the ability to breath.⁷ Crystalline silica dust is classified as a known human carcinogen by the International Agency for Research on Cancer.⁸ Studies show increased risk of developing lung cancer through regular exposure to crystalline silica dust. Other health problems associated with regular, high exposure include chronic obstructive pulmonary disease, rheumatoid arthritis, scleroderma, Sjogern's syndrome, lupus, and renal disease.⁹

The widely recognized risk of human exposure to silica dust has resulted in the implementation of stringent health, safety, and environmental measures in the United States and across the globe. Examples of mitigation measures include monitoring air quality, automation of processes to limit human exposure, dust suppression measures and personal protective devices for workers such as respirators.¹⁰

It should be noted that the majority of global silica sand production (more than 80%) is used for the manufacture of glass and ceramics, metal casting and abrasives, while only 2% is utilized in the production of metallurgical grade silicon.¹¹

Upgrading Silica Sand to Metallurgical Grade Silicon

Process

Metallurgical grade silicon is used in the manufacture of metal alloys such as aluminum and steel, chemical silicones for use in lubricants and epoxies as well as high purity polysilicon for the manufacture of semiconductors including solar panels. Consumption by the semiconductor industry, including photovoltaics, accounts for approximately 6% of global metallurgical grade silicon production.¹² In order to transform industrial grade silica sand into metallurgical grade silicon, the silica is combined with carbon in the form of charcoal, coal, or coke in an electric arc furnace in a process called carbothermic reduction.

Health and Safety

The primary emissions from this process are carbon dioxide and sulfur dioxide from the combustion of carbon sources. Another by-product of the process is fume silica captured via a piece of emission control technology called a bag house. If respirated, fume silica can pose the same health concerns as silica dust.¹³ Additionally, there are indirect emissions of carbon dioxide from the consumption of electricity to power the electric arc furnace. The source and carbon intensity of this electricity varies by region.

Upgrading Metallurgical Grade Silicon to Polysilicon

Process

In order to reach a purity level acceptable for use in manufacture of semiconductor devices, metallurgical grade silicon must go through two additional purification steps. The primary output from this purification process is polysilicon, the precursor to the silicon wafers used to manufacture the integrated circuits at the heart of most electronics as well as monocrystalline photovoltaic solar cells.



In the first step, pulverized metallurgical grade silicon is combined with hydrogen chloride gas and a copper catalyst in a fluid bed reactor to produce trichlorosilane. Trichlorosilane is the primary chemical feedstock for the production of polysilicon. This step also yields silicon tetrachloride, which can either be captured and further processed into trichlorosilane or utilized as a feedstock in the manufacture of fiber optics. Other byproducts from this phase include silane, dichlorosilane and chlorinated metals. Dichlorosilane is an important precursor to silicon nitride, a ceramic material used, among other applications, in the manufacture of automobile engine parts.^{14,15}

To produce polysilicon, the trichlorosilane is subjected to a distillation process until the desired purity level is achieved. The purified trichlorosilane is then used to deposit very pure polysilicon in a chemical vapor deposition reactor. This process, commonly referred to as the Siemens process, accounts for as much as 98% of the world's polysilicon production.¹⁶ Historically, polysilicon destined for photovoltaic solar cells was considered "waste" material that did not meet the purity requirement of the electronics industry and accounted for approximately 10% of polysilicon production.¹⁷ There are indications that this trend may be changing as the size of photovoltaic markets expand.

Health and Safety

This process involves multiple potentially hazardous materials and byproducts that without proper safeguards can pose a significant risk to human and environmental health. Chlorosilanes and hydrogen chloride are toxic and highly volatile, reacting explosively with water. Chlorosilanes and silane can also spontaneously ignite and under some conditions explode.¹⁸ Silicon tetrachloride can cause skin burns and is also an eye and respiratory irritant.¹⁹ Silicon tetrachloride has recently gained notoriety due to news accounts of its dumping near a polysilicon plant in China.²⁰

Notably, Western production facilities accounted for more 99% of global polysilicon production in 2005, the latest year for which data is available.²¹ These facilities use a closed loop process that captures system byproducts for recycling and reuse within the process loop because these recovery systems are necessary for the economic operation of a facility.²² Furthermore, any waste gasses not recoverable for recycling are led through a series of pollution control technologies (e.g. wet scrubbers) prior to any environmental releases. Environmental releases include very low levels of particulate matter, hydrogen chloride and silicon tetrachloride.²³

Furthermore, facilities in the United States, Japan and Europe are subject to strict environmental and occupational health and safety regulation and enforcement. In contrast, production capacity is rapidly expanding in developing countries such as China and India where such safeguards may not exist or be enforced. Regardless of their location, reputable and responsible firms will have implemented beyond compliance environmental management systems (e.g. ISO 14001 certification) and adopted voluntary industry best management guidelines (e.g. Responsible Care).

