

DOCKET

09-AFC-7

DATE JAN 29 2010

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January 29, 2010

Mr. Alan Solomon
Project Manager
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

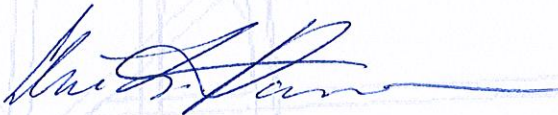
RE: Palen Solar Power Project, Docket No. 09-AFC-7
Data Responses to January 7, 2010 CEC Workshop Queries
Data Responses to January 11, 2010 CEC Staff Email Queries
Attachment DR-CR-116a & b (Cultural Resources Impact Blocks)

Dear Mr. Solomon,

Attached please find the above referenced data responses for the Palen Solar I, LLC Palen Solar Power Project.

Please feel free to call me directly at 510/524-4517 if you have any questions on this supplemental submittal or any other aspects of our Data Responses.

Sincerely,



Alice L. Harron
Senior Director, Development

**STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION**

In the Matter of:
APPLICATION FOR CERTIFICATION
for the *PALEN SOLAR POWER PROJECT*

Docket No. 09-AFC-7
PROOF OF SERVICE
(Revised 12/28/2009)

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DECLARATION OF SERVICE

I, Arrie Bachrach, declare that on, January 29, 2010, I served and filed copies of the attached Palen Solar Power Project Data Response materials:

Data Responses to January 7, 2010 CEC Workshop Queries
Data Responses to January 11, 2010 CEC Staff Email Queries
Attachment DR-CR-116a & b (Cultural Resources Impact Blocks).

The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at:

[http://www.energy.ca.gov/sitingcases/solar_millennium_palen]

The document has been sent to the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

(Check all that Apply)

For service to all other parties:

_____ sent electronically to all email addresses on the Proof of Service list;

 X by personal delivery or by overnight delivery service or depositing in the United States mail at Camarillo, California with postage or fees thereon fully prepaid and addressed as provided on the Proof of Service list above to those addresses **NOT** marked "email preferred."

AND

For filing with the Energy Commission:

 X sending an original paper copy and one electronic copy, mailed respectively, to the address below (preferred method);

OR

_____ depositing in the mail an original and 12 paper copies, along with 13 CDs, as follows:

CALIFORNIA ENERGY COMMISSION

Attn: Docket No. 09-AFC-7

1516 Ninth Street, MS-4

Sacramento, CA 95814-5512

docket@energy.state.ca.us

I declare under penalty of perjury that the foregoing is true and correct.



Data Responses to January 7, 2010 CEC Workshop Queries

**Palen Solar Power Project
Docket No. 09-AFC-7**

Data Response Queries – CEC Workshop, January 7, 2010

The CEC staff had requested additional information regarding several Alternative issues during the Data Response Workshop on January 7, 2009. The following responses are included for review.

ALT-DR-34: Palo Verde Mesa Site acres in Table DR-ALT-35-3 do not match up to owners and acres stated in text of DR-ALT-34.

The text of DR-ALT-34 indicates that the Palo Verde Mesa alternative is comprised of approximately 3,800 acres. Table DR-ALT-35 inadvertently showed only 11 parcels comprising approximately 700 acres. A revised table identifying the 19 parcels that make up the 3,800 acre Palo Verde Mesa alternative is provide below.

The Palo Verde Mesa alternative site is situated on 19 separate parcels. The following table (Table DR-ALT-35-3 (Revised)) identifies the assessor's parcel number, acreage, and landowner address of each separate parcel. The publically available data from the Riverside County Assessor does not provide landowner names, only addresses. It is assumed that each separate address represents a separate landowner.

Table DR-ALT-35-3 (Revised) Parcel Information Palo Verde Mesa Alternative site

APN	Acres	Landowner Address
879090001	79.33696173	164 Honeysuckle Lane, Brea, CA 92821
879090032	436.9408	US Department of Interior, Washington D.C. 21401
879090034	480.718	US Department of Interior, Washington D.C. 21401
879090053**	117.27	400 Somerset Corp Suite 501, Bridgewater, NJ 08807
879090036	38.2798	16350 Driver Road, Riverside, CA 93308
879090037	38.28293952	16350 Driver Road, Bakersfield, CA 93308
879090038	38.27224392	16350 Driver Road, Bakersfield, CA 93308
879090039	38.26943	16350 Driver Road, Riverside, CA 93308
879110001	160.0242692	21725 Marjorie Avenue, Torrance, CA 90503
879110003	40.59837403	1531 West Ninth Street, Los Angeles, CA 90015
879110004	40.12621101	P.O. Box 38, Spooner, WI 54801
879110005	80.46126063	11530 Victoria Avenue, Riverside, CA 92503
879110006	480.5449	US Department of Interior, Washington D.C. 21401
879110007	561.1772	US Department of Interior, Washington D.C. 21401
879110009	477.3044	US Department of Interior, Washington D.C. 21401
879110010	522.7621	US Department of Interior, Washington D.C. 21401
879110012	122.4101	US Department of Interior, Washington D.C. 21401
879110013	38.27799315	16350 Driver Road, Bakersfield, CA 93308