Manufacturing and assembly of solar panels

From Wafer to Cell

Process

Solar cells are produced by transforming polysilicon into a cylindrical ingot of monocrystalline silicon, which is then shaped and sliced into very thin wafers. Next, a textured pattern is imparted to the surface of the wafer in order to optimize the absorption of light. The wafer is then subjected to high temperatures in the presence of phosphorous oxychloride in order to create the physical properties required to produce electricity. Next an anti-reflective coating of silicon nitride is applied to the top surface of the cell to minimize reflection and increase efficiency of light absorption. Finally, metallic electrical conductors are screen printed onto the surface wafer to facilitate the transport of electricity away from the cell. The production of solar cells is concentrated in Japan, Europe and the United States, which currently account for more than 80% of global production.²⁴

Health and Safety

Many different potentially hazardous chemicals are used during the production of solar cells. The primary environmental, health and safety concerns are exposure to and inhalation of kerf dust, a byproduct of



sawing the silicon ingots into wafers, and exposure to solvents, such as nitric acid, sodium hydroxide and hydrofluoric acid, used in wafer etching and cleaning as well as reactor cleaning. Many of these solvents also pose a risk of chemical burns. Other occupational hazards include the flammability of silane used in the deposition of anti-reflective coatings.²⁵

The most likely exposure route for factory workers is inhalation of vapors or dusts. Secondly, there is exposure risk for factory workers from accidental spills. Risks to surrounding communities include the release of hazardous gasses from an industrial accident or fire at the manufacturing facility.²⁶ These hazards are regulated by a number of occupational and environmental standards as well as industry adopted voluntary best management practices. These regulations and strategies include: extensive occupational ventilation systems, accident prevention and planning programs and emergency confinement and absorption units.²⁷ As a result of these safeguards, there have been no known catastrophic releases of toxic gases from photovoltaic manufacturing facilities in the United States.²⁸

Module components and assembly

Process

A typical solar module consists of several individual cells wired together and enclosed in protective material called an encapsulant, commonly made of ethylene vinyl acetate. To provide structural integrity the encapsulated cells are mounted on a substrate frequently made of polyvinyl fluoride. Both ethylene vinyl acetate and polyvinyl fluoride are widely considered to be environmentally preferable to other chlorinated plastic resins. A transparent cover, commonly glass, further protects these components from weather when in place for electrical generation. The entire module is held together in an aluminum frame. Most modules also feature an on board electrical junction box.²⁹

Health and Safety

Individual solar cells are typically soldered together with copper wire coated with tin. Some solar panel manufacturers utilize solders that contain lead and other metals that if released into the environment can pose environmental and human health risks. Module assembly is not a likely pathway for human exposure to these metals as this step in the assembly process is typically automated. For more discussion regarding the end-of-life product phase risks of lead containing solders, see the discussion in the decommissioning and recycling section below.

Installation and use of solar panels

Installed silicon-based cells pose minimal risks to human health or the environment according to reviews conducted by the Brookhaven National Lab and the Electric Power Research Institute.³⁰

Health and Safety

Because solar panels are encased in heavy-duty glass or plastic, there is little risk that the small amounts of semiconductor material present can be released into the environment.

In the event of a fire, it is theoretically possible for hazardous fumes to be released and inhalation of these fumes could pose a risk to human health.³¹ However, researchers do not generally believe these risks to be substantial given the short-duration of fires and the relatively high melting point of the materials present in the solar modules.³² Moreover, the risk of fire at ground-mounted solar installations is remote because of the precautions taken during site preparation including the removal of fuels and the lack of burnable materials – mostly glass and aluminum – contained in a solar panel.

A greater potential risk associated with photovoltaic systems and fire is the potential for shock or electrocution if a fire-fighter or emergency responder comes in contact with a high voltage conductor. These concerns are almost entirely related to roof mounted residential and commercial solar arrays. The Oregon Building Code Division is currently considering new rules to increase public safety for structures equipped with solar photovoltaic systems. The proposed rules are inspired by a model code adopted by the California Department of Forestry & Fire Protection. As it applies to ground mounted photovoltaic



arrays, the California model code calls for a clear marking of system components in order to provide emergency responders with appropriate warnings.³³

The strength of electromagnetic fields produced by photovoltaic systems do not approach levels considered harmful to human health established by the International Commission on Non-ionizing Radiation Protection. Moreover the small electromagnetic fields produced by photovoltaic systems rapidly diminish with distance and would be indistinguishable from normal background levels within several yards. For a detailed discussion of electromagnetic fields and solar arrays read the *Scaling Public Concerns of Electromagnetic Fields Produced by Solar Photovoltaic Arrays* paper at <http://www.oregonsolarhighway.com>.

End-of-life management and recycling of solar panels

Process

While the solar cell is the heart of a photovoltaic system, on a mass basis it accounts for only a small fraction of the total materials required to produce a solar panel. The outer glass cover constitutes the largest share of the total mass of a finished crystalline photovoltaic module (approximately 65%), followed by the aluminum frame (~20%), the ethylene vinyl acetate encapsulant (~7.5%), the polyvinyl fluoride substrate (~2.5%), and the junction box (1%). The solar cells themselves only represent about four percent (4%) of the mass of a finished module.³⁴

Proper decommissioning and recycling of solar panels both ensures that potentially harmful materials are not released into the environment and reduces the need for virgin raw materials. In recognition of these facts, the photovoltaic industry is acting voluntarily to implement product take-back and recycling programs at the manufacturing level. Collectively, the industry recently launched PV Cycle – a trade association to develop an industry-wide take back program in Europe.³⁵ In the United States, product take-back and recycling programs vary by manufacturer; SolarWorld, the supplier selected for the three Oregon Solar Highway projects, is one of the manufacturers which fully supports the entire life cycle of their product.