Table DR-ALT-35-3 (Revised) Parcel Information Palo Verde Mesa Alternative site

APN	Acres	Landowner Address
879110014	38.2713233	16350 Driver Road, Bakersfield, CA 93308
** This parcel (879090053) was formerly identified as 879090002, but has changed parcel numbers since last submission; however, the owner remains the same.		

ALT-DR: Schedule for surveys for alternatives.

The table below provides the timeframes for the proposed biological and cultural resources surveys of the reconfigured alternatives at Palen Solar Power Project.

Palen – Surveys for Reconfigured (Alternatives)

Resource	Surveys to be completed for Re-Configured Projects	Survey window
Vegetation Communities	<ul style="list-style-type: none">Vegetation mapping within newly proposed areas within the revised project disturbance area and 1-mile CEC buffer	February 2010
Jurisdictional Waters	<ul style="list-style-type: none">Delineation of jurisdictional waters within newly proposed areas of the revised project disturbance area and at least 150 upstream and downstream to extent that impact might be incurred	February 2010
Special-status plant species	<ul style="list-style-type: none">Focused botanical surveys within newly proposed areas of the revised project disturbance area and 1-mile CEC buffer that contain suitable habitat for special status species or potential for invasive weeds	<u>Spring Surveys:</u> February - July 2010 (TBD based on rainfall patterns and optimum flowering times in 2010) <u>Fall Surveys:</u> August – October 2010 (TBD Based on rainfall patterns and response of late-season flowering plants)
Desert tortoise	<ul style="list-style-type: none">Protocol survey of newly proposed areas within the revised project disturbance area (not overlapping with previous survey areas) and associated CEC buffer transects	March 15 to May 31, 2010

Resource	Surveys to be completed for Re-Configured Projects	Survey window
Western burrowing owl	<ul style="list-style-type: none">Protocol survey of newly proposed areas within the revised project disturbance area (not overlapping with previous survey areas) and associated buffer transects	March 15 to July 15, 2010
Avian Point Counts	<ul style="list-style-type: none">Point count survey of newly proposed areas within the revised project disturbance area (not overlapping with previous survey areas)	March to May 2010
Special-status wildlife and general Wildlife Surveys	<ul style="list-style-type: none">Will occur concurrent with other wildlife surveys	March to June 2010
Biological Resources Technical Report for	<ul style="list-style-type: none">Will include existing conditions and impact analysis for complete reconfigured project (both those surveyed previously and those surveyed in 2010), with technical reports for newly surveyed areas for botany (vegetation and special status plants), jurisdictional delineation, DETO, WEBO, Avian Point Counts)	July 2010 (would not contain results of Fall special-status plant surveys)
Cultural Resources Class III Survey Reports	<ul style="list-style-type: none">Class III archaeological and built environment surveys to include historic map research, DPR forms, and maps and analysis of the comparative advantages and disadvantages of the proposed project and alternative project redesigns.	To begin in late January 2010, with results to be provided under confidential cover to staff and BLM in May 2010.

ALT-DR: Shape files.

Shape files have been provided to CEC staff (Emily Capello) on January 12, 2010.

ALT-DR: Explain difference between boilers and heaters; why change for one project and not the other?

Historically, all solar trough plants that use Therminol as the heat transfer fluid have included a method of keeping the HTF circulating and warm during cold winter nights or during extended winter maintenance outages. Simple gas-fired heaters have been used in solar-only plants that do not have large fossil boilers for supplemental electricity production. Furthermore, the new generation of plants planned for California over the next several years will have solar fields two to three times as large as the largest solar fields built to date. The risk of HTF freezing in these very large solar fields, with very large HTF volumes, is not completely understood. As such, Applicant had planned these new plants with standard gas-fired HTF heaters.

As the Applicant began preparing the extensive permit documentation for SCAQMD for the Palen Project, other alternatives to the dedicated HTF heater were examined. The lower elevation desert along I10 has milder winter temperatures than the high desert to the north. So the threat of HTF freezing is reduced. A design was developed for PSPP that makes use of steam from the fast-start auxiliary boiler for occasional HTF heating. This created other engineering challenges, such as the need to condense this steam within the system prior to recirculation back to the aux boiler. But this was determined to be manageable.

Having identified this option for Palen, it is now also under consideration for Blythe Solar Power Plant as well. Blythe is a similar "low desert" site, also with mild winter night time temperatures. However, prior to committing this new approach at 6 major power plant units with no commercial experience with the concept, a more complete understanding of the issues was prudent. A decision was made to leave the HTF heaters in the Blythe units until further detailed engineering analysis could be completed or the concept was demonstrated successfully in the field. We seek to permit the units at Blythe with the dedicated HTF heaters, and potentially eliminate them at a point in the future where detailed engineering allows us to better understand all of the aspects of HTF system heat loss and the process design for the aux steam heating approach.

Data Response Queries – CEC Workshop, January 7, 2010

AQ-DR-3: Geotechnical Report - silt content, was method 200 sieve data?

Silt content was measured according to ASTM D422, which does use the 200 mesh sieve.

AQ-DR-6: Reference to Attachment DR-AIR-6 - is it DR AIR 18?

The Construction Greenhouse Gas Emission Estimates attachment for Blythe (i.e., BSPP) was provided as Attachment DR-AIR-6 because the construction GHG question was DR-AIR-6 in the Blythe Data Requests. The Construction Greenhouse Gas Emission Estimates for Palen (i.e., PSPP) was provided as Attachment DR-AIR-18 in the Palen Data Responses because the construction GHG question was DR-AIR-18 in the Palen Data Requests.

AQ-DR-7: Why Tier 3?

Tier 3 engines were selected for predicting emissions because they have lower emissions than the other available options. A worst-case modeling scenario was selected which assumed the heavy earthwork equipment is operated in close proximity to the Project boundary, and based on AECOM's experience with modeling construction emissions for other solar energy projects, NOx emissions need to be as low as possible to ensure that the Project does not cause exceedances of the NO2 1-hour ambient air quality standard at the fenceline. This potential impact is due to the low release height (stack height) of the construction equipment and the high concentration of equipment near the fenceline assumed for the worst-case scenario used for modeling. Note that the worst-case scenario used for modeling purposes would be an infrequent occurrence given the extremely conservative assumptions used to develop the scenario. This situation is also not unique to BSPP and PSPP; any construction project that would operate large numbers of heavy equipment near a fenceline would have the potential for similar short-term high impacts.

AQ-DR-8: How was offroad model used? Did those emission factors go up and down? How equipment was weighted?

The OFFROAD model was used to calculate statewide average emission factors for construction equipment. The equipment is not weighted in the OFFROAD model; the model calculates emission factors for each type of equipment and horsepower range individually.

The emission factors used for estimating construction emissions submitted with the Data Responses differ from the emission factors used for the construction emissions that were submitted with AFC the in the range of approximately 30 percent higher to 43 percent lower depending on the specific equipment and pollutant. However, the change varies somewhat according to equipment type and horsepower range, and differs slightly between the PSPP and BSPP sites. A table showing the percentage change in emission factors used for PSPP is provided as Table 1 at the end of the AQ section.

AQ- DR 21: Did this go to District? District permit requires current tier.

The Applicant proposed a Tier 2 engine for the emergency generator based on the emission standards identified in 40 Code of Federal Regulations (CFR), Part 60, Subpart IIII, Standards of Performance for

Stationary Compression Ignition Internal Combustion Engines. Pursuant to §60.4202(a)(2) of that subpart, engines with a maximum rating of more than 50 horsepower (Hp) must meet the emission standards listed in 40 CFR 89.112 for all pollutants beginning in 2007. The emission standards listed in 40 CFR 89.112 for engines with rated power greater than 560 kilowatt (kW) (750 Hp) are Tier 2 standards which are: 6.4 grams per kilowatt hour (g/kWh) for NO_x and NMHC combined, 3.5 g/kWh for CO and 0.20 g/kWh for PM.

An application for the larger emergency generator engine (i.e., the 2,922 Hp genset) has not yet been submitted to the SCAQMD (for PSPP) or MDAQMD (for BSPP). These applications will be submitted to the respective air districts by February 1, 2010, with a copy to CEC.