While recycling methods and take-back policies vary by manufacturer, the most frequently recycled components are the cover glass, aluminum frame, and solar cells. Small quantities of valuable metals including copper and steel are also recoverable. The ethylene vinyl acetate encapsulant and polyvinyl fluoride substrate are typically not recoverable and are removed through a thermal process with strict emission controls and the by-product ash land-filled. Following this process, the glass and aluminum frame are separated and typically sold to industrial recyclers. The solar cells are then reprocessed into silicon wafers with valuable metals recovered and sold. Depending on the condition, the wafer can then either be remade into a functioning cell or granulated to serve as feedstock for new polysilicon.³⁶

Health and Safety

If not properly decommissioned, the greatest end of life health risk from crystalline solar modules arises from lead containing solders. Under the right conditions it is possible for the lead to leach into landfill soils and eventually into water bodies. Notably total lead solder use accounts for only approximately 0.5% of lead use in the United States.



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Diana Sanders

From: John Friedenreich (jfriedenreic) <jfriedenreic@micron.com>
Sent: Thursday, August 27, 2015 9:07 AM
To: Diana Sanders
Cc: John Friedenreich (jfriedenreic); John and Vickie
Subject: Comments to enter into the public hearing record for the Boise City Solar project

ADA COUNTY

To the attention of the Ada County Planning and Zoning Commission,
Please enter these comments into the public hearing record for the Boise City Solar project.

AUG 27 2015

DEVELOPMENT SERVICES

Thank you for your time and consideration in this matter.

I am a property owner and resident in the Wednesday subdivision in southwest Ada County. Our neighborhood is quite concerned about the proposed plans to install a large number of solar panels in the adjacent property to our homes. I'd like to share some of the background behind why we built in this location, as well as a number of concerns with this project. I feel it is imperative that this project gets reviewed with the proper due diligence, as this project has the potential for making a significant impacting on our quality of life, the local ecosystem, and the value of our properties.

Background

For what it's worth, there is a very good reason why all of us selected this location to build or purchase our homes, and raise our families. The large lots and open range were very attractive to those who wanted to enjoy the amazing views. A number of our neighbors maintain livestock from chickens to horses, which you cannot do within most areas of the city of Kuna. The variety of wildlife from birds to badgers is quite amazing; having lived here for sixteen years we have seen many ebbs and flows of species but overall it still never cease to amaze my wife and I.

1. Safety and maintenance concerns

- a. Would like to have a more detailed description on how the project will coordinate construction traffic. The speed limit is 50 mph along that stretch of Cloverdale Road, and I see a big potential issue with truck drivers rolling out onto the road without verifying there are no fast moving vehicles approaching. Have plenty of experience with this as we watch the sugar beets trucks roll in and out of W Chief Farms Lane every season.
- b. Dust and dirt control are important to prevent this level of a project from completely coating our houses and creating a safety hazard along the roadway. Using the sugar beet traffic again as an example, during wet conditions there is mud tracked out onto Cloverdale Rd. It is slick when wet, and even more hazardous when these piles of dirt freeze when the temperature drops.

2. Impact study

- a. From what I have read, there is not a complete impact study done to determine the effect of this project on the local wildlife. I cannot see any reason why such studies would either be rushed through or by-passed.
- b. Based on the city of Kuna planning and zoning discussions, it appears they are requesting "avian monitoring" during the life of the project. This is a great idea, but without a complete Fish and Wildlife study to understand the baseline conditions in the area, the subsequent monitoring will not be of much value.
- c. Is there a complete cradle to grave business plan (I'm really hoping that there is a requirement for such a plan). During the Kuna P&Z meeting, the answer by the solar company was one sided. He pointed out that the remaining materials had enough salvage value to support removal of the solar panels at end of life. Kind of concerning if salvage prices drop over the next 20-25 years....if not attractive at end of life,

will the panels just be left behind? Needs to be written into the contract that they are responsible to completely return the land to the condition it is/was in in 2015.

3. Landscaping/screening plans

- a. Maintaining an aesthetically-pleasing view is imperative in this neighborhood. The potential of chain fencing with razor wire is quite concerning. Currently the view from my property is overlooking the rolling fields to see the Boise foothills to the north-northeast; the Owyhee's to the southwest, and nothing but horses and grass to the east. To replace that eastern view with solar panels would be a tragedy. If I had wanted a view like that, I would have built next to an industrial zoned area elsewhere in the state.
- b. The land directly adjacent to our properties slopes upward from lots. Even with a berm, landscaping, or other techniques that might block the panels from our view at ground level; the natural slope and rise of the land would require a significantly high screen to prevent the panels from being in our line of sight.

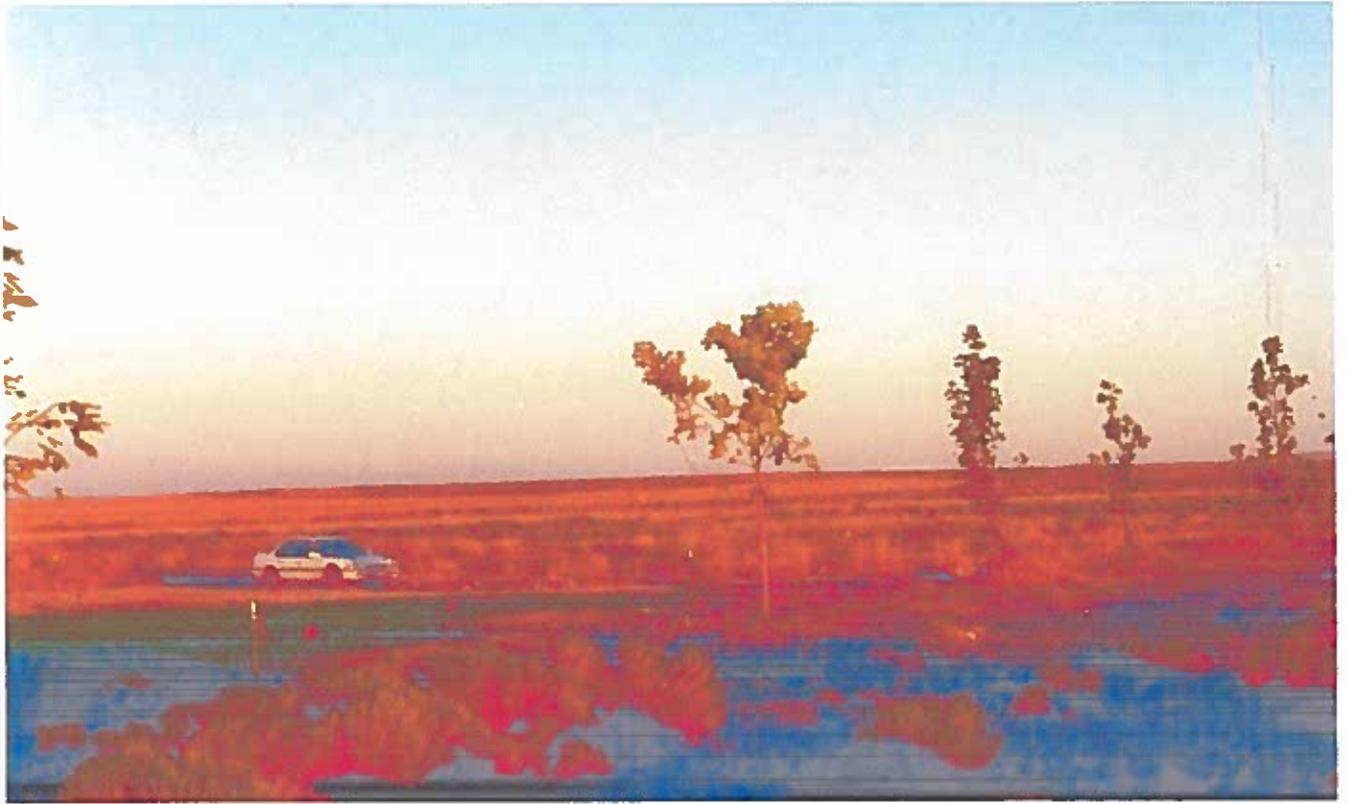
4. Requests

- a. That a full impact study can be completed and shared with the residents for review.
- b. That adequate time can be allowed for the project to be fully vetted by both residents of the Wednesday subdivision, as well as county officials, before a decision is made.
- c. That a comprehensive landscaping plan, including artists renderings, be developed and presented to the residents of Wednesday subdivision for approval in advance of a decision on the project.
- d. That a modified layout of the panels be conducted to reduce the likelihood of the panels being in line of sight from our homes, considering the natural rise in the field to the east of our property.
- e. That there will be no nighttime lighting of the facility, property, or structures in the solar project.

5. Current view, looking east from my property



This photo shows the rise in relation to the roofline of the car parked on the flat ground our house is built on



Thank you and best regards,

John Friedenreich
18568 S Cloverdale Rd
Kuna, ID 83634-2528
Cell phone: (208) 391-0175
Work phone: (208) 368-5532

Dear Commission,

My name is Sarah Perdue. My husband Robert Perdue and I reside at 18589 S. Cloverdale Rd. Kuna, Idaho 83634 in Wednesday Subdivision which is the subdivision that the solar plant will be directly **adjacent to** and directly **behind**. This huge solar plant will be directly across the street from our home and backs directly up to several of my neighbors' property lines. The entire project is visible from our home (as we sit on an incline) and most other neighbors homes as well - regardless of a possible "dirt berm" that the company says they might make. All we will see facing east is a giant sea of black solar panels surrounded by an ugly chain link fence with barbed wire. My husband and I have invested a lot of time, money and energy into our place adding value to our neighborhood. Our views will be completely ruined (even the CC&R's for our subdivision require utilities to be placed underground). Not only will this new solar plant drastically affect the value of all of our homes in this subdivision, it will also be a major eyesore and displace wildlife. We were not even given sufficient time or notice to address this massive plant moving into our neighborhood. These panels will be visible all of the time and will rotate at the hottest part of the day facing our home(s) and animals. We, as a neighborhood, are not comfortable with this at all.