Table 1 OFFROAD Emission Factors Difference between SCAQMD and CA Statewide Runs

Equipment Type	Fuel	Horsepower	Model Year	ARB Off-Road Model Category	CO (lb/hr)^a	ROG (lb/hr)^a	NOx (lb/hr)^a	SOx (lb/hr)^a	PM10 (lb/hr)^a	PM2.5 (lb/hr)^b
375 cfm Compressor	Diesel	20	2008	Air Compressors	-100%	-100%	-100%	-100%	-100%	-100%
Air Compressor Ingersol Rand, P65WK	Diesel	23.5	2008	Air Compressors	-100%	-100%	-100%	-100%	-100%	-100%
Backhoe, 450E	Diesel	124	2007	Tractors/Loaders/Backhoes	4%	4%	4%	4%	4%	4%
Concrete Pump Rig, B50	Diesel	130	2007	Other Construction Equipment	-100%	-100%	-100%	-100%	-100%	-100%
Crane 20 Tn Grove, YB7722	Diesel	130	2007	Cranes	12%	12%	12%	12%	12%	12%
Dozer, Cat, D10T	Diesel	580	2006	Crawler Tractors	-100%	-100%	-100%	-100%	-100%	-100%
Excavator, 365C	Diesel	404	2006	Excavators	-4%	-4%	-4%	-4%	-4%	-4%
Forklift, DP45K	Diesel	124	2007	Forklifts	3%	3%	3%	3%	3%	3%
Generator, XQ400	Diesel	328	2006	Generator Sets	-100%	-100%	-100%	-100%	-100%	-100%
Grade-Air, TL1055	Diesel	125	2007	Rough Terrain Forklifts	9%	9%	9%	9%	9%	9%
Loader, 972H	Diesel	287	2006	Rubber Tired Loaders	3%	3%	3%	3%	3%	3%
Motor Grader, 160M	Diesel	213	2006	Graders	-7%	-7%	-7%	-7%	-7%	-7%
Paving Machine, AP1055D	Diesel	224	2006	Pavers	-100%	-100%	-100%	-100%	-100%	-100%
Roller, CB-534D	Diesel	130	2007	Rollers	-5%	-5%	-5%	-5%	-5%	-5%
Scraper Cat, 657G	Diesel	564	2006	Scrapers	-100%	-100%	-100%	-100%	-100%	-100%
Scraper Cat, 657G, Blade Engine	Diesel	410	2006	Other Construction Equipment	-6%	-6%	-6%	-6%	-6%	-6%
Sheeps Foot, 825G	Diesel	315	2006	Rollers	-100%	-100%	-100%	-100%	-100%	-100%
Vibratory Roller, 825H	Diesel	354	2006	Rollers	-100%	-100%	-100%	-100%	-100%	-100%

Table 1 OFFROAD Emission Factors Difference between SCAQMD and CA Statewide Runs

Equipment Type	Fuel	Horsepower	Model Year	ARB Off-Road Model Category	CO (lb/hr)^a	ROG (lb/hr)^a	NOx (lb/hr)^a	SOx (lb/hr)^a	PM10 (lb/hr)^a	PM2.5 (lb/hr)^b
Scraper Cat 623	Diesel	330	2006	Scrapers	11%	11%	11%	11%	11%	11%
Asphalt Paver, Cat AP1055B	Diesel	174	2007	Pavers	11%	11%	11%	11%	11%	11%
Backhoe, Cat, 430E	Diesel	97	2008	Tractors/Loaders/Backhoes	0%	0%	0%	0%	0%	0%
175-250 kW Gen Set	Diesel	400	2006	Generator Sets	-100%	-100%	-100%	-100%	-100%	-100%
Light Tower 5 KW	Diesel	8	2008	Generator Sets	-21%	-21%	-21%	-21%	-21%	-21%
600 A Temp Power	Diesel	400	2006	Generator Sets	-100%	-100%	-100%	-100%	-100%	-100%
200 A Temp Power	Diesel	135	2007	Generator Sets	-100%	-100%	-100%	-100%	-100%	-100%
Compactor, Cat 826H	Diesel	410	2006	Rollers	-100%	-100%	-100%	-100%	-100%	-100%
185 cfm Compressor	Diesel	20	2008	Air Compressors	-100%	-100%	-100%	-100%	-100%	-100%
999 Manitowoc	Diesel	390	2006	Cranes	-24%	-24%	-24%	-24%	-24%	-24%
2250 Manitowoc 300 Ton-Upper engine	Diesel	450	2006	Cranes	-24%	-24%	-24%	-24%	-24%	-24%
2250 Manitowoc 300 Ton -carrier engine	Diesel	460	2006	Cranes	-24%	-24%	-24%	-24%	-24%	-24%
Crane, 40-Ton, Grove, RT600	Diesel	173	2007	Cranes	12%	12%	12%	12%	12%	12%
Dozer, Cat D-9	Diesel	410	2006	Crawler Tractors	-12%	-12%	-12%	-12%	-12%	-12%
Dozer, Cat D-6	Diesel	150	2007	Crawler Tractors	5%	5%	5%	5%	5%	5%
Dozer, Cat 824	Diesel	354	2006	Rubber Tired Dozers	7%	7%	7%	7%	7%	7%
Loader, Cat, 972G	Diesel	275	2006	Rubber Tired Loaders	3%	3%	3%	3%	3%	3%
Motor Grader, Cat 140H	Diesel	150	2007	Graders	-1%	-1%	-1%	-1%	-1%	-1%
Diesel Welder 400 Amp	Diesel	31	2008	Welders	-7%	-7%	-7%	-7%	-7%	-7%