The human health effects of having a solar plant directly in ones backyard have not been well researched and studies have produced some scary results. We have many concerns about this plant both in regard to our health and the health of our animals. People with electromagnetic hypersensitivity should not even be around these plants. There are also studies that suggest that radiation of the type coming from solar electric systems may very well have long term health effects on healthy people. There are **better options** to place this solar plant than **adjacent to people**, a residential neighborhood and animals. This plant is a life-altering project for the residents of Wednesday Subdivision. It is also quite ironic that Ada County had to dictate where we could build our very nice barn for aesthetics, yet a big high dollar company can come in and build a giant solar power plant directly in our backyards; devastating our views, property values and potentially our health. Many of us have put everything we have into our properties here; which consist of very nice 10 - 12 acre parcels. The view from our home (and neighbors) will turn industrial. I have many questions in regard to radiation emission, EMF emission (electric conversions can cause cancer and leukemia), heat, glare, noise level (we were told there will be fans), humming noises and vibrations - all of which will be a part of this plant. This plant not only affects our daily lives, views and property values but could also have devastating health effects on us. Something is really wrong with this picture. Please consider moving this plant to a location away from residential neighborhoods and people.

Sincerely,

Sarah Perdue



Memo

Re: Landscaping Considerations for Boise City Solar Project

Date: August 28th, 2015

As part of the site plan submitted with our Ada County permitting package for ID Solar 1, LLC, Origis referenced a landscaping and fencing plan for the western part of the property that lies within the Ada County jurisdiction. This memo aims to further describe the latest updates regarding this plan. Updates have taken into account discussions with Planning and Zoning staff members as well as letters from neighbors.

The Special Use Permit for the part of the project that lies within the City of Kuna was unanimously approved in a Planning Commission meeting held on Tuesday August 25th, 2015. Unlike the Ada County portion, this part of the project has significant frontage with public roads. The Planning and Zoning Commission made a Condition of Approval that the project work with Planning and Zoning staff to develop a landscaping plan that strikes a balance between safety, visual aesthetics and City Code. Origis has committed to developing this landscaping plan, which will include a portion of West Chief's Farm Lane where it borders some of the neighboring residences to provide for an additional buffer zone.

The project wishes to avoid any irrigation requirements for these plants and trees and is working with Kuna Planning and Zoning staff as well as the City Forester to determine which plants will meet all of the criteria of not requiring additional irrigation (to avoid water waste) and providing an aesthetically pleasing view. While the project will maintain the chain-link fence with barbed-wire as originally planned, the fence will be behind the landscape buffer zone so as to be less visible.

The project team members have met with also been meeting with Ada County Planning staff to further discuss the section of landscaping along the western portion of the property that lies within the Ada County jurisdiction. While a final plan has not yet been reached, Origis would suggest that we take an approach similar to what we are moving towards in the City of Kuna portion. That is, a landscape buffer between the residences to the west and the chain-link fence that will surround the project. Origis has used many types of landscaping buffers on other projects and is committed to working with staff to develop a plan that strikes a balance of being visually appealing, while providing the necessary security for the project and still meeting Ada County Code. This landscape buffer could be anything from a full wall type hedge row, to a mix of plants, shrubs and trees. While height restrictions will exist due to the impacts of shading on the panels, our team will aim to develop a plan that allows for minimal aesthetic impact with the neighboring residences.

While specific species have not yet been fully identified or selected, some representative species under consideration can be found on the following page.

ADA COUNTY

AUG 28 2015

DEVELOPMENT SERVICES

Representative plant, shrub and tree species under consideration include (but is not limited to):

Plant Palette

Shade Trees



Carpinus betulus
'Fastigiata'



Magnolia grandiflora



Acer freemanii 'Jeffersred'



Malus x 'Spring Snow'



Lagerstroemia indica
'Natchez'



Ulmus parvifolia



Prunus subhirtella
'Fendula'



Koeleruteria paniculata



Cercis Occidentalis



Liriodendron tulipifera
'Arnold'



Prunus serotina



Fraxinus pennsylvanica

Evergreens



Picea pungens



Juniperus virginiana
'Cupressifolia'



Pinus nigra



Cupressocyparis leylandii



Juniperus chinensis
'Blue Point'



Juniperus scopulorum
'ColoGreen'



Baccharis angustifolia



Caryopteris x 'Clandonensis'



Cytisus minstead



Pinus edulis



Potentilla fruticosa



Syringa vulgaris



Juniperus chinensis 'Armstrongii'



Symphoricarpos orbiculatus



Buddleia podaracis



Microphylla greggii



Abelia grandiflora



Picea abies 'Pumila'



Cotoneaster acutifolius



Euonymus fortunei

Shrubs

Sign Posting Certification

ADA COUNTY DEVELOPMENT SERVICES, 200 W Front Street, Boise, Idaho 83702

www.adaweb.net | (208) 287-7900

GENERAL INFORMATION:

You must post the property at least ten (10) days prior to the scheduled public hearing. The Certification form must be submitted at least seven (7) days prior to the scheduled public hearing. Please review Section 8-7A-5 of the Ada County Code for all sign posting requirements.

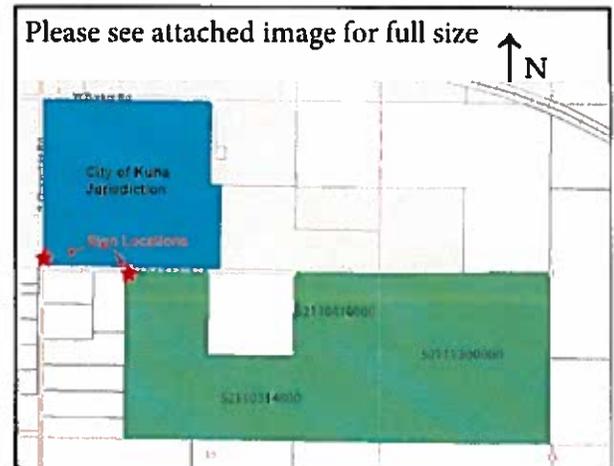
Please attach dated photographs of each sign with the certification.

PROJECT INFORMATION: Please see exhibit on next page for additional site information

Location:	Quarter:	Section: 10 & 11	Township: 1N	Range: 1E	Total Acres: 363
Project Name: <u>ID Solar 1, LLC. (dba Boise City Solar)</u>				Lot:	Block:
Site Address: <u>18100 S. Cloverdale Road, Kuna, ID, 83634</u>				Tax Parcel Number(s): <u>S2110314800, S2110410000 & S2111300000</u>	
File Number: PROJECT #201501245 CU-MSP-V-PR-FP, ID Solar				Date Posted: 08/27/2015	

APPLICANT: ID Solar 1, LLC		
Name: Michael Chestone		
Address: 1200 Brickell Ave, Suite 1800		
City: Miami	State: FL	Zip: 33131
Telephone: (305)560-7539	Fax: (786)221-4237	
<p>I certify that the property was posted at least ten (10) days prior to the scheduled public hearing and have attached dated photographs of each sign in accordance with Section 8-7A-5 of the Ada County Code.</p>		
		08/28/2015
Signature: (Applicant)		Date

Please draw a diagram of sign location(s) on the property



ADA COUNTY
AUG 28 2015
DEVELOPMENT SERVICES

OFFICE USE ONLY			
File No.:	Received By:	Date:	Stamped:

EXHIBIT 32
 201501245 CU-MSP-PR-V-FP
 ID SOLAR 1 LLC

Ada County P&Z

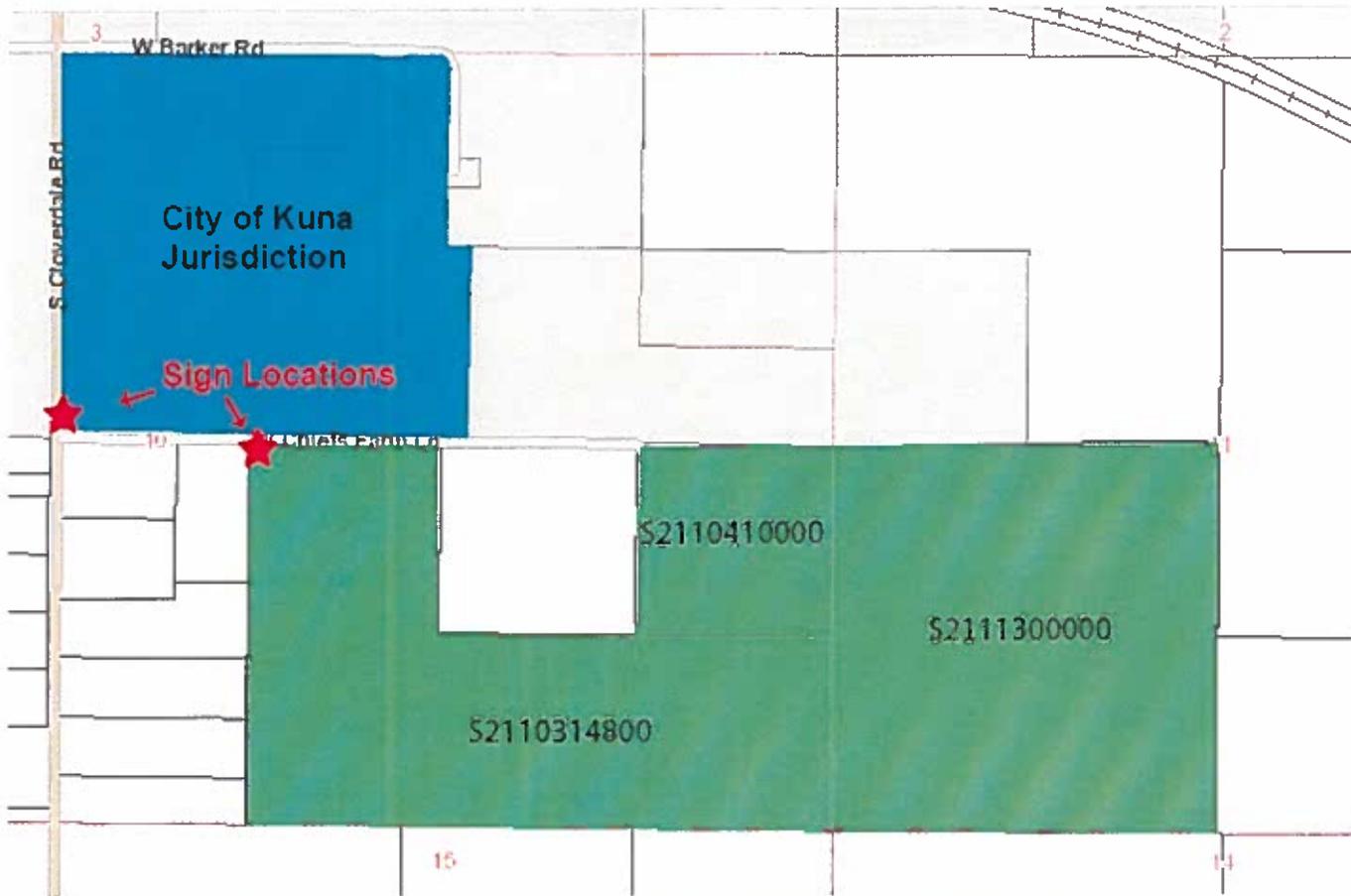
<u>Parcel ID</u>	<u>Township</u>	<u>Range</u>	<u>Section</u>	<u>Subdivision</u>	<u>Zone Code</u>	<u>Total Acres</u>	<u>Tax Code Area</u>	<u>Instrument #</u>	<u>Primary Owner</u>	<u>Property Description(s)</u>	<u>Site Address</u>
S2110314800	1N	1E	10	1N 1E 10	RP	162.13	239	113065819	NICHOLSON CARL & PATTY REVOCABLE TRUST	PAR #4800 OF E2SW4 & S2SE4 SEC 10 1N 1E R/S 5850 #310000-B	18100 S CLOVERDALE RD KUNA, ID 83634
S2110410000	1N	1E	10	1N 1E 10	RP	40	239	112122641	NICHOLSON PROPERTIES LP	NE4SE4 SEC 10 1N 1E	W BARKER RD KUNA, ID 83634
S2111300000	1N	1E	11	1N 1E 11	RP	160	236	112128509	NICHOLSON PROPERTIES LP	SW4 SEC 11 1N 1E	S CLOVERDALE RD KUNA, ID 83634