Table 1 OFFROAD Emission Factors Difference between SCAQMD and CA Statewide Runs

Equipment Type	Fuel	Horsepower	Model Year	ARB Off-Road Model Category	CO (lb/hr) ^a	ROG (lb/hr) ^a	NOx (lb/hr) ^a	SOx (lb/hr) ^a	PM10 (lb/hr) ^a	PM2.5 (lb/hr) ^b
Hydro Crane 70-75 Ton RT	Diesel	275	2006	Cranes	-24%	-24%	-24%	-24%	-24%	-24%
Hydro Crane 30-35 Ton RT	Diesel	155	2007	Cranes	12%	12%	12%	12%	12%	12%
Tower Crane (Lieberr 630)	Diesel	275	2006	Cranes	-24%	-24%	-24%	-24%	-24%	-24%
Forklift 10000# RT	Diesel	100	2007	Forklifts	2%	2%	2%	2%	2%	2%
Forklift 30000#	Diesel	130	2007	Forklifts	3%	3%	3%	3%	3%	3%
CAT IT 28 Utility Loader	Diesel	50	2008	Rubber Tired Loaders	-26%	-26%	-26%	-26%	-26%	-26%
Truck Crane	Diesel	130	2007	Cranes	12%	12%	12%	12%	12%	12%
40'- 60' Manlift	Diesel	50	2008	Aerial Lifts	-44%	-44%	-44%	-44%	-44%	-44%
90' Manlift	Diesel	70	2008	Aerial Lifts	-100%	-100%	-100%	-100%	-100%	-100%
Scissor Lift	Diesel	50	2008	Aerial Lifts	-44%	-44%	-44%	-44%	-44%	-44%
Computation: (SCAQMD EF - CA EF)/(CA EF)*100 a. From Table 1.1 for diesel and Table 1.2 for gasoline. b. Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10 PM2.5 Fraction of PM10 in Diesel Engine Exhaust = 0.920 and PM2.5 Fraction of PM10 in Gasoline Engine Exhaust =0.756 from Appendix A, Final-Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006 Emissions [pounds per day] = Emission factor [pounds per hour] x Number pieces of equipment x Operating time for each piece [hours per day]										

Data Responses to January 11, 2010 CEC Staff Email Queries

**Palen Solar Power Project
Docket No. 09-AFC-7**

Data Response Queries – Request from CEC Staff, January 11, 2010

BIO-DR: Per an email request from Amy Golden of the CEC on January 11, 2010, the following comprehensive tables of existing conditions and impacts for vegetation communities associated with the Palen Solar Power Plant are included for review (Tables 1 and 2, respectively).

Table 1. Existing Vegetation Communities and Other Cover Types (Acres)^a

Vegetation Communities and Other Cover Types	Revised AFC DA^b	Transmission Line DA	Project DA^c	Revised Buffer Area^d	BRSA
Riparian					
Desert Dry Wash Woodland	134.9	6.1	141.0	484.9	625.9
Unvegetated Ephemeral Dry Wash	161.8	0.0	161.8	40.4	202.2
Subtotal Riparian	296.7	6.1	302.8	525.3	828.1
Upland					
Active Desert Dunes	0.0	0.0	0.0	684.3	684.3
Desert Sink Scrub	0.0	0.0	0.0	9.4	9.4
Dry Lake Bed	0.0 ^b	0.0	0.0	270.1	291.0
Sonoran Creosote Bush Scrub	3,289.1	22.3	3,311.5	6,802.0	10,113.5
Stabilized and Partially Stabilized Desert Dunes	284.7	0.0	284.7	625.3	910.0
Subtotal Upland	3,573.9	22.3	3,596.2	8,391.1	11,987.3
Other Cover Types					
Agricultural Fields	0.0	0.0	0.0	750.2	750.2
Developed	0.2	0.0	0.2	149.1	149.4
Subtotal Other Cover Types	0.2	0.0	0.2	899.3	899.6

Table 1. Existing Vegetation Communities and Other Cover Types (Acres)^a

Vegetation Communities and Other Cover Types	Revised AFC DA^b	Transmission Line DA	Project DA^c	Revised Buffer Area^d	BRSA
<i>Total Acres</i>	<i>3,870.8</i>	<i>28.4</i>	<i>3,899.2</i>	<i>9,815.8</i>	<i>13,715.0</i>
<p>a DA = Disturbance Area.</p> <p>b The acreages for these vegetation communities were updated for responses to the December 7, 2009 data requests that were provided to the CEC on January 6, 2010. Examples include delineating desert dry wash woodland 150 feet upstream of the Project Disturbance Area, resulting in changes to vegetation communicates within the buffer from the previous reports and delineating jurisdictional areas downstream of the substation.</p> <p>c Project DA = Revised AFC DA + Transmission Line DA.</p> <p>d Acreages in this table may not add due to rounding.</p>					

Table 2. Anticipated Permanent Impacts to Vegetation Communities and Waters of the State (Acres)^a

Vegetation Communities and Other Cover Types	Permanent Direct Impacts			Permanent Indirect Impacts	Total Permanent Impacts
	Revised AFC DA ^b	Transmission Line DA ^c	Project DA ^d		
Riparian					
Dry Desert Wash Woodland	134.9	6.1	141.0	27.5	168.5
Unvegetated Ephemeral Dry Wash	161.8	0.0	161.8	33.6	195.4
Subtotal Riparian	296.7	6.1	302.8	61.1	363.9
Upland					
Active Desert Dunes	0.0	0.0	0.0	-	0.0
Desert Sink Scrub	0.0	0.0	0.0	-	0.0
Dry Lake Bed	0.0	0.0	0.0	-	0.0
Sonoran Creosote Bush Scrub	3,289.1	22.3	3,311.5	-	3,311.5
Stabilized and Partially Stabilized Desert Dunes	284.7	0.0	284.7	-	284.7
Subtotal Upland	3,573.9	22.3	3,596.2	-	3,596.2
Other Cover Types					
Agricultural Fields	0.0	0.0	0.0	-	0.0
Developed	0.2	0.0	0.2	-	0.2
Subtotal Other Cover Types	0.2	0.0	0.2	-	0.2
Total Acres	3,870.8	28.4	3,899.2	61.1	3,960.3

a DA = Disturbance Area.

b The acreages for these vegetation communities have been updated for responses to the December 7, 2009 data requests that were provided to the CEC on January 6, 2010. The reason the impact acreages have changed is that additional impacts were identified downstream of the substation when the vegetation mapping was revised.

c Not previously reported in the AFC (AECOM 2009, Section 5.3.3.1, Table 5.3-8). Includes only the areas of disturbance associated with the construction of the transmission line features (the entire 1.2 mile Former Transmission Line Disturbance Area was calculated as the disturbance area in the previous supplemental report submitted October 2009).

d Project DA = Revised AFC DA + Transmission Line DA.

**Palen Solar Power Project
Docket No. 09-AFC-7**

Attachment DR-CR-116 a & b

DR-CR-116a Plan View of Impact Blocks Disturbance Below Ground

DR-CR-116b Plan View of Impact Blocks Disturbance Level Above Ground

PALEN SOLAR POWER PROJECT (09-AFC-7) CEC STAFF DATA REQUEST NUMBERS DR-CR-116
Technical Area: Cultural Resources (AFC Section 5.4) Response Date: January 29, 2009