City of Kuna

<u>Parcel ID</u>	<u>Township</u>	<u>Range</u>	<u>Section</u>	<u>Subdivision</u>	<u>Zone Code</u>	<u>Total Acres</u>	<u>Tax Code Area</u>	<u>Instrument #</u>	<u>Primary Owner</u>	<u>Property Description(s)</u>	<u>Site Address</u>
S2110223000	1N	1E	10	1N 1E 10	A	99.83	04	2014088521	ANDERSON ENTERPRISES INC	PAR #3000 @ NW SEC COR SEC 10 1N 1E #216000-S	S CLOVERDALE RD KUNA, ID 83634
S2110130600	1N	1E	10	1N 1E 10	A	115	04	2014088521	ANDERSON ENTERPRISES INC	S2 NE4NW4 EXC N2SE4NE4NW SE4NW4 SW4NE4 S2SE4NE4 SEC 10 1N 1E #131200-S	S CLOVERDALE RD KUNA, ID 83634
S2110212400	1N	1E	10	1N 1E 10	A	5.17	04	2014088521	ANDERSON ENTERPRISES INC	PAR #2400 @ NE COR NE4NW4 SEC 10 1N 1E #216000-B	S CLOVERDALE RD KUNA, ID 83634





ID Solar 1, LLC.

Conditional Use Permit, Master Site Plan, Variance, Private Road and Floodplain Application

PROJECT #201501245 CU-MSP-V-PR-FP, ID Solar

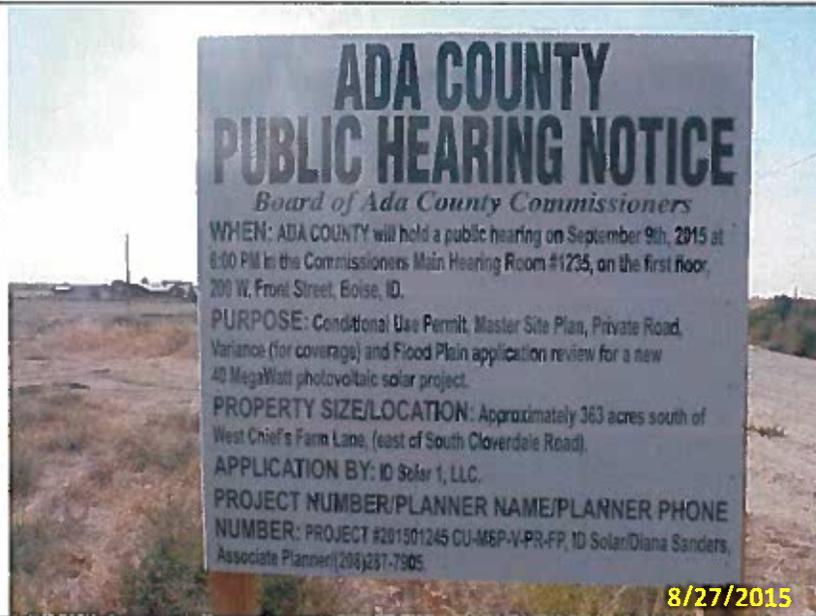
Sign Posting Certification Photos

All photos taken on August 27th, 2015

West Chief's Farm Lane
(Looking West)