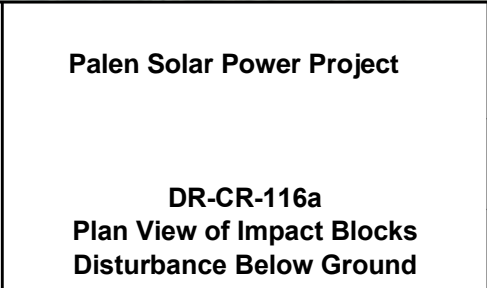
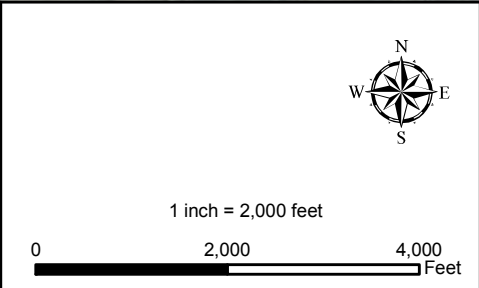
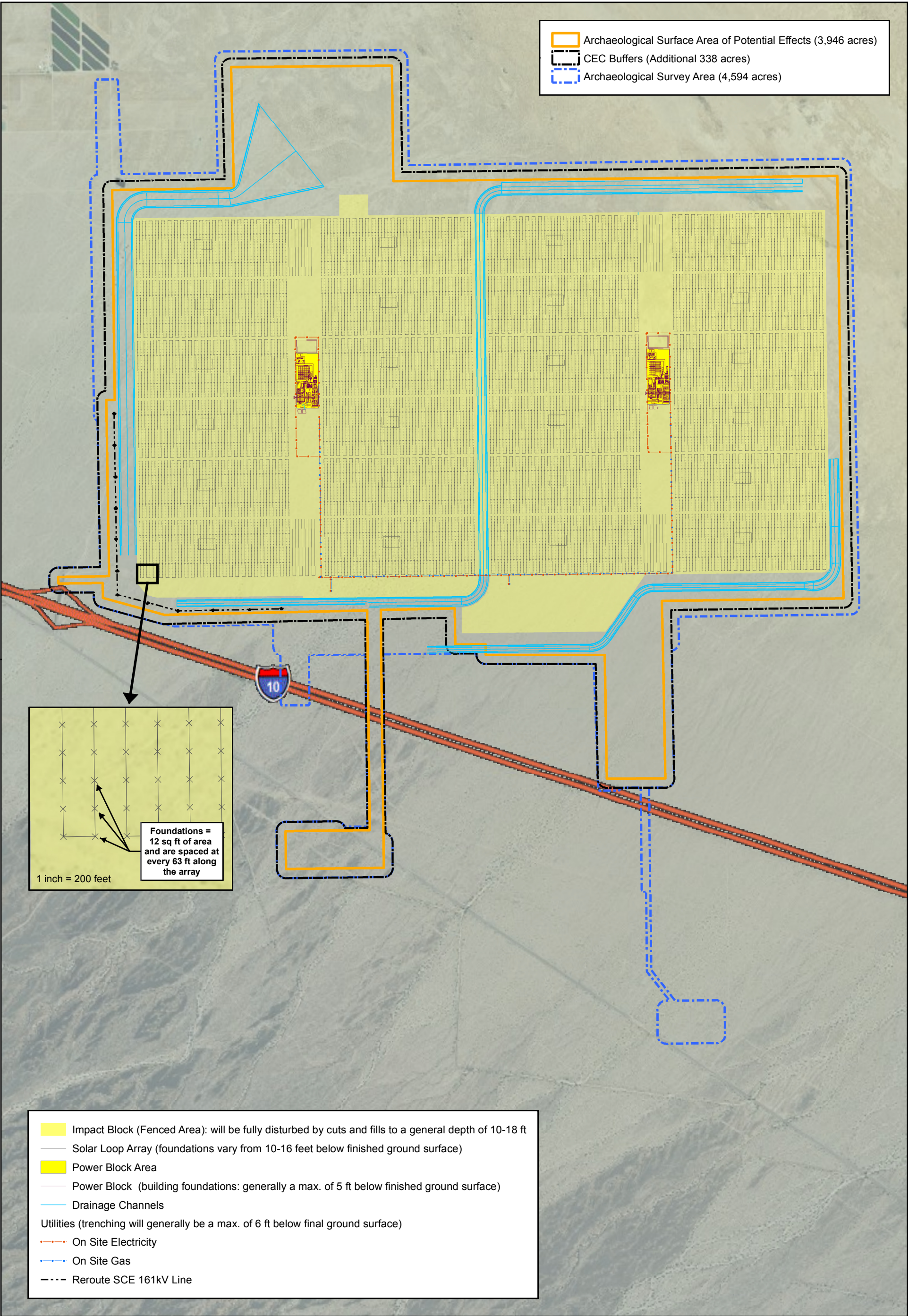
DR-CR-116

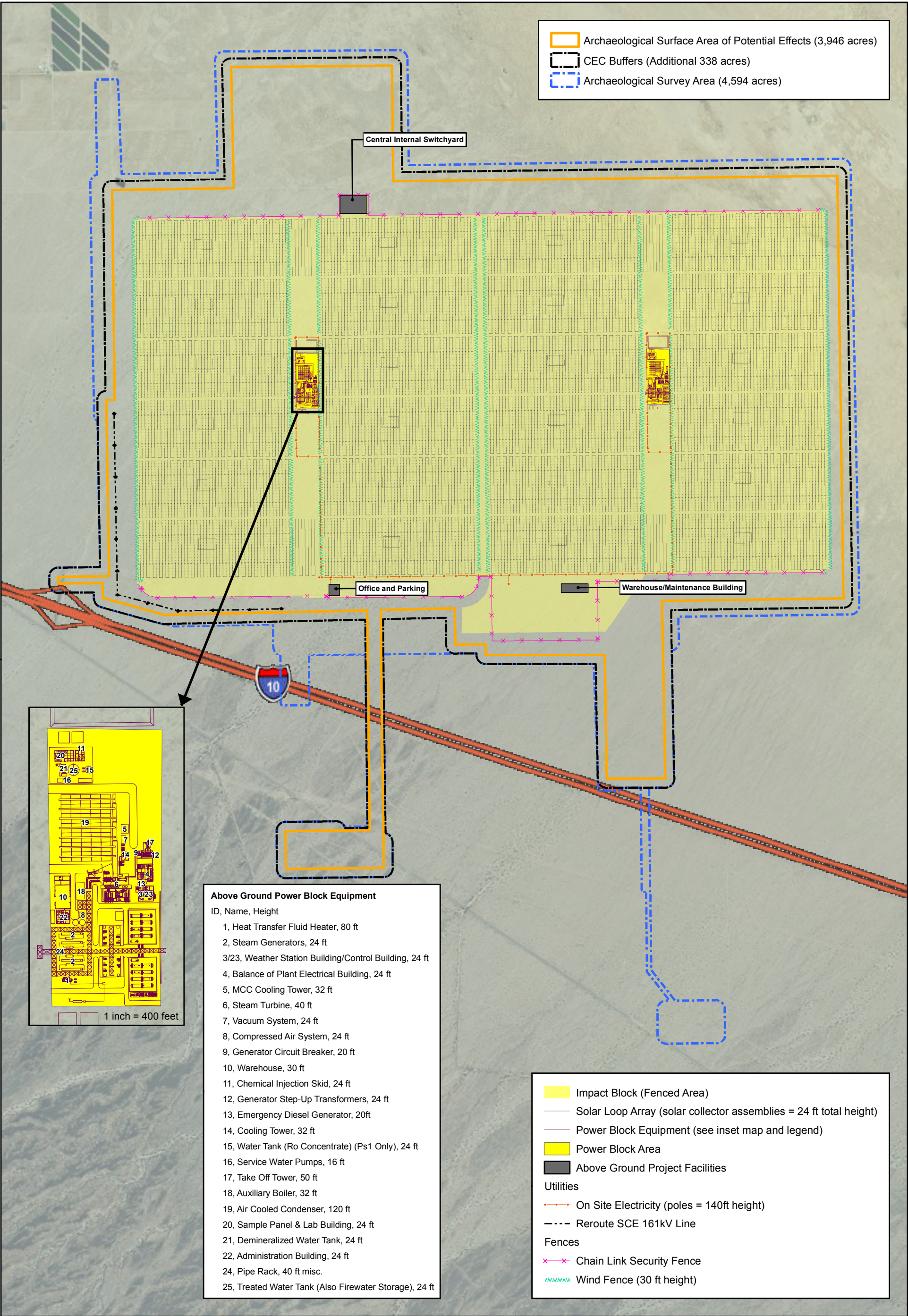
Information Required:

Please provide to staff a series of scaled and dimensioned plan-and profile views of the proposed project's (and alternative locations) impact blocks.

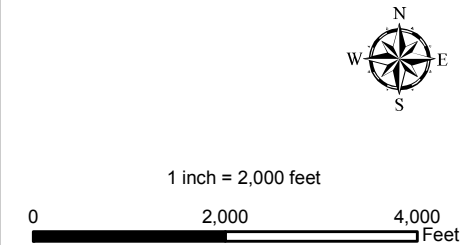
Response:

The plan view of impact blocks disturbance below ground and above ground are shown in Figures DR-CR-116a and b respectively on the following pages.





Source: ESRI 2009; AECOM 2009



Palen Solar Power Project

DR-CR-116b

Plan View of Impact Blocks

Disturbance Level Above Ground



AECOM

Date: January 2010

Path: P:\2009\09080081 Sol Mil Palen\6.0 GIS\6.3 Layout\Reports\Cultural Class III Report\6_CEC_Data\requests_Dec2009\DR-CR-116b above ground.mxd, 01/19/10, wilson5