West Chief's Farm Lane
(Looking West - Zoomed)



**West Chief's Farm Lane
(Looking East - Zoomed)**



**West Chief's Farm Lane
(Looking East)**



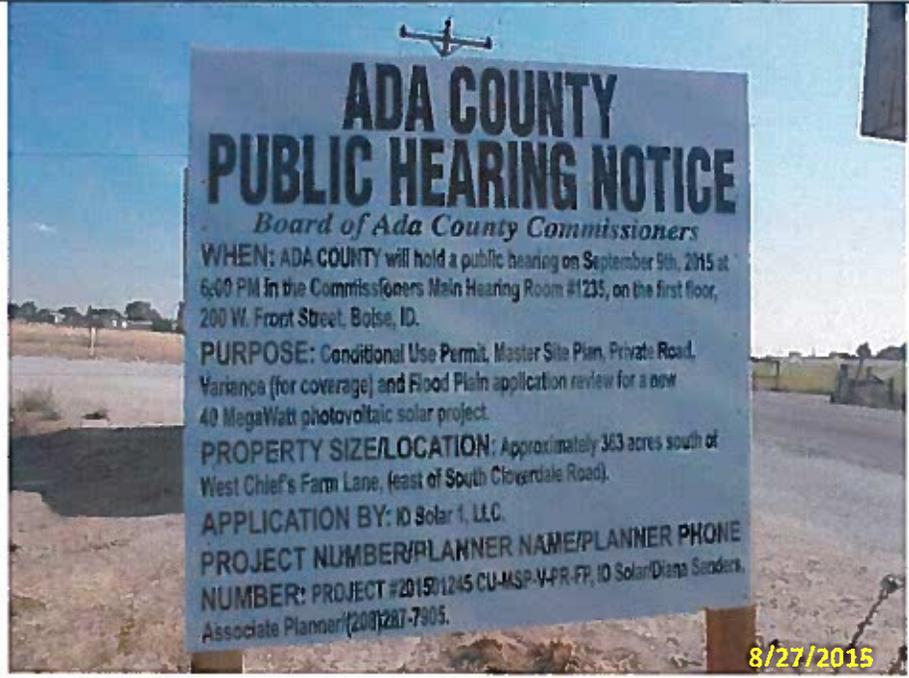
**S. Cloverdale Road
(Looking North)**



**S. Cloverdale Road
(Looking North - Zoomed)**



**S. Cloverdale Road
(Looking South - Zoomed)**



**S. Cloverdale Road
(Looking South)**





CENTRAL DISTRICT HEALTH DEPARTMENT
Environmental Health Division

Return to:

- ACZ
- Boise
- Eagle
- Garden City
- Kuna
- Meridian
- Star

Rezone # _____

Conditional Use # 201501245-CU/FP/MSP/PR/V

Preliminary / Final / Short Plat _____

RECEIVED
 AUG 07 2015
 ADA COUNTY
 DEVELOPMENT SERVICES
 Sect. 10

- 1. We have No Objections to this Proposal.
- 2. We recommend Denial of this Proposal.
- 3. Specific knowledge as to the exact type of use must be provided before we can comment on this Proposal.
- 4. We will require more data concerning soil conditions on this Proposal before we can comment.
- 5. Before we can comment concerning individual sewage disposal, we will require more data concerning the depth of:
 - high seasonal ground water
 - bedrock from original grade
 - waste flow characteristics
 - other _____
- 6. This office may require a study to assess the impact of nutrients and pathogens to receiving ground waters and surface waters.
- 7. This project shall be reviewed by the Idaho Department of Water Resources concerning well construction and water availability.
- 8. After written approval from appropriate entities are submitted, we can approve this proposal for:
 - central sewage
 - interim sewage
 - individual sewage
 - community sewage system
 - central water
 - individual water
 - community water well
- 9. The following plan(s) must be submitted to and approved by the Idaho Department of Environmental Quality:
 - central sewage
 - sewage dry lines
 - community sewage system
 - central water
 - community water
- 10. This Department would recommend deferral until high seasonal ground water can be determined if other considerations indicate approval.
- 11. If restroom facilities are to be installed, then a sewage system MUST be installed to meet Idaho State Sewage Regulations.
- 12. We will require plans be submitted for a plan review for any:
 - food establishment
 - beverage establishment
 - swimming pools or spas
 - grocery store
 - child care center
- 13. Infiltration beds for storm water disposal are considered shallow injection wells. An application and fee must be submitted to CDHD.

14. If any structure are planned that will have plumbing - a septic permit will be required

Reviewed By: Row Boat
 Date: 7/24/15

EXHIBIT 33
 201501245 CU-MSP-PR-V-FP
 ID SOLAR LLC

Review Sheet